MANAGEMENT OF RADICAL CHANGE:

A CASE STUDY OF

HUNGARIAN TELECOMMUNICATIONS

BY

SYED SALAH KAMALL

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ABSTRACT

The liberalisation of the political and economic systems of Hungary has led to major changes in Hungarian telecommunications. These changes are compounded by the requirement to modernise and expand the network to make up for years of neglect, and to provide for the many consumers without a telephone service. The recently privatised Hungarian Telecommunications Company (HTC) is in the process of major structural, cultural and technological reorganisation, in order to achieve a customer-driven organisation. Before HTC was established in 1990, telecommunications was government-controlled and functioned as a professional bureaucracy, within the constraints imposed by the communist government and with little regard for customers' needs.

This thesis analyses the radical change faced by HTC between January 1990 and March 1994. It begins by comparing the changes in HTC to the experience of British Telecom in the 1980s. The research then examines the current literature on the subjects of management of change and radical change. It considers their relevance in analysing the type of change that the Hungarian Telecommunications Company (HTC) is experiencing. i.e. technical change in an organisation which is itself undergoing structural and commercial change; this in a country experiencing economic, social and political changes. Current management of change theories are found to be inadequate since they are largely based on case studies of incremental changes within organisations in western Europe, the USA and other developed countries. Where the literature discusses `radical change', it refers to changes that are quite modest compared to those affecting organisations in central and eastern Europe.

Even though current theories may not prove adequate for the analysis of radical change some elements or concepts are considered relevant. Several concepts are identified as relevant to radical change including: culture; power; politics; uncertainty; structures; contingencies and systems thinking. It is also apparent that radical change should be analysed at three levels, at least: that of the individual; the group; and the whole organisation in relation to its environment and other contingencies. These concepts are then used to construct a theoretical framework to analyse the radical change that HTC is experiencing. The framework for analysis is not meant to be prescriptive, i.e telling managers how to manage radical change on a day to day basis. It aims to be more descriptive by providing lessons for managers in other organisations undergoing radical change. It should be thought of more as a `tool kit' offering managers a range of `conceptual tools' that need to be considered in order to manage the change process.

In order to construct the theoretical framework a number of approaches are considered including; systems thinking, chaos theory and a dialectic approach. The dialectic approach is found to offer the best way forward and is used to construct the framework for analysis of radical change. The analytical framework is then applied to HTC, in order to explain the changes between January 1990 and March 1994, and to offer suggestions for tackling outstanding problems during the ongoing change process. Finally the analytical framework is critically evaluated and a simple version is presented as an aid to memory.

LIST OF ABBREVIATIONS

Av Rt	Hungarian state assets holding company
BPR	Business Process Re-engineering
BT	British Telecom
CFO	Chief Finance Officer
CoCom	Coordinating Committee for multilateral exports
COMECON	Communist Economic community (Former eastern bloc's version of the EEC)
CSFR	Czech and Slovak Federal Republic
CTO	Chief Technical Officer
DBT	Deutsche Bundepost Telekom
EC	European Community (as the EEC became known after Single European Act in 1986 and before the signing of the Masstricht Treaty)
EEC	European Economic Community
EU	European Union (as the EC became known after the signing of the Masstricht Treaty)
Ft	Forint (Hungarian currency)
GSM	Groupe Speciale Mobile. European wide standard for digital mobile telephony
GST	General Systems Theory
HTC	Hungarian Telecommunications Company
MAV	Hungarian National Railways Company
MTTW	Ministry of Transport, Telecommunications and Water Management
NSL	North South Line. Telecommunications line linking Hungary to Poland, Russia, Scandinavia and the UK
OC	Operating Committee (of HTC)

OFTEL	Office of Telecommunications. UK telecommunications ombudsman created in 1984
PCM	Pulse Code Modulation
PTT	Post, Telegraph and Telecommunications authority
SAST	Strategic Assumption and Surface Testing
SSM	Soft Systems Methodology
TEL	Trans European Link. Telecommunications line connecting Germany to Hungary and other central and eastern European countries
TP	Telekomunikacja Polska (Polish Telecommunications Company)
TQM	Total Quality Management
TSI	Total Systems Intervention methodology
VSM	Viable Systems Model. A systems methodology

CHAPTER ONE

A QUESTION OF RESEARCH

> **"What is the answer?... [No reply]... In that case what is the question?"**
>
> - Gertrude Stein's last words. Donald Sutherland, *Gertrude Stein, A Biography of her Work* (1951)

1.0 BACKGROUND

In 1989, after forty-odd years of communism, the peoples of central and eastern Europe rejected the ideology of central planning and embraced the ideas of liberalisation and the free market. Some two years later, at the beginning of this research, the "wind of change" clichés had disappeared from the vocabulary of political commentators as the hard work of rebuilding the shattered economies had begun. There were two types of reconstruction under way; physical and mental. The physical reconstruction was much in evidence at the beginning of the decade as cities and towns across the region began to resemble large building sites. The mental reconstruction, a change in the way people think, was less visible and probably more difficult to achieve.

Under communism and central planning the government had decided what to produce. Targets were set and prices were fixed with little regard for supply and demand. The prices chosen were usually a fraction of the world price and priority was given to meeting production targets and achieving full employment, rather than meeting customer demand and improving quality. Prior to 1989, the governments had allowed more economic freedom to some enterprises, but these failed since the financial systems were still distorted. Under the new economic and political system, the laws of market supply and demand would decide what and how much to produce. People had to get used to loss-making firms closing down and a rise

in unemployment. In some cases this led to homelessness since many workers had lived in hostels provided by state owned industries. Politicians, economists and businessmen realised that the change in ideology and reality needed to rebuild their economies would take a very long time, especially since there was no real precedent to follow. Economic History offered little guidance since no country had ever tried to move directly from communism to capitalism.

As the politicians, economists and businessmen contemplated the work that lay ahead in rebuilding their countries, they realised that telecommunications was probably one of the most vital areas to address. Without advanced telecommunications, a real reform of the economic life could not take place. The huge gap between eastern and western European systems would have to be narrowed to prevent telecommunications acting as a brake on economic development (McCartney, 1991: 14). The major telecommunications problem facing the eastern European countries was that much of their network equipment was simply out of date. Some parts of the network pre-dated World War Two, and complete replacement of equipment would be necessary. The widespread neglect of telecommunications was due to two main reasons:

- Under Marxist ideology, telecommunications did not represent a force for production, in the same way as manufacturing industries did. Central planners decided what 'essentials' to produce to meet the needs of the workers. However, the decision as to what constituted an 'essential' was a subjective one made by party apparatchiks. Telecommunications as a service did not appeal to the planners as much as producing so-called essentials, like buses, aircraft and military hardware.

- The idea of hyperactive telephone networks with universal access did not appeal to the totalitarian regimes which saw the free flow of information as a threat, and the restriction of information to bodies such as the secret police, as a way of maintaining control. Many of

> the underground movements in Eastern Europe have cited the role telecommunications played in their success. The shortage of available lines was made even more acute by the demands of the secret police. In one such case, an applicant in Wroclaw in Poland waited for over 23 years for a telephone, and was given a variety of excuses every time he enquired about his application. Under the new government, he found out that there had been a listening post in his part of the city, and any private telephone line that was cancelled had immediately been taken by the military (BBC Radio Four, 1991).

For these reasons, the governments had maintained control of the Post, Telegraph and Telephone authorities (PTTs) by leaving them in the hands of party members. The democratically elected governments that followed, including those headed by former communists, realised that the telecommunications infrastructure would have to be dramatically improved before other sectors of the economy, such as manufacturing, banking and tourism, could benefit from better communications services and grow at the rate that they needed. In short, a modern telecommunications system was needed to produce the level of economic growth that would allow the former Eastern Bloc countries to be admitted to the European Community (EC). Only then could governments claim that they had reached economic parity with western Europe. To this end they pursued the introduction of national digital telecommunications and data communications networks. In the short term they looked to cellular telephone technology to meet the demands of the business community. Cellular telephone networks could be installed relatively quickly and businesses were willing to pay higher prices for these services since they required a telephone at almost any cost.

As the telecommunications authorities set about developing their networks, some experts were claiming that the speed of development was critical. As a 1991 article remarked:

> "If they can get a modern telephone network before the end of the 1990s, they have a chance of sharing in the future progress of telecoms technology. If they cannot, they risk being left behind for ever, divided from the developed world by an electronic gap that will grow wider with every decade." (The Economist, 1991)

Fortunately for the telecommunications authorities in central and eastern European countries, technology has reached a relative plateau and there is unlikely to be another major development until the next decade. Therefore, these countries have set targets of rough parity with telecommunications in the European Union (EU) within ten to twenty years. In order to meet the requirements for entry to the EU much of the new legislation has been drafted with EU directives in mind. Therefore, telecommunications regulation has been driven by the 1987 Green Paper on establishing a common market in telecommunications services and subsequent recommendations and directives. For example, local companies and those from EU countries will have to be offered the same services. Heller (1992a) gives an example of how this will affect Hungarian telecommunications,

> "In the association agreement between the European Communities [as the EU was known before the Maastricht Treaty] and Hungary there is a declaration that in the operation of Community companies established in Hungary, it will grant a treatment no less favourable than that accorded to its own companies. Upon entry into force of this agreement, Hungary shall amend such laws and regulations as to ensure such treatment."

A list of the major decisions affecting European telecommunications is presented in Appendix A.

To meet their development targets, the telecommunications authorities have undergone a transition from ministerial department to independent company and re-organised to compete under more liberalised market conditions. As a result, the newly formed telecommunications companies have had to get used to setting

targets based on profits and being accountable to shareholders.

1.1 CHOICE OF RESEARCH TOPIC

In 1991, the research contained in this thesis began with the intention of analysing telecommunications in central and eastern Europe. In common with most PhD research, the goals were vague and the 'research question' had yet to be defined. After a year, the research reached a point where the initial literature survey had provided a basic understanding of the developments in telecommunications since the downfall of the communist regimes in the three countries under investigation. The information gained from the literature survey suggested many options for further progress. Three options were considered in some detail - project management, analysis of forecasting and change management. This section summarises these options.

1.1.1 Project Management

This approach would look at the development of telecommunications within the context of an exercise in project management. In looking at this option, it was decided that any project to be examined could not be as large as the development of a particular country's telecommunications system. This would simply be too complicated if all aspects of project management were to be discussed. In order to introduce some sort of comparison, it would be better to look at the development of telecommunications in two similarly sized regions of the countries under consideration. The project management techniques adopted would be investigated with the following themes in mind.

a) Objectives: The research would examine the basis of the stated objectives and assess their viability. The actual results would be compared to the objectives defined at the beginning of the project.

b) Timescale: The research would assess the basis of the perceived timescales and question whether they were realistic. Also, the flexibility of the timescales would be examined, such as whether there were any built-in contingencies or whether all timings were absolutely critical. If the timescales were found to be unreasonable, then the research could attempt to justify alternative timescales.

c) Resources: The two major resources to be considered were capital (money) and labour (manpower). The estimates of required resources would be analysed along with an appraisal of potential and actual sources. Since a large proportion of the project's budget would be needed for training, the whole issue of bridging the skills-gaps within the constraints of the project would also need to be studied.

d) Technology: A large amount of time and money would be devoted to purchasing, installing and operating modern telecommunications technology. In choosing the technology, the project management is faced with questions of the cost, compatibility, the life-span of equipment, and hence the cost effectiveness of any purchase. The research would examine the choices made and consider other possible options.

The first two candidates for comparison were Prague with a population of 1,211,000 and Warsaw with a population of 1,651,000, but obtaining information from companies operating in these cities proved fruitless. Gdansk in Poland with a population of 461,500 and Bratislava in Slovakia with a population of 435,000 were then considered. Cable & Wireless had signed a memorandum to supply a network in Gdansk. However, when the company was contacted, they were unable to supply any information since the political uncertainty had slowed down negotiations (Eustace, 1991). The election in June 1992 of a nationalist government for Slovakia had also put in doubt the future of the Czech and Slovak Federal Republic (CSFR). The future of all developments were put on hold until the exact status of Slovakia was decided. Other regions considered were Kosice in the CSFR

(population 232,000) and Debrecen in Hungary (population 212,000); and Plzen in the CSFR (population 175,000) and Pecs in Hungary (population 170,000). However, finding information on telecommunications in these regions also proved impossible. This was probably due to there being no firm plans for telecommunications development in these areas at the time. Since establishing contacts with companies operating in these regions had been in vain, it was decided to reject this option.

1.1.2 Analysis of Forecasting

As the countries of central and eastern Europe began to develop their telecommunications systems, a variety of forecasts for the telecommunications development and economic growth were produced. Various researchers have attempted to establish a relationship between the level of telecommunications development and economic growth (Staple and Mullins, 1989). In simple terms, the higher the volume of telephone traffic, the higher the level of economic activity and the larger the GDP. This is explained by the notion of information economies. Businesses need information to gain a competitive advantage over rivals. This flow of information is usually registered as telecommunications traffic. An active economy records larger volumes of telecommunications than less active ones. Therefore, telephone penetration in a particular country should be an indicator of the level of economic development in that country. Moreover, telecommunications traffic is a good indicator of the level of trade between two countries.

The research would examine the forecasts for the development of telecommunications in these countries and assess the basis for the forecasts. For example, the development of telecommunications in several countries over a period of 10 or 20 years could be analysed by plotting telephone penetration (number of lines per 100 inhabitants) against GDP per head on a graph. The pattern of movement of a country's development on this graph could serve as a blueprint for the future development of the countries of Eastern Europe. Factors such as similarity of countries in terms of population, population distribution etc. at the

beginning of their respective developments would also be analysed. The usefulness of these development patterns would be assessed.

However, there was much doubt over the usefulness of such quantitative research. For years, empiricist economists have tried to forecast factors such as economic growth and inflation with the inevitable result of being wrong. In getting too deeply involved in statistics and 'number crunching', they had become somewhat removed from reality with the quantitative analysis becoming less of a means and more of an end. In recent years, more economists have realised the merits of the 'Austrian School' approach with its emphasis on qualitative analysis (Taylor, 1980). For these reasons this option was also rejected.

1.1.3 Management of Change

Under the old regimes telecommunications had been run, at least in theory, as a public service regardless of cost and customers. In attempting to achieve the transition from a state controlled bureaucracy to customer-oriented business radical change of a scale never before witnessed would be needed. This approach would examine the management of change in the organisation looking at changes in technology, structures and culture, and other issues such as financial control, choice of markets and services to provide, liberalisation, deregulation and privatisation. In order to proceed with this option, cooperation had to be sought from a suitable telecommunications organisation. At the time, there were only three to consider, namely the old PTTs of Czechoslovakia, Poland and Hungary since their plans for development were at a more advanced stage than the other countries in central and eastern Europe.

a) The Czech and Slovakian PTT: In late 1992, development and restructuring of telecommunications was hampered by the existence of three bodies claiming responsibility for telecommunications: The Federal Ministry of Posts & Telecommunications; the Czech Ministry of Communications; and the Slovak Ministry of Communications. With the break up of the federation looking

increasingly likely, the future of the Federal Ministry was very much in doubt. The responsibilities of the old PTT had been split into operations and regulations. Two regional operators had been created; SPT Praha and SPT Bratislava, and plans for privatisation were being discussed. However, no further reforms could take place until negotiations over the future relationship between the Czech Republic and the Slovakian Republic were completed. For this reason, neither SPT Praha nor SPT Bratislava proved suitable for the purpose of a case study.

b) Polish PTT: At the start of 1991, a law was passed which separated the telecommunications function of the old PTT from the postal service (Sberro, 1991: 14-15). On 1 January 1992, a joint-stock company Telekomunikacja Polska (TP) assumed responsibility for running the telecoms network (Sosnowska-Smogorzewska, 1992: B4-B5). It appeared that TP would retain a monopoly over the basic voice network, but would probably face competition in value-added services and in the market for local telecommunications. However, once again political uncertainty, caused by the failure of the Polish Parliament (the Sejm) to work with President Lech Walesa, hindered progress. More relevant to the research had been the failure to establish any contacts in the Polish Ministry of Communications, or with TP itself. Despite many attempts not one single Polish institution replied to requests for information. Therefore, a case study of TP was rejected.

c) The Hungarian PTT: On 1 January 1990, a new company, the Hungarian Telecommunications Company (HTC), was created out of the telecommunications function of the Hungarian PTT. The company reorganised its operations in August of the same year and began to discuss plans for privatisation and the tendering of contracts to suppliers for network development. Contacts were established with the Telecommunications directorate of the Ministry Transport, Communications and Water Management and with employees of HTC. The contacts were willing to cooperate with the research and sent information on the changes in order to aid the research. Therefore, at the time this option appeared to be the most likely line of research to pursue.

1.2 OBJECTIVES OF RESEARCH

Having selected an appropriate topic for research, the aims and objectives had to be specified. These were decided upon with the aid of staff in the Centre for Engineering Management at City University and employees of HTC. The research aimed to:

- examine HTC's plans for expanding and modernising its telecommunications network in order to improve its service to customers

- compare the changes in HTC with the changes faced by British Telecom in the early 1980s

- review and analyse the literature on management of change with particular emphasis on radical or fundamental change

- construct a theoretical framework, using appropriate management of change concepts, in order to analyse the changes within HTC between January 1990 and March 1994. March 1994 was decided upon as a 'cut-off' date since it would enable the research to analyse the results of the 1991-1993 Three Year Plan (discussed in Chapter Four). Also it was hoped that by March 1994, the new telecommunications law would have been passed and the first stage of privatisation completed. This would allow the research to look forward to the challenges of the future.

Each objective was linked to the previous objective(s), using the knowledge gained as a foundation for developing the next level of research. It was hoped that the research would result in the development of an analytical framework for radical change. The framework should not attempt to be prescriptive, i.e telling managers how to manage radical change on a day to day basis. Instead it should aim to be more descriptive by providing lessons for managers in other organisations undergoing radical change. It should be thought of more as a 'toolkit' offering

managers a range of conceptual tools to be considered in order to manage the change process.

1.3 RESEARCH METHODOLOGY

The research began with a review of journals and newspapers to determine the state of telecommunications in Hungary and plans for development of the telecommunications network. These sources on their own proved to be insufficient for the intended level of research, so documents were requested and received from HTC directly. These detailed the current state of telecommunications as well as plans and forecasts for the future. Once the literature had been exhausted, a visit to Hungary was arranged and interviews were conducted with employees of HTC and the Telecommunications Directorate of the Ministry of Transport, Telecommunications and Water Management. Once sufficient information had been gathered on HTC's development plans, the literature on management of change was surveyed in order to search for a framework to analyse the changes. It soon became apparent that the current management of change literature was inadequate for analysing the radical change facing HTC. Therefore, management literature of a more conceptual nature was consulted in order to help construct an analytical framework. Throughout the research, contact was maintained with HTC through faxes and letters in order to keep abreast of the changes and to inform the company of the progress of the research. A final visit to Hungary was made in March 1994 in order to present the latest findings of the research and to discuss the way forward, to discuss the results of the 1991-1993 Three Year Plan and to conduct in-depth interviews with employees at all levels, during which they were asked for their opinions on the changes. Notes from these interviews are presented in Appendix C.

1.4 STRUCTURE OF THESIS

Chapter Two presents a brief history of telecommunications in Hungary within the context of the changes in Hungarian politics. The new regulatory regime for telecommunications including aspects of the telecommunications law of 1993 is discussed.

Chapter Three discusses developments in telecommunications technology from early manual exchanges to modern digital computer switching and from copper wire networks to optical fibre and mobile cellular telephony. These are presented in order to help the reader understand the leap in technology that is required to develop modern telecommunications networks in Hungary and to close the gap with the countries of the European Union.

Chapter Four examines the HTC's development plans, at the beginning of the 1990s, for the Hungarian telecommunications network. The business plans, including the 1991-1993 Three Year Plan and the 1991-2000 Ten Year Plan, are discussed followed by an analysis of the technical plans and forecasts. Both the business and technical plans have forced HTC to undergo significant reorganisation. The changes in HTC's organisational chart are discussed as well as the changes in the company's personnel and training policy. The Chapter concludes with a brief examination of the results of the 1991-1993 Three Year Plan.

Chapter Five attempts to begin the analysis of the management of change within HTC by looking back at the changes in British Telecom at the beginning of the 1980s. British Telecom is examined since it was one of the first telecommunications organisations to be privatised and exposed to liberalisation. Many telecommunications organisations all over the world have studied the experiences of British Telecom as a model for coping with liberalisation, deregulation and privatisation in their home markets. Therefore an analysis of the 'British Telecom model' appeared to be a reasonable starting point for analysing the changes in HTC. However, the differences are found to be greater than the

similarities between the 1980s British Telecom and 1990s HTC. The main differences are to be found in the external factors influencing the changes within the organisations. Therefore, the research needed to seek a different route of enquiry for analysing the changes in HTC.

Chapter Six presents a review of the current management of change literature. It begins with an analysis with the three main schools of thought on the subject: the individual perspective school; the group dynamics school; and the open systems or contingency theory school. Unfortunately, none of these schools of thought provide a sufficient explanation of the changes facing HTC. The current literature on radical change is then examined, but this is also found to be inadequate for the purposes of the research. However, several concepts from the existing literature are identified as relevant to the changes in HTC. These concepts are then elaborated upon in order to be carried forward for further analysis.

Chapter Seven attempts to move the research in the direction of constructing a framework to analyse the changes in HTC. The Chapter begins with a review of McKinsey's 7-S framework. This is soon found to be inadequate so the research moves on to discuss the merits of the more conceptual management literature as an aid to constructing an analytical framework. The concepts discussed include systems thinking, chaos theory and dialectics. The dialectic framework elaborated by Benson (1977) is found to offer the best way forward.

Chapter Eight constructs the relevant concepts identified in Chapter Six along with Benson's framework in order to construct the framework for analysing the radical changes in HTC. The framework is then applied to the changes in HTC between January 1990 and March 1994 using material gained from interviews with HTC employees.

Chapter Nine discusses several issues, identified by HTC employees, that need to be considered by the organisation in order to meet the challenges of the future. The analytical framework constructed in Chapter Eight is used to highlight critical

factors that should be considered in order to resolve these management issues. A brief critique of the framework is then presented along with a simpler version of the framework that should appeal more to managers and MBA students.

Chapter Ten considers the original objectives of the thesis and concludes that the radical change within HTC can be analysed using the dialectic framework constructed. The originality of the research is twofold. Firstly, it is probably the first real attempt to analyse the type of radical change that face organisations across central and eastern Europe. Secondly, it develops Benson's ideas on dialectics and applies them to a real organisation. Benson (1994) has admitted that little progress has been made in actually applying dialectics to organisations in the real world. In applying Benson's ideas to HTC, over a four year period, dialectical thought has finally progressed from the disciplines of philosophy and sociology to becoming a tool for managers in the real world.

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CHAPTER TWO

THE HISTORY OF TELECOMMUNICATIONS IN HUNGARY

> **"Castles made of sand fall into the sea ... eventually"**
> - Jimi Hendrix (1967) from Castles Made of Sand

Before outlining and evaluating the plans of HTC, the history of telecommunications in Hungary will be examined. This Chapter documents the development of Hungarian telecommunications in the context of the political and regulatory environment. Much of the material contained in the first half of this Chapter comes from an unpublished manuscript by Heller (1992).

2.1 TELECOMMUNICATIONS AND THE POLITICAL ENVIRONMENT

Recent history of Hungary is one of domination by foreign powers; by the Ottomans for nearly two hundred years up to 1711, then by the Habsburgs from 1867 until World War One during the period known as the Austro-Hungarian Empire, and finally by the Soviet Union for four decades after World War Two (Sugar, Hanak and Frank, 1990). Despite the periods of foreign domination, the Hungarians remained fiercely independent and resisted attempts to suppress their culture and religion, as well as their reputation for enterprise. There is a popular anecdote told by non-Hungarians which defines a Hungarian as "someone who enters a revolving door behind you, yet emerges in front of you" (Finkelstein, 1994). The Communists found it so difficult to quash the spirit of enterprise that they decided to accommodate it during the last years of communist rule.

2.1.1 The Early Days of Telecommunications

The first telephone exchange was installed over a 100 years ago in Budapest. In those early days the line density of a few lines per 100 inhabitants was similar to

that in most other European countries, and remained that way until World War Two. In the early post-war years Hungary was able to keep pace with developments in telecommunications technology, but all this was to change with the coming of Soviet-style communism.

2.1.2 Hard Communism (1948-1968)

In the first elections after World War Two, the Smallholders party won a majority, but the Soviets ordered the Communists and Social Democrats to stay in power (Richardson and Hebbert, 1992). By 1948, the Communists led by Matyas Rakosi had seized full control by undermining any opposition. This was the beginning of the era known as hard communism (Heller, 1992). The Communists were committed to the economics of central planning. In theory, this involved deciding what and how much to produce for the needs of the people, but in practice it meant distributing resources to maintain the power structure.

Telecommunications services were provided by a state owned entity that was also responsible for the postal service and broadcasting. However, this entity was also part of the Ministry of Transport and Communication. Prices were set by the government, and investment decided by the Planning Office. The 1964 Post Law gave the state the exclusive right to run the postal and telephone services and also to allocate frequencies.

The distribution of telephones was decided by central planning committees which gave preference to basic industries, and state and party bodies. Dedicated networks served 'strategic industries' like water, energy, railways and the Communist Party. These networks were as large as the public one. Residential telephones were supplied to politicians and their friends in order to maintain the power structures and to prevent the rise of an opposition, as discussed in Chapter One. The losers in this were the agricultural sector and most ordinary people. By 1968, the line density was only 3.5 per 100, way behind other countries such as Britain with over 11 lines per 100 population.

2.1.3 Soft Communism (1968-1987)

Janos Kadar was the leader responsible for the suppression of the 1956 uprising. However, from the mid-1960s his name came to be associated with the emerging economic liberalism in Hungary. This coincided with the appearance of liberation movements in Prague and some western countries. In what was known as "the new economic regime" or "Goulash Socialism", an attempt was made to leave economic policy more to market mechanisms than planning committees. However, full market reforms were prevented by Soviet policy. Only limited market reforms took place, and some private ownership became possible. Foreign trade increased, but the lack of capital and the rigid labour market constrained growth. Despite this, new entrants did become rich and gained power, while some traditional industries declined due to inefficiency. The economy looked more to the West, while policy was still dependent on the Soviet Union. However, Hungary did gain access to western funds, but worsening East-West relations led to the creation of CoCom which restricted Hungary's access to high technology.

Around 1968, a noticeable gap between the supply and demand of telephone services had appeared. The Hungarian PTT continued to be a state-owned department of government. In 1985, it was split from the Ministry of Transport and Communications and became a separate state-owned entity for four years. This move gave the PTT more freedom to pursue the development of telecommunications. In order to match supply with demand, new sources of finance were sought including subscriber bonds, direct financing by local communities and a World Bank loan. The 1987 loan agreement between the government and the World Bank provided $70 million to expand the network (Kis, 1991). The new approach raised the line density to 8.11 per 100 population by 1988. However, this was way behind the EC average of nearly 40 lines per 100 population at that time.

Part of the loan agreement was for the PTT to produce audited statements. It soon became apparent that government subsidies were paying for the postal service, and

that the telephone service could generate finance if re-organised. Consultants were called in to advise on competitive tendering, tariff policy and network management.

2.1.4 The Fall of Communism (1988-Spring 1990)

The wave of economic liberalism washing over Hungary and the shortages of essential goods helped to undermine central planning. Commercial banks were created separate from the Central Bank, securities became legal and a stock exchange was opened. The tax regime was reformed and the new Company Law allowed limited companies to be set up similar to those in western Europe (Act No. XIII of 1989). The way was opened for privatisation and a law allowing foreign investment was passed. In 1989, growing economic liberalism led to political liberalism when the Communist Party decided to allow other political parties to be formed. This decision was not taken due to pressure from a strong opposition, but rather because the ruling Communists realised that they had lost their legitimacy to rule. According to Körösényi (1992),

> "There were no two strong, determined and self confident characters in this political drama, as with Solidarity and the Communist Party in Poland, but rather several hesitant second fiddlers. The Communists resigned under rather weak pressure, because even they themselves had lost their belief in the legitimacy of their rule, as well as their self-interest in maintaining it. The regime had collapsed before the opposition could take power."

The Hungarian Communists could no longer look to Moscow to shore up their power. Later that year, the Communist Government signed an agreement for the withdrawal of Soviet troops. Communist rule which had once been seen as an impenetrable fortress was swept away by the sea of liberalism as if it were merely a castle made of sand.

In 1989, regulation and operation of telecommunications were separated, with regulation coming under the control of the Ministry of Transport,

Telecommunications and Water Management (MTTW). The Post Law of 1964 was amended to allow private investors to take a minority stake in the telecommunications company. In 1990, the postal, telecommunications and broadcasting services were split into separate companies (Horvath, 1991). The telecommunications operator became the Hungarian Telecommunications Company (HTC). Also in 1990, a regulatory body for frequency management and one for regulation of technical standards for post and telecommunications were set up. Another amendment to the 1964 Post Law allowed liberalisation of wireless telecommunications services such as paging, mobile telephony and VSAT (very small aperture terminals). However, a condition was that licences could only be provided to companies in which the state, through HTC, held a majority stake. Privatisation of HTC and a relatively liberal regulatory framework first appeared on the agenda, but they were delayed by further political changes.

2.1.5 Emerging Democracy (Spring 1990-1992)

The elections of Spring 1990 produced a coalition led by Jozef Antall's Hungarian Democratic Forum (MDF). Even though its policies were no less radical than its rivals, the MDF managed to present itself as a moderate centrist party. However, once elected the MDF pursued reform by gradually withdrawing subsidies from loss-making companies until they became bankrupt. The government committed itself to building a market economy oriented to the EC and in 1991, signed an association agreement with the EC, Poland and Czechoslovakia, aiming for membership around the year 2000. Also in 1991, Russian troops left Hungary and CoCom restrictions were lifted in 1992.

In order to achieve political reform, the majority of legislation needed to be replaced or substantially amended. New legislation emerged slowly partly because Parliament knew that it wanted change, but disagreed on the best way to achieve it. Also the civil service remained staffed by people left over from the days of communism who remained set in their way of thinking and had an interest in the status quo. However, important legislation was passed such as a Competition Law,

a Price Law liberalising prices, a Budget Law and a Concession Law allowing the state a say in the running of utilities (Act No. XVI of 1991). The Civil Code was amended to allow private ownership (Act No. XIV of 1991). The courts were made independent, and the duties of local government were redefined. New laws for banking and accounting were passed, along with the legal framework for privatisation. Hungary's economy began to suffer as distortions caused by the former Soviet-orientation of the country were squeezed out, trade was liberalised and subsidies fell. The economy entered recession with unemployment reaching 10 per cent and inflation peaking at 30 per cent.

The government began to draw up new plans for the privatisation of HTC and for a new regulatory framework along with the new Telecommunications Act. The act was finally submitted to Parliament in January 1992. After lengthy debate, a modified draft was submitted that was more liberal and considered the interests of municipalities and domestic investors.

2.2 THE REGULATORY ENVIRONMENT

2.2.1 Overview of 1992 Telecommunications Law

The new telecommunications law was passed in the autumn of 1992 and came into effect in July 1993. Many services could be provided by any company that satisfied the conditions of their licence, except the following which could only be provided by companies awarded a government concession.

a) Public Telephone Services
b) Public Mobile Radio Telephone Services
c) Public Nation-wide Paging Services
d) Public Radio and Television Broadcasting

The public telephone service market was divided into three sectors; local traffic, long distance (or inter-city) and international traffic. The latter two were to be provided on a monopoly basis until the year 2000 by a concession granted by the Ministry of Telecommunications. Even though the Act did not name a specific company to provide long distance and international telephone traffic, this clause was written for HTC. The local telecommunications market was divided into 54 local franchises and 25 were open to tender with HTC guaranteed the other 29. HTC won 11 of the local franchises with foreign companies winning 14 local franchises (Bruner, 1994). Local operators can only serve a local area and may not provide a service between two local areas linked by HTC's national network. Local service providers are not allowed to bypass any of HTC's 54 primary switches, since this would be seen as undermining HTC's monopoly on long distance traffic.

The following operations required no licence:

a) Construction and operation of propriety wireline networks (within the premises)
b) Construction and operation of underground telecommunications networks and equipment in deep mines
c) Wireline sound amplifiers used for information
d) Receiving broadcasting services and one-way transmission of signals by satellite
e) Operation of special purpose networks
f) Termination/removal of closed private wireline telecommunications networks. However, the owner has to inform the Telecommunications Inspectorate.

The Act also allows companies to re-sell some spare capacity of their networks to other parties. Special purpose telecommunications networks can be interconnected with other networks according to specific terms laid out by the government. Parts of closed private telecommunications or free access points of closed wireless networks may be made available to other suppliers.

2.2.2 Criticisms of the Regulatory Regime

Critics of the regulatory framework, and in particular the monopolistic role it grants to HTC, cite the need for drastic development of the telecommunications infrastructure in Hungary. They believe that this could be best achieved by opening the voice telephony market to all-comers. Granting HTC a monopoly in long-distance and international traffic constrains development, since development is wholly dependent on the financial health of the monopoly service provider (Reynolds, 1993). In 1993, HTC was prevented by the Ministry of Telecommunications to more access to credit until it reduced its debt which had reached a level of 46 per cent (Nyevrikel, 1993). This constrained development, which might not have been the case had there been other players in the market. Supporters of the adopted regulatory structure retort that opening the telecommunications markets would lead to foreign ownership of the telecommunications services, which would provoke a political backlash.

Advocates of free and open markets, in turn, believe that this is thinly disguised economic nationalism. They point out that completely free access to the telecommunications markets would still lead to less foreign ownership than when Hungary was a fully signed up member of COMECON. Moreover, the economic prosperity that would result from open markets would soon detract from economic nationalism (Reynolds, 1993). Even if the regulators were not prepared to allow foreign competitors to HTC for political reasons, they could have allowed other Hungarian companies to compete with HTC. In the early 1990s other Hungarian organisations including the national railways (MAV) and the military expressed an interest in providing telecommunications services to the public.

These arguments are really outside the scope of this research, but are included as an insight into the debate that preceded the adoption of the present regulatory regime.

2.3 PRIVATISATION

The initial steps towards privatisation involved the issue of a tender for asset valuation in the Spring of 1990. This was won by Coopers & Lybrand in December 1990 (McIntosh, 1993). In October 1990, HTC and the World Bank signed a loan contract guaranteed by the Hungarian government, paving the way for HTC to become a joint-stock company by June 30 1991. The privatisation plan for HTC was approved by senior management in October 1991. It set out the following goals:

a) To find a strategic partner or partners to help HTC increase its efficiency and to transform it into a market-driven, customer-oriented company.
b) To obtain more sources of finance in order to implement the three-year development program.

Therefore, privatisation was carried out in three stages:

i) HTC transformed into a joint-stock company
ii) Setting up of joint venture with a foreign 'strategic' partner and a foreign institutional investor
iii) Public flotation of shares in HTC

In June 1991, HTC asked the State Property Agency (SPA) for permission to be converted to a joint-stock company. An agreement was reached between the SPA, the MTTW and HTC to select two different financial advisers for privatisation. One for HTC and the other for the government. The government's adviser would also prepare a legal framework for the telecommunications sector. The official date for HTC's conversion to a joint-stock company was December 1991, with 87 per cent owned by the SPA, 3 per cent by local governments and 10 per cent laid aside for the compensation program.

HTC Ltd was registered in November 1992. The company set up a Privatisation Council and a Privatisation Department to see it through privatisation. The Council's role was to devise the company's approach to privatisation, and present it to the SPA and the MTTW to ensure that it was consistent with the company's business strategy. The Department's role was to carry out the daily tasks associated with the privatisation process, liaise with the SPA and the MTTW, and act as coordinator for departments of HTC with regards to privatisation.

In May 1992, the SPA appointed the UK investment bank NM Rothschild (NMR) as its financial advisor (Denton, 1992a) along with a Hungarian subcontractor, the Intereuropa bank. The SPA and the MTTW chose KPMG, the management consultancy, as a technical advisor (HTC, 1992). NMR concentrated on the proposed regulatory structure and KPMG looked at the technical side of HTC's three-year plan, but both firms cooperated with each other in their work. The SPA also appointed the law firm of Squire, Sanders & Dempsey as legal advisors. HTC appointed Salomon Brothers as its privatisation adviser, and the firms of Skadden, Arps, Slate & Flom and Baker & McKenzie as legal advisers. In addition, Coopers & Lybrand were contracted to prepare a report to serve as a basis for the Information Memorandum for those firms interested in buying a stake in HTC Ltd.

In October 1992, the new State Asset Holding Company (Av Rt.) was created to take charge of state-owned companies. This led to the Av Rt. assuming ownership of the SPA's shares in HTC until privatisation. In early 1993, the Hungarian government announced plans to sell a 30 per cent stake in HTC with the state retaining a majority shareholding until 1999. The winner of the tender process would be responsible for managing the company in partnership with HTC managers. Preliminary bids were due by November with final offers in early December. The government also announced tenders for two GSM digital mobile networks. Three consortia submitted bids; Deutsche Telekom and Ameritech of the US (Another partner, Cable & Wireless dropped out at the last moment), Stet International of Italy and Bell Atlantic of the US, and France Telecom and US West. The tender was won by Deutsche Telekom/Ameritech who paid $875

million for their stake (Denton, 1993d). This valued the company at $2.9 billion.

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CHAPTER THREE

AN OVERVIEW OF TELECOMMUNICATIONS TECHNOLOGY

In recent years, there have been many developments in telecommunications technology which have brought considerable change to communications networks in developed countries while many of the older technologies have become obsolete. The progress in technology has enabled networks to carry more information and allows telecommunications companies to offer more advanced services to customers. This chapter explains the major developments in telecommunications technology and should help the reader to understand the large gap that existed in 1989 between western and eastern European systems. A brief summary of the major developments in telecommunications this century is presented in table 3.1.

3.1 SWITCHING TECHNOLOGY

Early telephones were directly connected using dedicated circuits. The growth in demand for telephones soon made this mode of connection impractical. This led to the development of telephone exchanges to connect users as required.

3.1.1 Manual Exchanges

In the earliest exchanges, each telephone was connected to a central exchange and operators were alerted by a lamp which glowed whenever a handset was lifted (Brewster, 1986). The operator then spoke to the caller, found out who they wanted to speak to and connected the two users together with a jumper lead and two jack plugs. As networks grew, separate exchanges for each community were connected with 'junction cables'. Calls to other areas involved two or more operators, depending on the route. At the same time the increased number of local subscribers required more than one operator at each exchange. Before long, manual exchanges for local calls became cumbersome and this prompted the

DECADE	DEVELOPMENTS IN TELECOMMUNICATIONS TECHNOLOGY
1900s	First wireless transatlantic signals Automatic (Strowger) exchanges installed across the USA
1910s	First automatic exchange installed in the UK
1920s	UK-USA radio telephone service
1930s	Experimental cross-channel microwave links First British handset telephone Pulse code modulation (PCM) proposed
1940s	First computers are developed
1950s	First transatlantic cable (TAT-1) opened First satellite (Sputnik) launched Laser invented Integrated circuits invented First Subscriber Trunk Dialling (STD) exchanges are opened enabling customers to make long distance calls without aid of operator Manchester to Scotland microwave link opened
1960s	First communications satellites launched First international direct dialling services introduced Optical fibres proposed First minicomputer
1970s	First optical fibre links are opened First digital exchanges enter service
1980s	Mobile cellular analogue services opened
1990s	First GSM digital cellular networks enter service

Table 3.1 - Major developments in telecommunications technology this century

invention of automatic switching technologies (Povey, 1979).

3.1.2 Rotary Switches (Step-by-step selectors)

The first rotary switch was patented in 1891 by Strowger in the USA (Davies, 1983). This switch consists of a 'two-motion' switch which enables a connection to be made through any one of a number of switch contacts arranged on the surface of a cylinder in rows and columns, as shown in figure 3.1. Selection of the appropriate output is performed in two stages. In the first, a contact arm is moved vertically by a relay-operated ratchet arrangement until it is in line with the required row. In the next stage, the contact arm is rotated horizontally until it corresponds with the desired outlet contacts. A series of electrical pulses, applied to the relay mechanism and stepping ratchet, governs the stepping movement of the contact arm. The electrical pulses are produced by the rotating dial of a caller's telephone. In an exchange for many users, each subscriber is connected to a single rotary pre-selector switch at the local exchange, the outputs of which are connected to banks of 'two-motion' switches or 'group selectors'.

When a caller lifts his handset, the cradle switch completes a circuit to the local exchange. This causes the pre-selector switch to step around until it finds a free group selector, which is then 'seized' by the caller. The caller then dials his first digit and the selector moves to the appropriate row on the cylinder. The vertical motion of the group selector selects a final selector in the group associated with the first digit dialled. Each further digit dialled selects a row on another switch until the final selector is reached. The final two digits determine the row and column of the final selector and connection is established. This is illustrated in Figure 3.2. For large networks not all switches are in the same building. The first few digits may route the call to one or more further exchanges before the final connection is made. The number of moving parts called for regular maintenance of the switches. Since connections required the 'seizing' of free selectors this limited the number of callers who could simultaneously use the exchange.

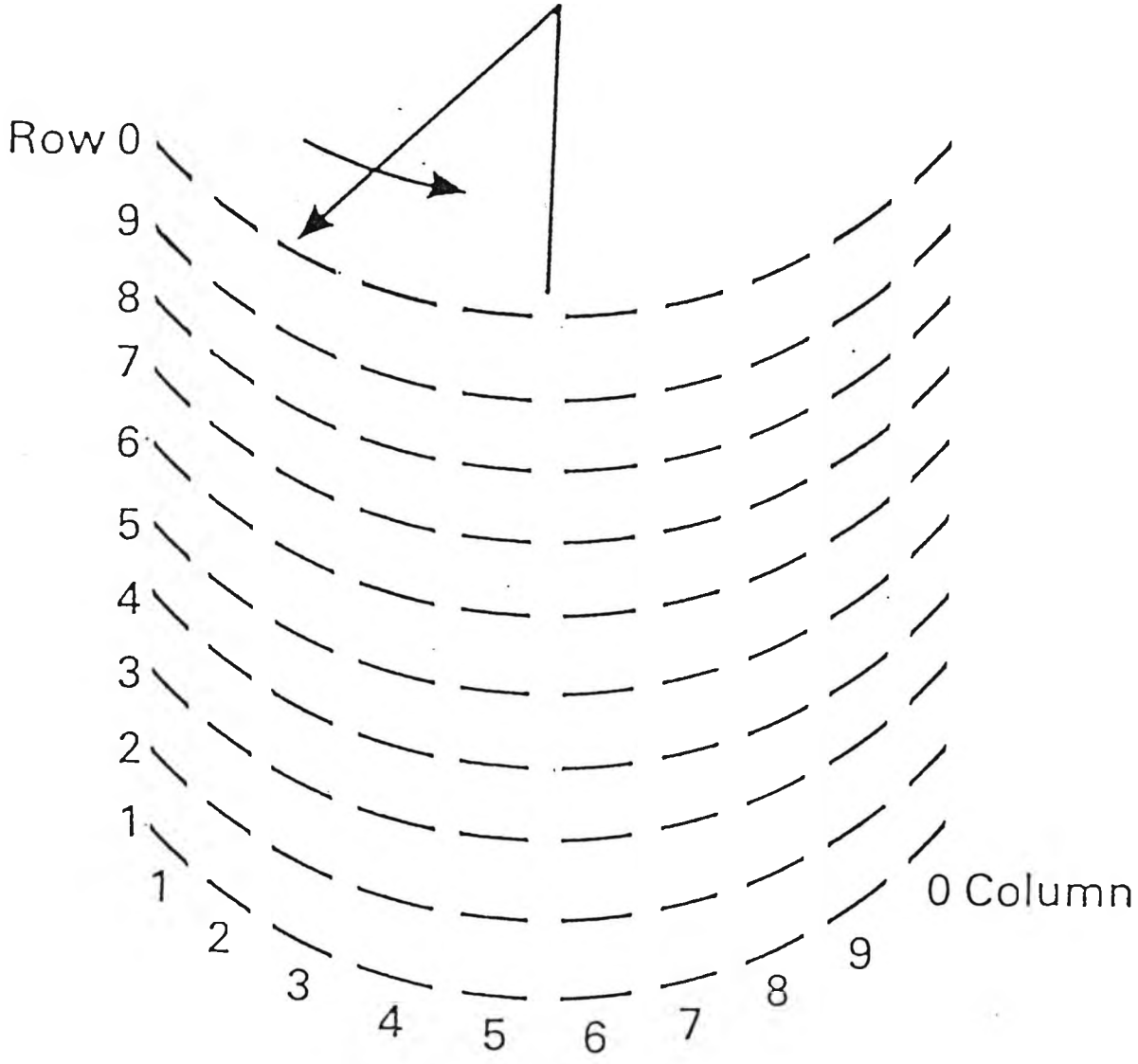


Figure 3.1 - Strowger two-motion switch contacts

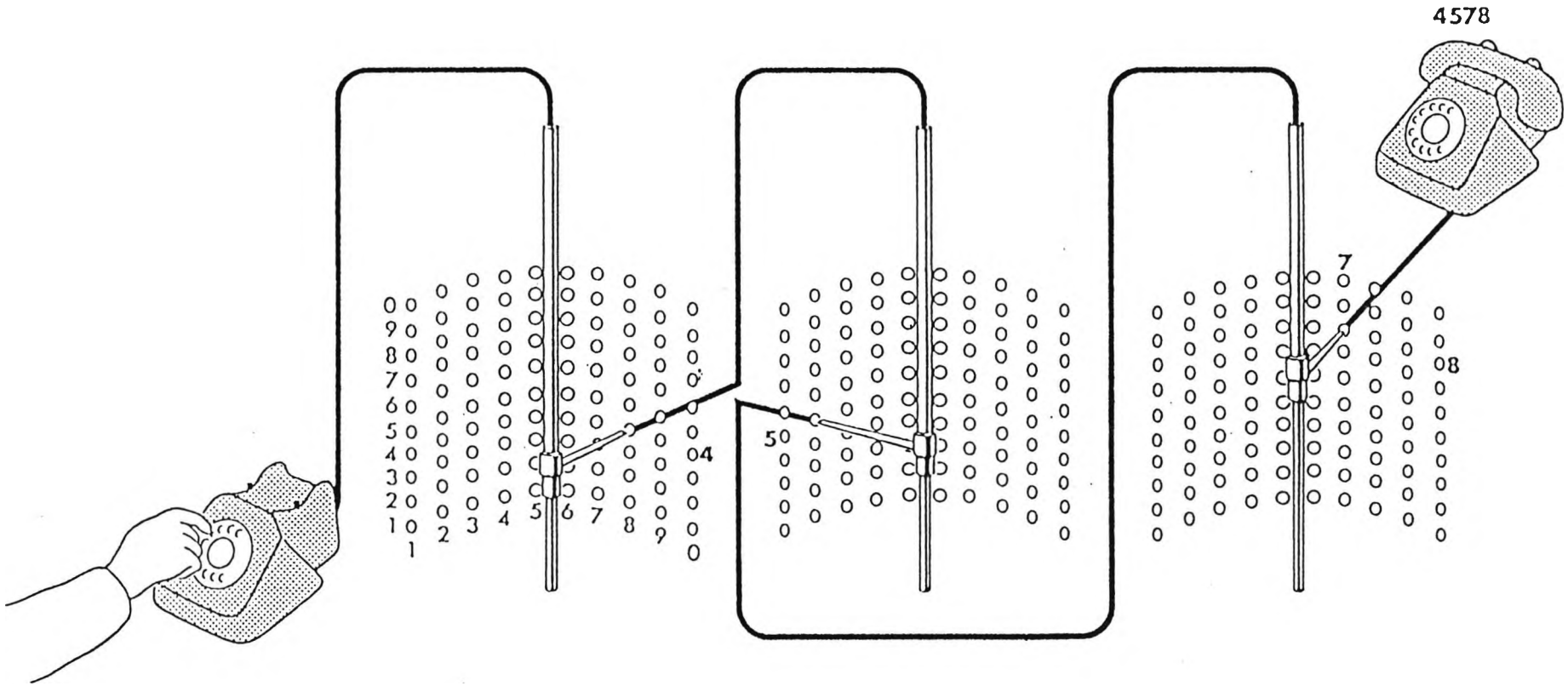


Figure 3.2 - Connection of caller to receiver using Strowger switches

3.1.3 Cross-Bar Switches

Figure 3.3 illustrates the arrangement of a cross-bar switch. The connection between a caller and receiver is made by closing the switch at the appropriate cross-point in the matrix. Switches were closed by moving the metallic contacts at the cross-point together by the simultaneous operation of metal bars across the matrix in each direction. Although the cross-bar switch required less maintenance than rotary switches, its moving parts still called for occasional servicing. Therefore, the cross-bars were later replaced by reed-relays at the cross-points. A reed-relay is shown in figure 3.4. For large networks, cross-bar matrices were arranged in different stages to connect many users to provide more than one route for connecting subscribers.

3.1.4 Digital Switches

With digital switching, signals are identified as '0' or a '1' representing either 'closed' or 'open'. The simplest digital switches are arranged as arrays of logic gates similar to the arrangement of cross-point switching, though many times smaller. More complex switching can be achieved by the use of computer technology to connect many calls simultaneously and allow a connection between two users on a network to be made via a number of different routes.

Digital switching has been made even more efficient with the advent of pulse code modulation (PCM). Telephone speech was originally transmitted as electrical copies or analogues of the sound waves picked up by the microphone in the telephone handset. These analogue signals were susceptible to electrical noise which diminished or even destroyed the analogue waves. Ironically, the signals used in telegraphy, which telephony displaced as a means of communication, had not suffered from this problem, since the receiver needed to detect only whether a signal was present or absent. In 1937, Alec Reeves, a British Engineer, devised a way of making telephone signals as reliable as telegraph signals. Instead of transmitting telephone signals as continuous waves, they could be sampled at

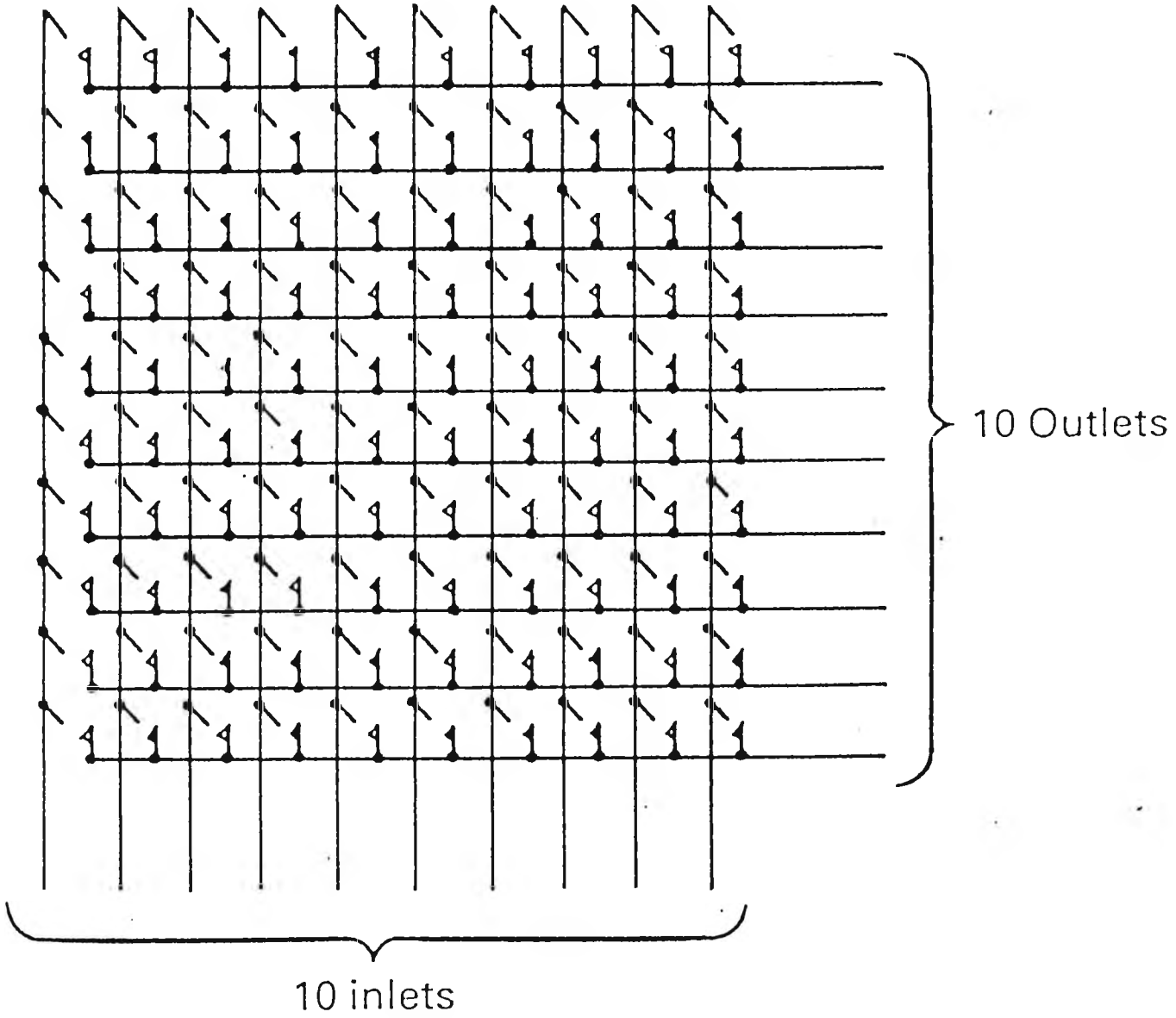


Figure 3.3 - Basic cross-point switching matrix

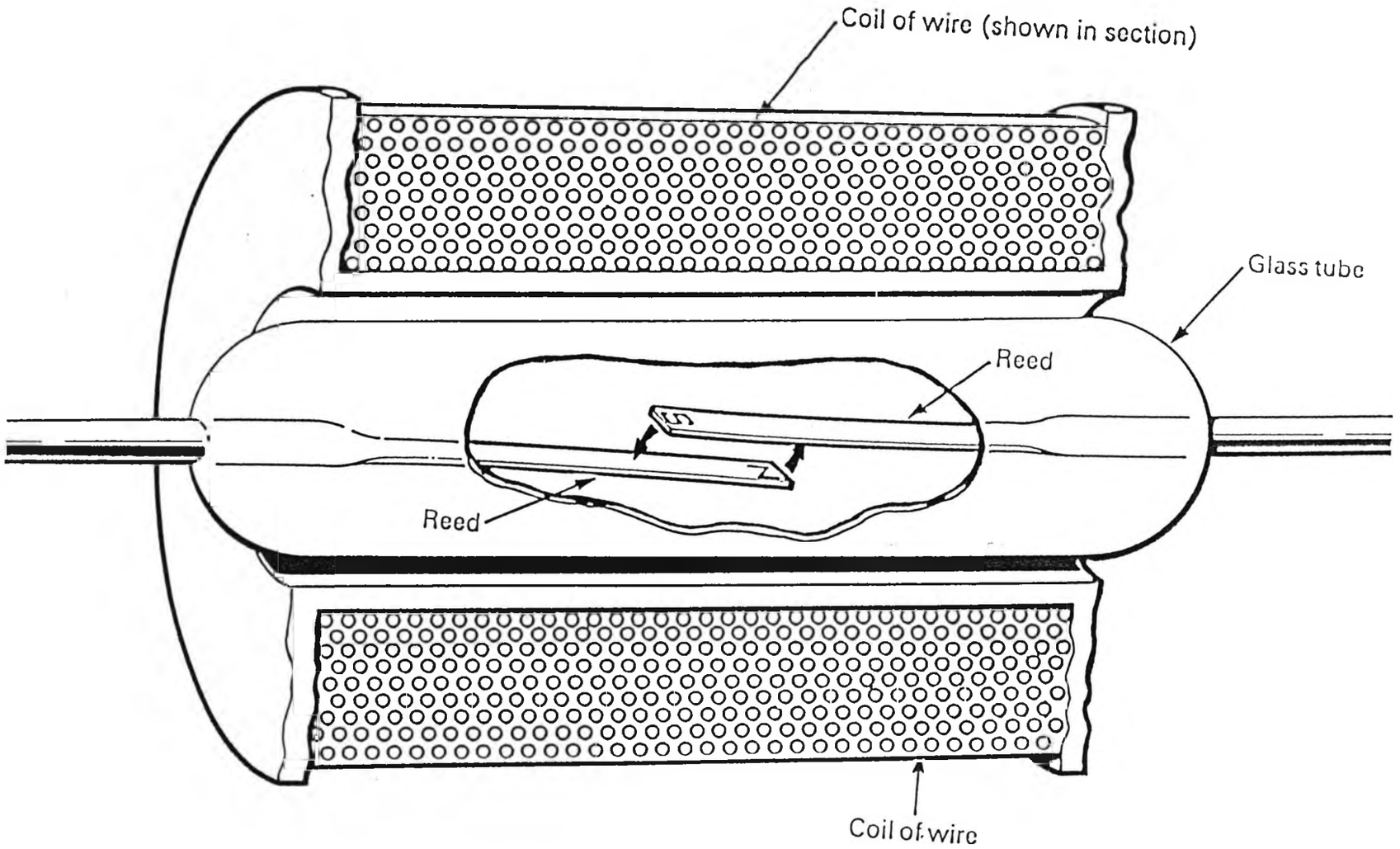


Figure 3.4 - The principle of the reed relay

intervals before transmission. The size of the sample was made proportional to the amplitude of the waveform at the point of sampling. The amplitude of the sample was then represented by a number expressed in binary code which could take the form of a series of on-off pulses. Unfortunately, Reeves was way ahead of his time since there were no electronic circuits able to turn speech into pulse codes. With the advances in computer technology and integrated circuits, Reeves ideas could be turned into reality. The first PCM circuits were operated by the British Post Office (the predecessor of British Telecom) by 1964. The principles of PCM transmission are shown in figure 3.5.

Digital exchanges have no moving parts which improves reliability and increases switching times. The use of PCM by digital switches enables one signal to be switched every 1/8000th of a second, allowing the exchange to switch samples of other signals during the gaps between samples. For example, modern digital exchanges are able to handle nearly 10,000 channels of communication using computer switching that operate at rates of eight million a second. This technology has enabled many improvements in modern telephony, such as touch tone dialling which enables instant connection instead of the slower 'step by step' dialling, and the use of multiplexing to enable simultaneous transmission of thousands of signals.

3.2 TRANSMISSION TECHNOLOGY

3.2.1 Copper Wire

At the turn of the century, thick copper wires were essential to preserve the strength of long distance calls, with massive poles required to support them. However, over very large distances speech became muffled and so loading coils came to be used. These were placed at regular intervals along a line, but did not restore signals - only minimised loss. Around 1915 these were replaced by valve repeaters and by the 1920s trunk (inter-city) routes with repeaters were in use with

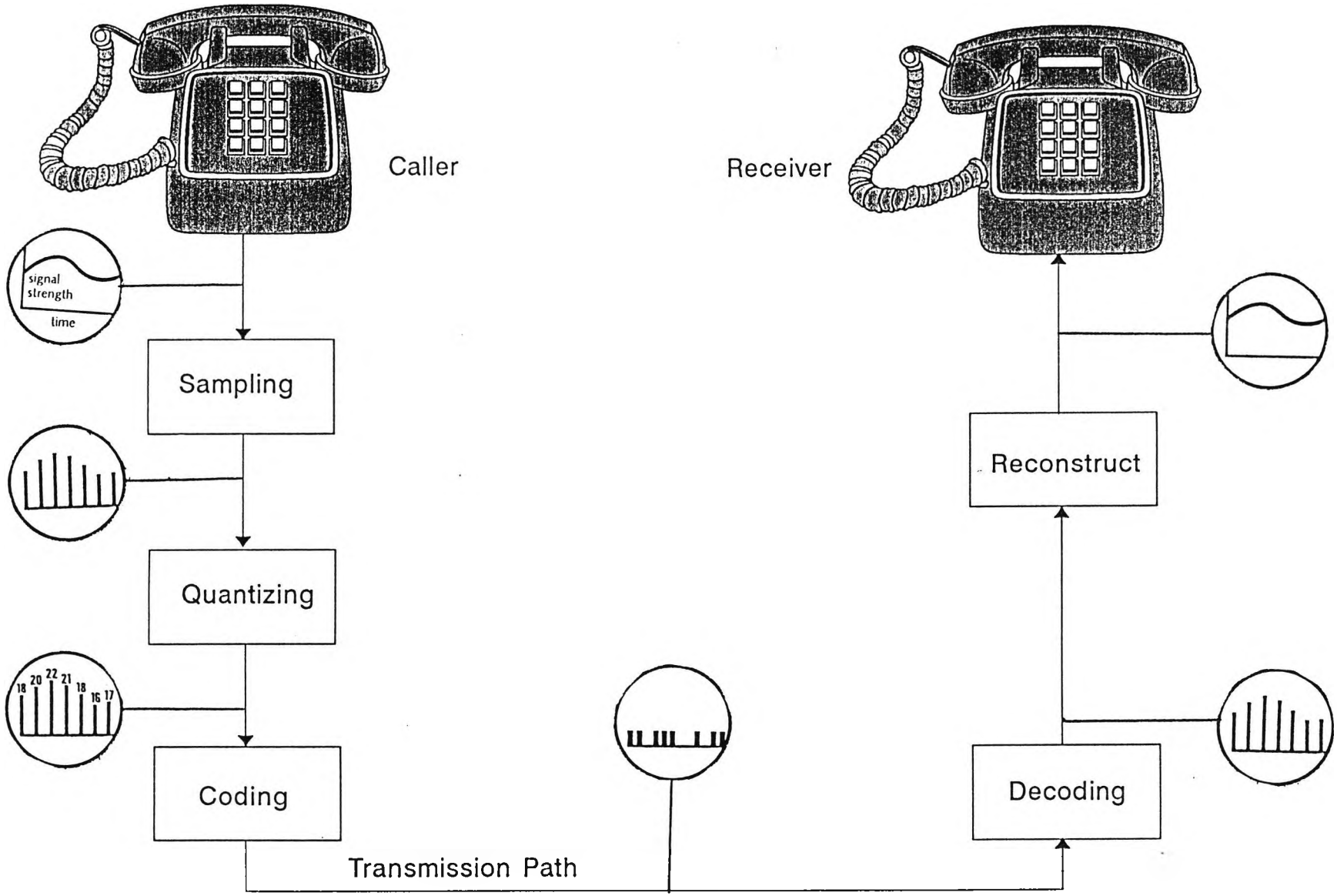


Figure 3.5 - Pulse Code Modulation

significantly thinner wires. This allowed cables to be laid underground. Even today in the UK, there remain a large number of trunk routes which employ copper wire technology.

3.2.2 Radio Links

With the invention of the triode, wireless communication using radio waves was transformed. Whereas previously only telegraph signals (usually Morse code) could be sent over the air, it was now possible to transmit 'wireless' speech. This led to the setting up of the first wireless link between the UK and the USA in 1927. This service worked on long waves, but it was soon shown that using short waves was more efficient and required less power. By the 1930s, the UK had a telephone service that could reach the most of the Empire. For the next 30 years, short wave links formed the basis of long distance communication.

3.2.3 Microwave Links

Microwaves are defined as radio waves under 30 centimetres in length. They are easily focused into sharp beams, usually employing dish aerials, which have two advantages: it makes more efficient use of transmitter power, and it reduces interference from other transmitters. Microwave beams have the additional advantage of being able to carry more information and so, are also used for data transmission. In the 1980s, roughly half of all trunk traffic in the UK was transmitted via microwave links, with the British Telecom Tower acting as the hub. Microwave beams are also used for international transmission using satellites to convey the signals to earth stations all over the world.

3.2.4 Optical Fibre

Optical fibres are made by stretching pure glass into long thin fibres. Information is transmitted as light waves along the glass fibre link which allows messages to be transmitted at very high speeds. Speech and data is transmitted using infra-red

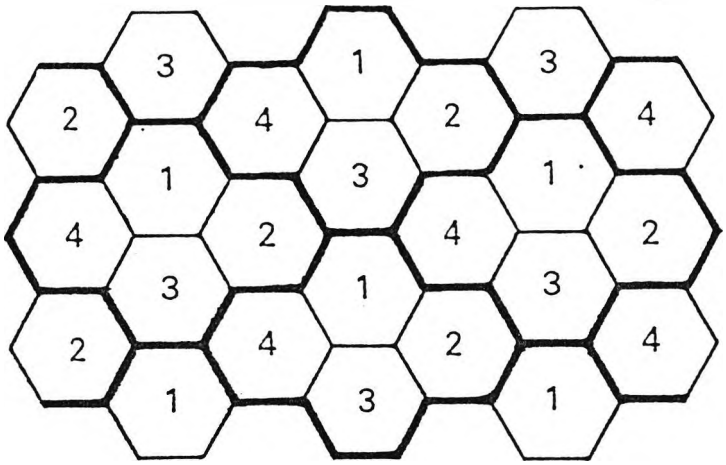
light generated by tiny lasers since is used to transmit speech and data, since the type of glass used in optical fibre cables is more transparent to infra-red light. The actual fibre links are much smaller and lighter than traditional copper cables and are relatively cheaper since the cost of the raw material - sand - is negligible. The high speed at which light travels means that optical fibres have a very high capacity, thus making them ideal for Integrated Service Digital Networks (ISDN) which carry speech, data and pictures.

3.2.5 Cellular Mobile Telephony

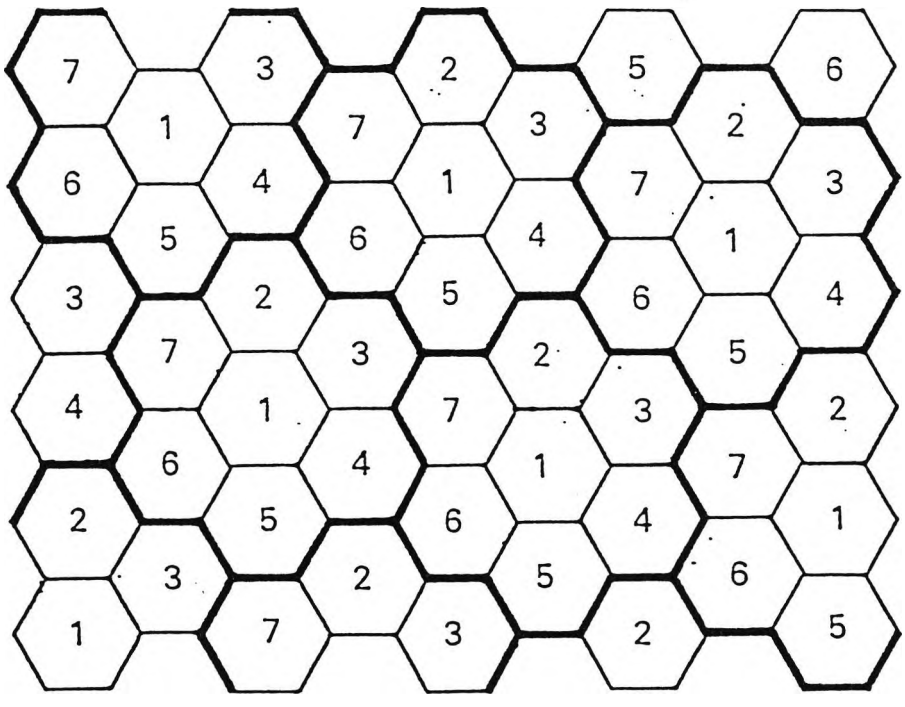
The cellular mobile radio provides telephone services to users on the move and are of great worth to business users. Each mobile set communicates with the public network and other mobile users via a base station using specific UH channels with the base station assigning a carrier frequency to each call. A country is divided geographically into cells, as shown in Figure 3.6, with each cell having its own base station. Calls are routed through one or more base stations until they reach the receiver, with each cell allocating a new carrier frequency to the call. Interference is avoided by separating cells of the same frequency by arranging them in clusters. Figure 3.6 shows both single-cell and double-cell separation. The cellular arrangement does, however, limit the number of mobile users within a particular cell area, but this should be overcome as more frequency is allocated and technology improves to allow more users for a given bandwidth.

3.3 TRANSFER OF MODERN TECHNOLOGY TO HUNGARY

Under communism, telecommunications in the countries of central and eastern Europe relied on old fashioned technology. In the US, the Far East and western Europe there had been significant developments in telecommunications technology. At the beginning of the 1990s, Hungary's network looked more like a collection of museum pieces than a functioning telecommunications system. Since the lifting of the CoCom restrictions, as discussed in Chapter Two, Hungary has been allowed



(a) Single-cell separation



(b) Double-cell separation

Figure 3.6 - Cellular division of geographic area

to import modern telecommunications technology. Even though much of HTC's network consisted of long neglected technology, the company will not have to go through the same stages of development as countries with more modern networks. Since HTC is able to purchase modern up-to-date technology, the company is in a position to 'leapfrog' over much of the technology developed over the last forty years. For example, HTC will be able to replace manual exchanges directly with modern digital exchanges, rather than having to install a Strowger exchange, then a crossbar exchange before finally installing a digital exchange. Instead of attempting to update the network that it inherited from the former PTT, HTC has decided to install a national overlay digital network constructed of fibre optic cable. An overlay network is basically a new network constructed from scratch to replace an older network. Building an overlay network is less costly and less time consuming than digging up the older cables of the old network and replacing them with modern cables. At the beginning of 1990, only one in ten of HTC's exchanges was digital. By the end of 1993, about one in three of HTC's exchanges was digital. The line density as a result of constructing the optical fibre overlay network increased from 9 lines per 100 in 1990 to 14.5 lines per 100 at the end of 1993. Further details on the development of the network are contained in Chapter Four. With the lifting of CoCom restrictions, technology was no longer a constraint in developing the network. The main constraints now facing HTC in attempting a leap in telecommunications technology included:

- the speed at which employees could be trained to work with the new technology; and
- the availability of finance to purchase modern equipment.

Deutsche Bundepost Telekom has recently constructed the Trans-European Link (TEL), a fibre optic network connecting Germany directly to Hungary, Poland, the Czech Republic, Slovakia, Ukraine, Romania, Croatia and Slovenia. HTC is also developing additional direct links with Austria and other neighbouring countries. In addition, the North-South Line (NSL) links Hungary to Poland, Scandinavia and the UK. Other international telecommunications traffic will be routed via the

Intelsat satellite enabling direct connections to the American continent, the Pacific region and Oceania.

Users who are prepared to pay higher charges may connect to the cellular networks, which require less physical installation than fixed-line networks. In March 1994, customers in Budapest could be connected to the cellular network within one week. When the first cellular network began service in 1991, many customers originally subscribed to it with the intention of switching back to the fixed-line network once it was capable of offering a high quality of service. However, since then many customers have claimed that they will continue to subscribe to a cellular service due to its flexibility, i.e. cellular telephone handsets are compact and portable (Sugar, 1993). This is consistent with the worldwide increase in the use of cellular telephony. However, once the fixed-line network is of sufficient standard, it is likely that customers will subscribe to HTC's fixed-line network for the office and home, but use the cellular service while on the move. Details of HTC's development plans for the fixed-line network are presented in Chapter Four.

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CHAPTER FOUR

HTC'S DEVELOPMENT PLANS

> **"I have seen the future, and it works"**
> - Lincoln Steffers (1919)

This Chapter looks back at the development plans for the telecommunications network in Hungary at the beginning of the 1990s. These need to be understood before any assessment of the management of change within HTC can be carried out. At the root of the development are the business plans. These determine the technical, organisational and personnel plans.

4.1 BUSINESS PLANS

In February 1991, HTC published a ten year plan (1991-2000) which included a three year plan (1991-1993). In the three year plan, the management of HTC defined its mission as,

> "Harmonization of all existing and available resources for promoting the national telecommunications."

In the more liberalised environment, HTC's goal was to become a leading provider of telecommunications services reaching a telephone penetration rate 'equivalent to the economic and political importance of Hungary in Europe by the year 2000'. This is far more realistic than earlier estimates which saw Hungary reaching a line density of 39 per 100 people or parity with western Europe by the year 2000 (Valter, 1990). During interviews conducted in 1994, line density in the year 2000 was estimated at between 30 and 35 lines per 100 people. Hungary should achieve parity with the European Union by the year 2010. Obviously, the three-year plan was dependent on legislation and government regulations. HTC began to prepare

for deregulation, privatisation, the possible loss of its monopoly and the rise of competition in some sectors.

4.1.1 Choice of markets to operate in.

HTC decided to adopt a two prong business plan, aiming to meet the needs of the business community as quickly as possible, while developing services for private users in the less developed and hence less profitable regions. This was to be achieved by building an up-to-date nationwide infrastructure. A sad fact of life was that more people wanted telephones than could actually afford them. Between 1990 and 1993, Hungarians became poorer as the country's Gross Domestic Product fell. Hungary's official GDP fell by 19 per cent between 1989 and 1992 (Denton, 1993a). Despite this, the total demand for telephone lines increased from just under 1.5 million to nearly 2.3 million between 1989 and 1993; an increase of nearly 55 per cent. Demand is expected to continue increasing for some time, especially since the cost of subscribing could decrease with further development of the network. Unfortunately, no figures were available for the forecasted growth in demand. Since it was difficult to select particular customers, HTC instead chose regions to develop. HTC decided to meet some of the demand of residential users in the short term by increasing the numbers of public payphones. A target was set of 95 per cent of all communities being served by a 24 hour payphone before 1994. However, HTC planned to focus on the more profitable business sector and use these profits to invest in developing other sectors of the market.

4.1.2 Financial Plans

Before 1990, only 0.3 per cent of GDP was invested in telecommunications over a 30 year period. This figure increased to 0.8 per cent in 1990/91. The financing plans as they stood at the beginning of the three year plan in 1991 are shown in table 4.1 and figures 4.1 and 4.2. The values for the years after 1991 are given at 1991 prices and show funds for the core and branch programmes which will be discussed later. The cash flow statement in table 4.1 shows the use of internal and

Table 4.1

CASH-FLOW STATEMENT FOR THE CORE BUSINESS OF THE HUNGARIAN TELECOMMUNICATIONS COMPANY

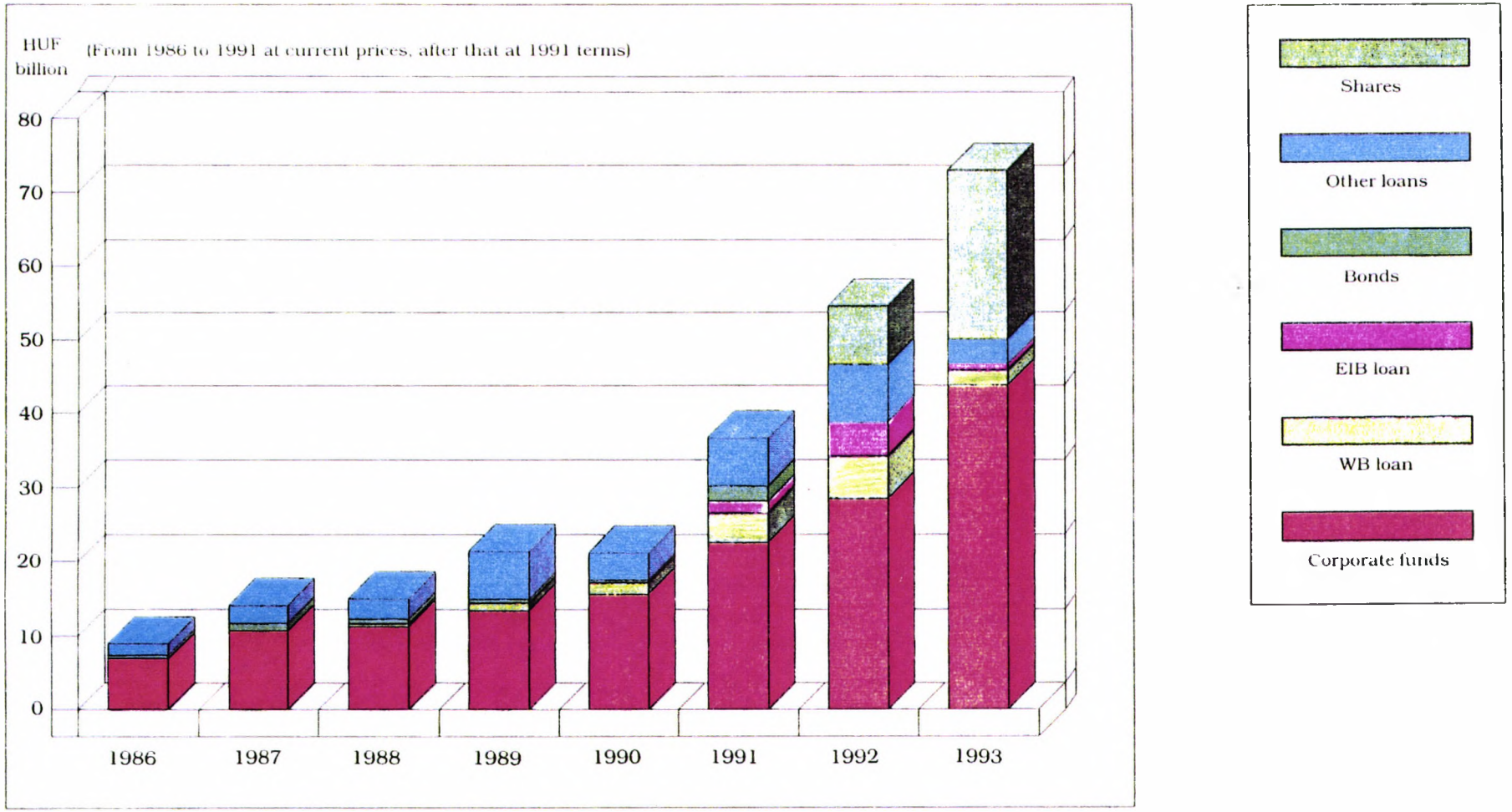
in HUF million

	ACTUAL*			ACTUAL*		PLAN**			
	1986	1987	1988	1989	1990	1991	1992	1993	1991-1993
Revenue, total	11 013	13 291	14 929	18 210	24 559	36 953	44 393	63 248	144 594
Expense, total	6 065	6 877	8 508	10 735	14 772	21 072	24 972	31 626	77 670
LIABILITIES									
Operating profit (before interest)	4 948	6 414	6 421	7 475	9 787	15 881	19 421	31 622	66 924
Depreciation	1 810	1 945	2 382	3 663	4 225	6 749	9 039	12 076	27 864
Fund transfer	426	2 275	2 729	2 524	1 700	0	0	0	0
Corporate funds	7 184	10 634	11 532	13 662	15 712	22 630	28 460	43 698	94 788
Capital increase									
State contribution	1 167	1 253	1 122	1 000	0	0	0	0	0
Domestic	0	0	0	0	0	0	3 000	3 000	6 000
International	0	0	0	0	0	0	5 000	20 000	25 000
Total share capital	1 167	1 253	1 122	1 000	0	0	8 000	23 000	31 000
Loans WB I	0	0	553	1 099	1 632	650	0	0	650
WB II	0	0	0	0	0	3 393	5 757	2 100	11 250
WB III	0	0	0	0	0	0	0	0	0
Government	200	517	503	1 350	1 700	0	0	0	0
EIB	0	0	0	0	0	1 602	4 698	1 000	7 500
Bonds	530	1 076	880	697	300	2 100	0	0	2 100
Other	470	824	1 449	3 925	2 040	7 024	7 784	3 382	18 190
Loans	1 200	2 417	3 385	7 071	5 672	14 999	18 239	6 482	39 720
Total LIABILITIES	9 551	14 304	16 039	21 733	21 384	37 629	54 699	73 180	165 508
ALLOCATION OF FUNDS									
Core program	4 505	8 460	11 808	13 586	14 319	24 700	40 700	46 600	112 000
Branch program					3 000	3 500	7 000	13 500	
Interest									
paid from the funds	0	42	12	400	534	2 592	1 092	917	4 601
expensed	67	136	347	401	694	1 748	1 723	2 719	6 190
Installment	266	269	336	420	1 051	1 022	2 075	2 608	5 705
Dept service	333	447	695	1 221	2 279	5 362	4 890	6 244	16 495
Profit tax	2 465	2 347	1 559	2 073	2 977	3 912	5 143	7 766	16 821
Dividend Gov't	0	0	0	0	0	0	0	0	0
Local gov't	0	0	0	0	0	0	0	3 736	3 736
Foreign	0	0	0	0	0	0	0	0	0
Inventories	164	485	423	287	509	655	465	1 833	2 953
Transfer of funds for non-telecom purpose	2 084	2 565	1 554	4 566	1 300	-	-	-	0
ALLOCATED FUNDS, TOTAL	9 551	14 304	16 039	21 733	21 384	37 629	54 698	73 179	165 506
Third party and local gov't investments in telephone companies (estimate)						3 000	13 000	15 000	31 000

* At current prices
** At 1991 terms

CORPORATE SOURCES OF FINANCING IN 1986-1993

Figure 4.1



CASH-FLOWN IN 1986-1993
(profit before tax+depreciation)

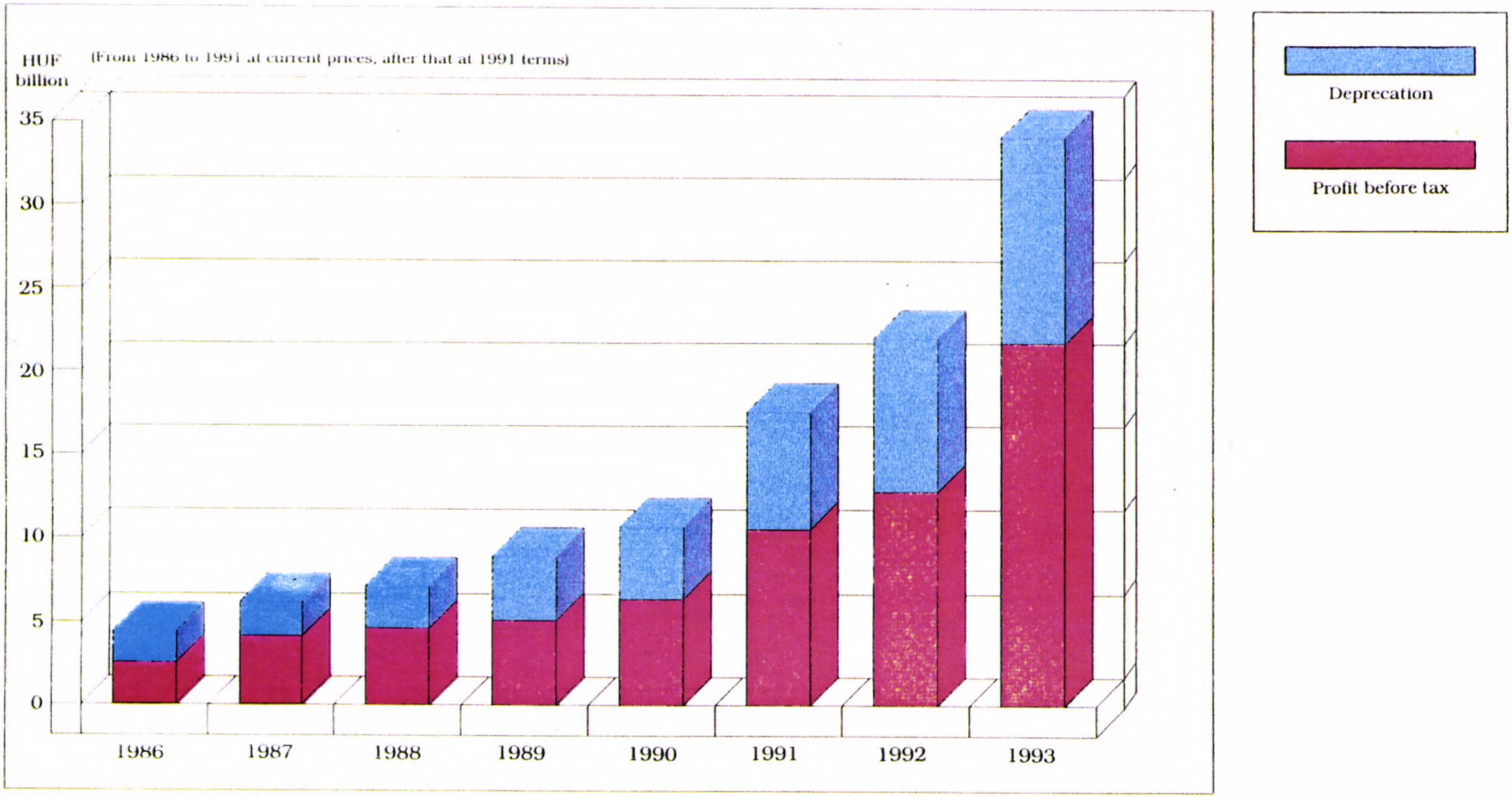


Figure 4.2

external funds for HTC's core business between 1986 and 1993. The values shown should be viewed within the context of the depreciation of the Hungarian Forint against the US Dollar between 1986 and 1993. In 1986, the US Dollar was worth 45.8 Forints. By 1993, the US Dollar was worth 91.9 Forints. Therefore, the value of the Forint halved against the US Dollar between 1986 and 1993, pushing up the costs of importing foreign technology. The values shown in table 4.1 and figures 4.1 and 4.2 are for HTC's basic activities only, which amounted to about 90 per cent of all activities, since they were the only figures available at the time. The income figures also include entry charges, and assume that traffic will increase by about 7 per cent per annum. Estimates of costs assumed improved performance such as: an 8 per cent reduction of staff per 100 lines, a 12 per cent reduction in material and other operating costs and an 8 per cent reduction in company overheads.

HTC planned to invest Ft 110 billion ($1.5 billion) over three years. Ft 84 billion ($1.35 billion), including a foreign exchange component of Ft 22 billion ($350 million), was set aside to pay for the new digital overlay network. For this, HTC borrowed 46 per cent of the required money, with the World Bank ($150 million) and the European Investment Bank ($100 million) supplying 19 per cent. The other 27 per cent of credit came from other sources including the European Bank for Reconstruction and Development (EBRD) who supplied $100 million. HTC planned to provide 54 per cent of the funds for the overlay network by raising tariffs, efficiency and operating profit. A one-off increase in tariffs of 45 per cent in 1991, brought prices up to the 1989 level. Further increases were to be linked to increases in the retail price index to ensure stability. HTC proposed to use its tariff policy to share the cost burden of new projects between current and new customers. In the longer term, its aim was to move towards a system of cost-based tariffs.

Privatisation was seen as a huge source of funds and was planned as a three stage process. In the first, HTC was converted to a joint-stock company in 1991 with the state owning 100 per cent all the shares. In the second, a minority stake would be

sold to foreign investors which it was hoped would raise about $400 million in equity. In the third stage, it was planned to offer shares to the public to raise another Ft 10-15 billion. However, the Hungarian State would still maintain a majority stake throughout.

HTC has formed an independent subsidiary, Investel, to arrange the financing of the development programme and provide funds through the Hungarian and international stock markets. Investel is also responsible for assessing proposed investment in projects and for setting profitability targets to increase HTC's returns on investments. Investel is 75 per cent owned by HTC and 20 per cent owned by the financing subsidiary of the Irish national telecommunications company, Telecom Eireann, and 5 per cent owned by three Hungarian banks.

4.2 TECHNICAL PLANS

4.2.1 Forecasts of line density and network penetration.

This section looks at the technical development of the network for the 1991-1993 three year plan. It will concentrate only on the development plans for the basic voice telephony and data networks. The three-year plan comprised a core programme and branch programmes. The planned increase in exchange capacity as a result of both programmes is shown in figure 4.3.

HTC aimed to achieve an annual growth rate of 14.5 per cent in order to reach a line density of 14.5 main lines per 100 people in 1993, up from 9.6 per 100 people in 1990. Taking the branch programmes into account could have led to a line density of 16.8 main lines per 100 people by the end of 1993; a total annual growth rate in lines of 20.6 per cent. In fact, the company managed to meet the lesser target with a line density of 14.5 lines per 100 people at the end of 1993. In Budapest, the core programme should increase the line density from 22.8 main lines per 100 people to a value of 28. If all branch programmes in Budapest were

CAPACITY OF THE MAIN EXCHANGES

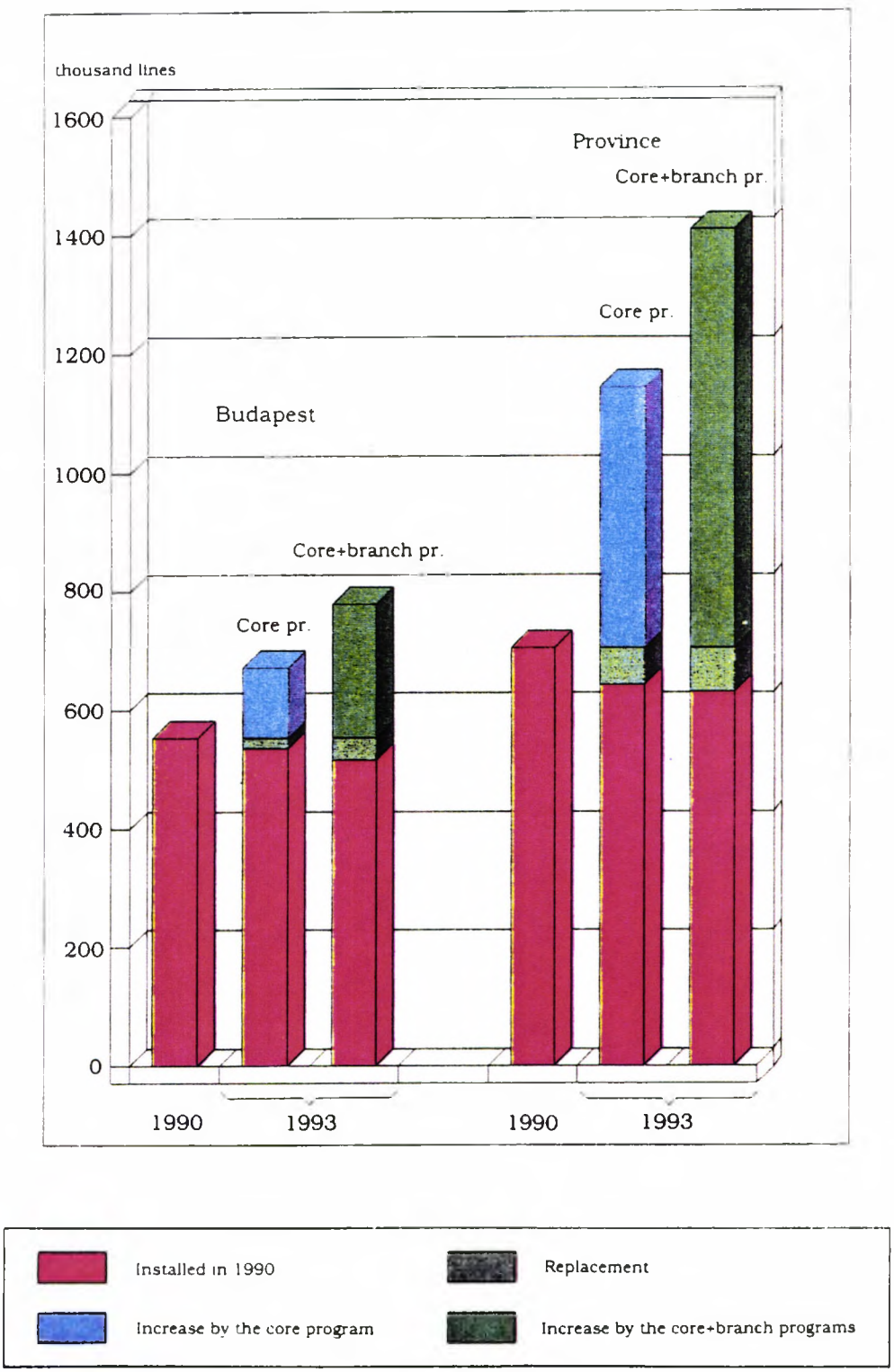


Figure 4.3

implemented with success, the line density in Budapest could have reached 37 lines per 100 by the end of 1993. The actual line density achieved in Budapest at the end of 1993 was 29 lines per 100 people. Table 4.2 shows the planned increase in exchange capacity and number of customers between 1991 and 1993, assuming that the targets of the core and branch programmes were reached. The automation of all main exchanges was due to increase from 93.5 per cent to 98 per cent by the end of 1993 with the total share of digital exchanges increasing from 8 per cent to 37 per cent. These targets were not quite met. Automation of main exchanges increased to 96.5 per cent, while the total share of digital exchanges reached 26 per cent.

a) The Core Programme

Backbone Network: A new nationwide digital backbone network connecting 19 county towns and 37 other nodes was installed between 1991 and 1993 (see figure 4.4) offering a high traffic capacity and the ability to provide value-added services. Table 4.3 shows the implementation schedule of the network. The analogue backbone network was also due to be completed by 1993.

Exchanges: The capacity of the Budapest international and domestic exchanges doubled in 1991. The three year plans forecast an increase in capacity of 20,000 lines for the international exchanges and 28,000 for the domestic exchanges. Digital exchanges with a capacity of 213,000 lines were installed in all county towns by the end of 1993.

Three new digital exchanges were planned for Budapest. In total 137,400 lines were due to be installed, 18,800 of which to replace obsolete lines. In the three year period 106,500 new main lines were planned to be installed. Planners foresaw that telecommunications development in Budapest would be constrained by the availability of buildings, thereby limiting plans for other developments before the end of 1993. New projects after 1994 will require new buildings to be built.

Table 4.2

Local exchange capacities installed, replaced and connected during the three-year program

(In thousand lines)

	CAPACITY			
REGION	Installed	Replaced	Increase	New customers
BUDAPEST				
Core program	137,4	18,8	118,6	106,5
Branch program	130,0	20,0	110,0	75,0
Total	267,4	38,8	228,6	181,5
PROVINCE				
Core program	500,6	65,0	435,6	293,5
– of which rural pr.	50,0	20,0	30,0	25,0
Branch program	300,0	15,0	285,0	275,0
Total	800,6	80,0	720,6	568,5
HUNGARY				
Core program	638,0	83,8	554,2	*400,0
Branch program	430,0	35,0	395,0	*350,0
Total	**1068,0**	**118,8**	**949,2**	**750,0**

* The ratio of capacity and customer station increase in the core and branch programs is different, explained by the fact, that the customer network for approximately fifty thousand new customer stations will be implemented in the framework of the branch program.

Capacity expansion of local telephone exchanges in the core program

COUNTRY/ DISTRICT	CAPACITY			
	New analogue	New digital	Increase	Year installed
BARANYA				
- Pécs town	-	20 000	20 000	1992
- Pécs district	-	-	-	
- Mohács district	-	12 100	8 800	1993
- Szigetvár district	-	-	-	
Total		32 100	28 800	
BÁCS-KISKUN				
- Kecskemét town	-	10 000	10 000	1993
- Kecskemét district	800	-	760	1992
- Baja district	12 400	-	9 570	1992
- Kikőrös district	2 000	-	1 000	1992
- Kiskunhalas distr.	-	-	-	
Total	15 200	10 000	21 330	
BÉKÉS				
- Békéscsaba town	-	10 000	9 520	1993
- Békéscsaba distr.	1 400	-	1 000	1992
- Orosháza district	-	-	-	
Total	1 400	10 000	10 520	
BORSOD-A-Z				
- Miskolc town	18 000	2 000	20 000	1992
- Miskolc district	3 600	-	2 500	1992
- Kazincbarcika distr.	-	-	-	-
- Szerencs district	1 000	-	1 000	1991
- Mezőkövesd distr.	11 400	-	11 200	1991
Total	34 000	2 000	34 700	
CSONGRÁD				
- Szeged town	-	30 000	30 000	1992
- Szeged district	600	-	600	1992
- Szentes district	4 000	-	4 000	1993
Total	4 600	30 000	34 600	

Table 4.3

(Page 2)

COUNTRY/ DISTRICT	CAPACITY			
	New analogue	New digital	Increase	Year installed
FEJÉR				
- Székesfhv. town	-	11 400	11 400	1992
- Székesfhv. district	-	-	-	
- Dunaújv. district	5 000	-	400	1991
Total	5 000	11 400	11 800	
GYŐR-SOPRON				
- Győr town	-	20 000	20 000	1992
- Győr district	-	-	-	
- Mosonmagy. distr.	-	-	-	
- Sopron district	-	8 300	8 300	1992
Total		28 300	28 300	
HAJDÚ-BIHAR				
- Debrecen town	-	20 000	20 000	1993
- Debrecen district	-	-	-	
- Berettyóú. district	-	-	-	
Total		20 000	20 000	
HEVES				
- Eger town	-	4 000	4 000	1993
- Eger district	1 000	-	1 000	1992
- Gyöngyös district	-	30 000	22 035	1993
Total	1 000	34 000	27 035	
JÁSZ-NAGYKUN-SZOLNOK				
- Szolnok town	-	6 000	6 000	1992
- Szolnok district	1 000	-	600	1991
- Jászberény distr.	-	-	-	
Total	1 000	6 000	6 600	
KOMÁROM-ESZTERGOM				
- Tatabánya town	-	9 000	9 000	1991
- Tatabánya district	-	5 000	4 000	1991
- Esztergom district	4 000	-	4 000	1991
Total	4 000	14 000	17 000	

Table 4.3

(Page 3)

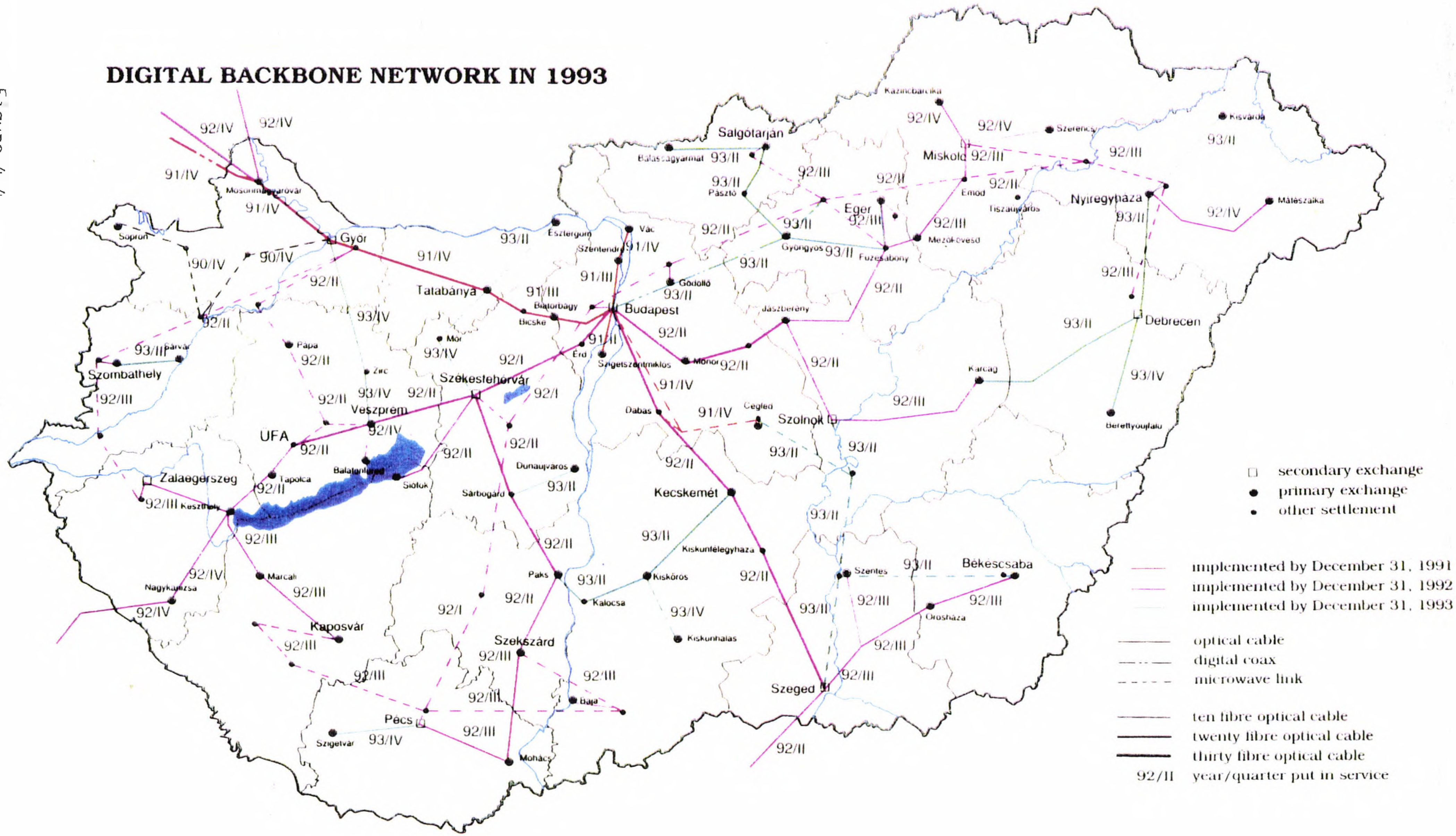
COUNTRY/ DISTRICT	CAPACITY			
	New analogue	New digital	Increase	Year installed
NÓGRÁD				
- Salgótarján town	-	6 400	6 400	1993
- Salgótarján distr.	2 600	-	1 200	1991
- Balassagy. distr.	3 000	-	1 900	1991
Total	5 600	6 400	9 500	
PEST				
- Cegléd district	-	14 000	9 000	1991
- Biatorbágy distr.	-	4 000	3 600	1991
- Gödöllő district	-	-	-	
- Szentendre distr.	-	9 000	6 000	1991
- Vác district	600	4 000	4 000	1992
- Monor district	-	-	-	
- Szigetszt. district	-	-	-	
Total	600	31 000	23 000	
SOMOGY				
- Kaposvár town	-	10 000	10 000	1992
- Kaposvár district	-	-	-	
- Marcali district	5 000	-	4 200	1991
- Siófok district	-	17 300	15 500	1992
Total	5 000	27 300	29 700	
SZABOLCS-SZ-B.				
- Nyiregyháza town	2 000	10 000	12 000	1993
- Nyiregyháza distr.	4 000	-	3 750	1992
- Kisvárda district	-	-	-	
- Mátészalka distr.	6 600	-	5 030	1991
Total	12 600	10 000	20 780	
TOLNA				
- Szekszárd town	3 000	7 200	10 200	1993
- Szekszárd district	-	-	-	
- Paks district	8 000	-	8 000	1992
Total	11 000	7 200	18 200	

Table 4.3
(Page 4)

COUNTRY/ DISTRICT	CAPACITY			
	New analogue	New digital	Increase	Year installed
VAS				
- Szombathely town	-	15 000	15 000	1993
- Szombathely distr.	-	1 300	1 300	1993
- Sárvár district	-	-	-	
Total		16 300	16 300	
VESZPRÉM				
- Veszprém town	-	14 000	14 000	1993
- Veszprém district	-	-	-	
- Balatonfüred distr.	3 900	-	3 900	1992
- Pápa district	-	-	-	
- Tapolca district	1 000	-	1 000	1991
Total	4 900	14 000	18 900	
ZALA				
- Zalaegerszeg town	-	8 000	8 000	1993
- Zalaegerszeg distr.	-	1 200	1 200	1992
- Keszthely district	-	11 500	11 200	1993
- Nagykanizsa distr.	-	14 000	8 100	1993
Total		34 700	28 500	
RURAL PROJECT	20 000	30 000	30 000	1991-1993
PROVINCE, TOTAL	125 900	374 700	435 565	1991-1993
BUDAPEST				
- Belváros	-	40 000	40 000	1991,1992
- István	-	30 720	22 720	1992
- Budafok	-	8 800	8 800	1991
- Angyalföld	-	35 800	25 000	1993
- Other	22.100	-	22 100	1991
Total	22 100	115 320	118 620	1991-1993
TOTAL	**148 000**	**490 020**	**554 185**	**1991-1993**

Figure 4.4

DIGITAL BACKBONE NETWORK IN 1993



In rural areas, HTC hoped to provide a 24 hour service for about 1900 communities that had only received a limited service before the three year plan. Plans included upgrading 20,000 lines, installing 25,000 new lines and introducing public long-distance phones in each area. Existing public pay-phones were reinforced to combat the increase in vandalism and 26,600 up-to-date payphones were due to be installed; 10,600 of which to replace existing phones. 16,000 new payphones were planned, including those for the rural project, 12,000 of which would be card-phones.

Due to the deregulation of the private branch exchanges or PABX market, the budgets of the core programme set aside enough funds to replace only what were considered as vital PABXs. Other opportunities in the PABX market were to be dealt with under the branch programmes.

Data and Message Transmission: The existing packet switched service was to be expanded from its 1991 level of 1200 lines to 3000 lines by 1993. After these lines were installed, the connection time for customers outside Budapest to the network was expected to be about three months. By the end of 1993, the packet switched service had grown to 2900 lines, only just failing to meet its target.

b) The Branch Programmes

The branch programmes consisted of projects to which HTC provided support in organising and managing new ventures, but which HTC did not necessarily initiate. Through the branch programme, HTC was able to take an interest in new telephone companies set up to develop networks in areas not entirely covered by the core programme. Between 1991 and 1993, HTC planned to invest Ft 10 billion in these new telephone companies with another Ft 31 billion coming from other investors. These ventures should have led to 100,000 lines being installed in 1992 and 250,000 lines installed in 1993. These targets were not quite met. Unfortunately, exact figures were unavailable.

HTC committed itself to keeping its market share in the deregulated PABX business in Budapest, by gradually replacing leased equipment with modern PABXs. HTC also set about looking at PABX opportunities outside Budapest.

Westel, the mobile telephone venture between HTC and US West, intended to achieve a nationwide service by the end of 1993 in the 450 MHz band with over 50,000 customers. In 1992, the government announced plans to allow two new digital mobile telephone networks conforming to the pan-European GSM 900 MHz standard (Heller, 1992b). Some experts felt that Westel should automatically be allowed to offer a GSM service since its original contract was to provide a mobile service and should not be restricted to the type of technology. However, this was ignored, so a new company Westel 900 was set up to apply for one of the licences. In August 1993, the government announced that Westel 900 was to be awarded one of the licences. The other licence was awarded to Pannon GSM a consortium made up of Telecom Denmark, Telecom Finland, PTT Netherlands, Swedish Telecom, Norwegian Telecom, Hungary's state oil company MOL, Videoton, Wallis Holding and Antenna Hungaria (Clarke, 1994). This was the first time a company in which HTC held no stake would be allowed to operate a nationwide voice service in competition with HTC or its subsidiaries.

4.2.2 Choice of suppliers and technology.

The World Bank and European Investment Bank provided loans to buy modern equipment from international vendors. HTC put its contract to supply digital switching equipment out to tender, which Ericsson of Sweden and Siemens of Germany won. Siemens won the right to supply 70 per cent of HTC's equipment needs with Ericsson supplying the other 30 per cent. Both companies formed joint-ventures with local partners to manufacture equipment in Hungary. These two systems will lead to a massive increase in switching capacity, while the competition factor will lead to reasonable prices. HTC also planned to automate some of the more remote exchanges with analogue crossbar and digital exchanges from Hungarian vendors. These contracts were not put out to tender.

Optical fibre cables were to be imported, while copper cables were bought from Hungarian vendors. Some transmission equipment was available from local suppliers, but most came from abroad. The tight schedules that were drawn up for the development process from design to installation meant that some building and installation work could be contracted out. In order to standardise the vast amount of terminal equipment available on the market, HTC planned to invite bids for terminal equipment for official approval to be sold through its 'teleshops' and other outlets.

4.3 ORGANISATIONAL RESTRUCTURE

In order to achieve the targets set out in the three-year plan, HTC carried out a review of its organisational structure and continues to reorganise where necessary.

4.3.1 Planning and Project Management

All plans were to be based around the development of the overlay network. EDS, an American systems consultancy was called in to introduce project management skills to the organisation. The Institutes for Strategic Planning and Systems Engineering were merged, as were Service and System development. HTC also set up a unit to coordinate and support regional investment to the branch programmes. In order to keep costs down and ensure value for money, HTC put out its contracts to competitive tendering.

4.3.2 General Directorate

On 1 January 1990, the Hungarian Post Office was broken up into three state owned companies, one of which was the Hungarian Telecommunications Company. Some of the assets, mostly support activities, were transferred into limited liability companies (LLCs). Two of the LLCs, Westel and Comex, provide telecommunications services. Westel was formed as a joint venture between HTC

and US West, the regional American telecommunications company, to provide a cellular service. Comex was given the PABXs of the old PTT and was licensed to operate a national PABX service.

In August 1990, HTC's senior managers were replaced by a younger generation and the company underwent a major reorganisation. HTC was divided into four main divisions (Horvath, 1991), in preparation for privatisation, as shown in figure 4.6:

- Telecommunication Strategy
- Telecommunications Network
- Finance
- Human Resources Development

A Commercial Directorate for marketing and servicing functions and an Investment Directorate (Investel) were also set up. Out of the ashes of the old Postal Research Institute (PKI), a telecommunications institute (PKI-TI) was established in January 1991. This was made up of three support centres:

o	Operations Support	-	centralised operations
		-	network maintenance
		-	operations development
		-	hardware and software support
o	Development Support	-	planning and coordination of national programme)
o	Strategic Support	-	long term strategic planning

Since then, the general directorate has undergone more than one restructure. These can be seen in the organisational charts in figures 4.5, 4.6, 4.7, 4.8. Some of the changes that are not obvious from the organisational charts or occurred after 1992 include:

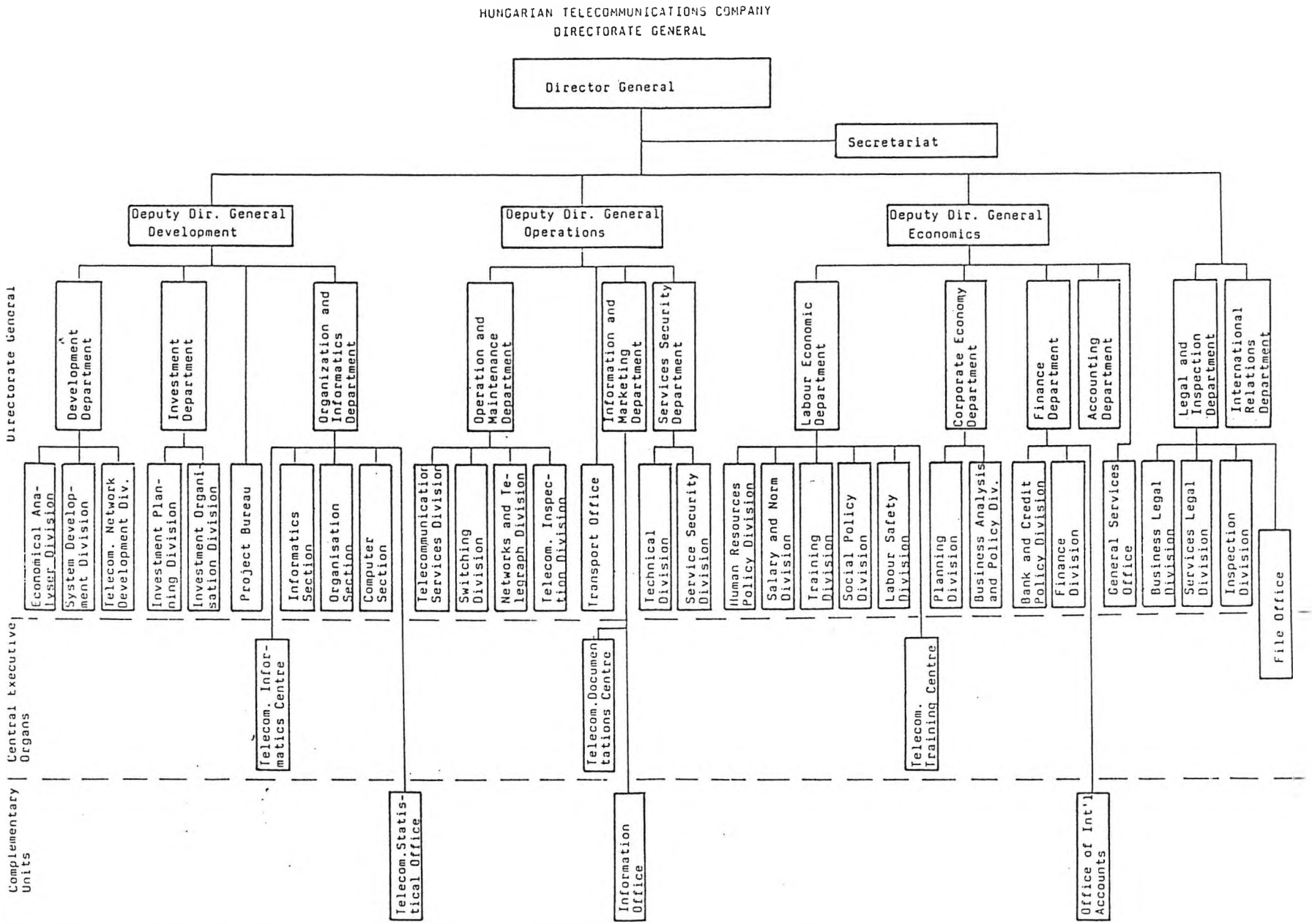


Figure 4.5 - Organisation of HTC's General Directorate (January 1990)

HUNGARIAN TELECOMMUNICATIONS COMPANY

DIRECTORATE GENERAL

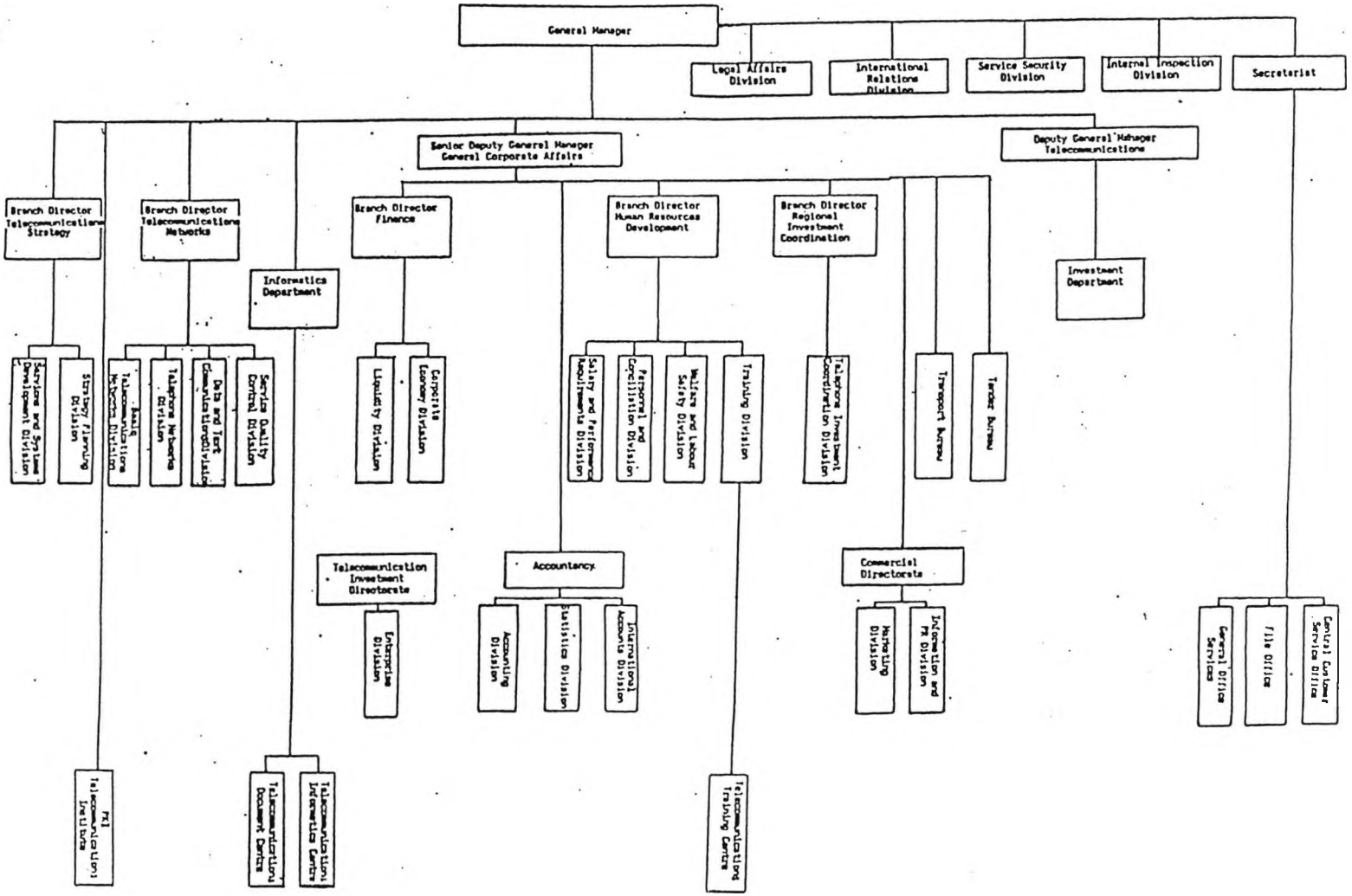


Figure 4.6 - Organisation of HTC's General Directorate (March 1991)

SUBSIDIARY UNITS

CENTRAL EXECUTIVE UNITS

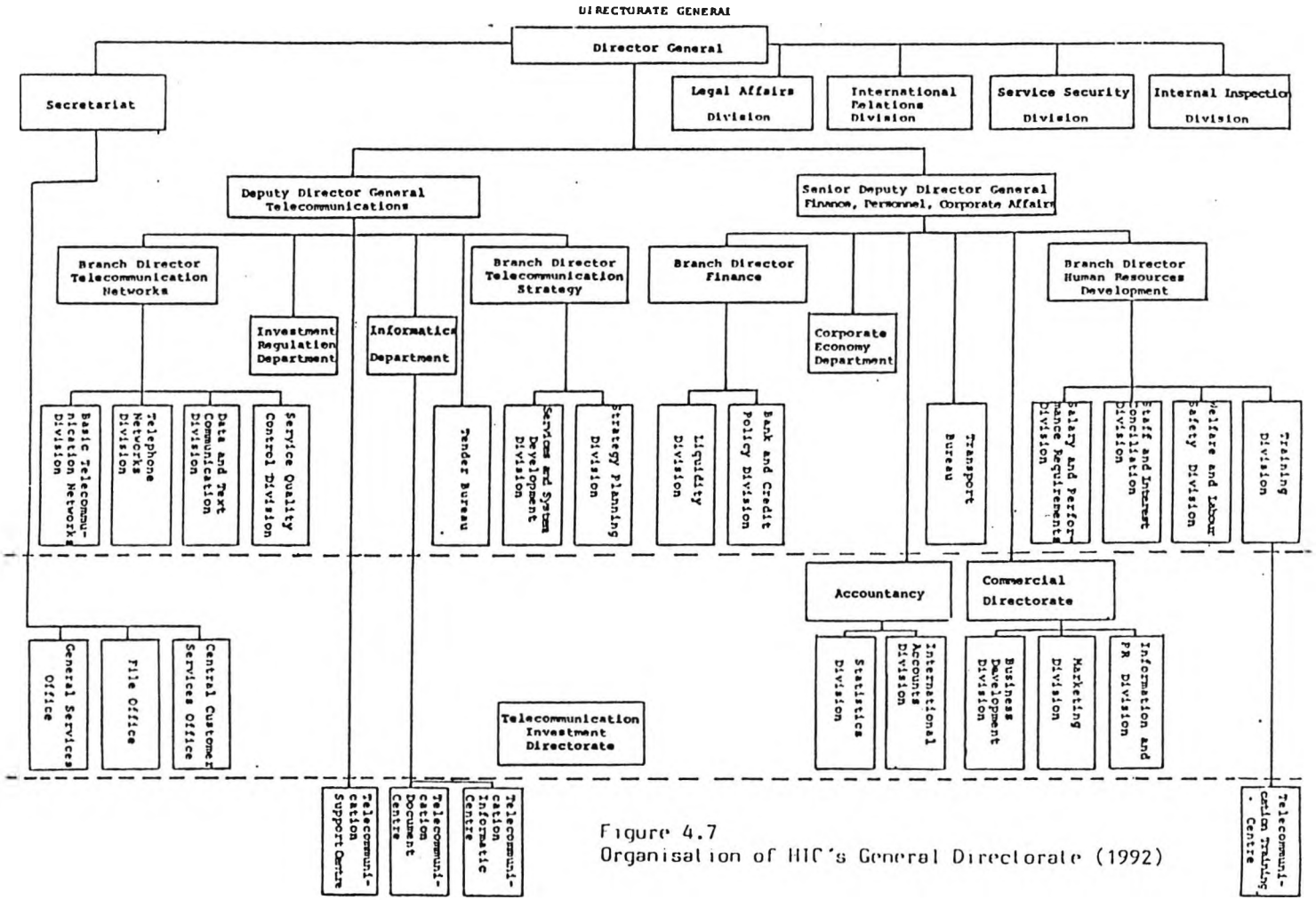


Figure 4.7
Organisation of HIC's General Directorate (1992)

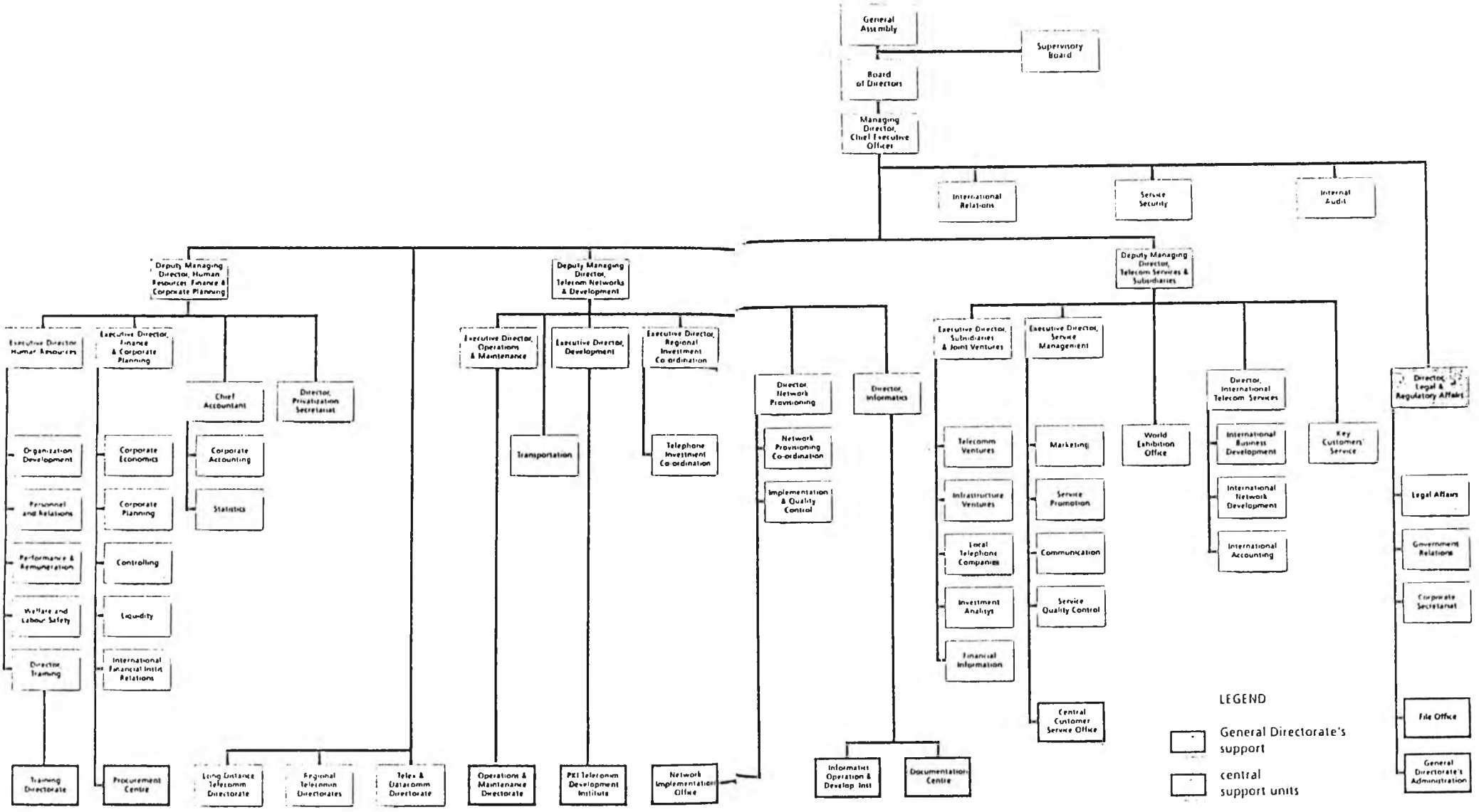


Figure 4.8 - HTC's organisational chart (1993)

- The setting up of an operating committee (OC) to sit between the board of directors and the General Manager in the hierarchy. The four man committee consists of 2 HTC employees, 1 Ameritech appointee and 1 DBT appointee.

- The splitting of the Marketing department into Service Management and Customer Management, and the setting up of two new departments; Key Customers and Large Customers. This was in response to the need to focus on customer groups.

- The responsibility for tariff issues being moved to the Marketing department as the organisation sought to become more market-oriented. Managers soon realised that marketing staff were unable to understand regulation issues, so the tariffs function was moved to Finance. This is not the end of the story and it will probably be moved again or divided between several departments.

- Development Planning moved from the Capital Expenditure department to the PKI research institute.

- The functions of operations, maintenance and development have been split between the Operations & Maintenance department and the PKI research institute.

- The Human Resources, Finance and Corporate Planning departments have been set up. HTC now has support services such as Research, Operation & Maintenance (organised centrally, but offered to the whole of the company), Training and Informatics. These were set up for experts to offer professional support to strategic managers. Computer resources are organised in regional directorates, but directed by the Informatics department.

4.3.3 Local areas

In March 1994, the Hungarian government announced the results of the bidding process for the right to provide local telecommunications services. Only those areas where subscribers had complained about the service were put out to tender. As a result of this decision, the licence was only put out to tender in 25 out of the 54 local areas. HTC lost the right to provide local telecommunications services in 15 out of the 54 primary areas (Denton, 1994) including a majority of the local areas in the south east of the country. This change has brought about the need for more reorganisation. In March 1994, some HTC employees believed that the Szeged directorate would cease to exist and the area around Budapest would be reorganised after HTC lost some local areas there. The boundaries of the Sopron directorate which lost six out of its nine areas and the Pecs directorates were expected to be redrawn.

Sceptics of the tendering process for local telecommunications have predicted three possible future scenarios. The companies that were awarded licences will either:

- discover that they cannot afford investment for development and will invite HTC to become involved; or
- try to sell out to HTC after 2 years of losses; or
- invest heavily to position themselves as potential rivals to HTC once the long distance and international sectors are liberalised.

Whatever the outcome, these changes should affect about 2,000 staff (10 per cent of the organisation). Staff will be transferred to the new local operators who must keep them for at least one year. The new local operators will probably not offer the same social benefits as HTC. Some HTC advisors believe that probably a third of the employees will lose their jobs after a year. The local operator would be under no obligation to offer compensation to staff that they release. This contrasts with the 50 - 100 per cent of salary that they would have received from HTC as redundancy pay. There will need to be some negotiation over the leasing of the

current networks in these regions to the new operators. Any disputes will be resolved by the courts and not the MTTW. There will be a significant change in personnel in Budapest with the influx of staff from the outer Budapest directorate. The company will find it difficult to find jobs for all staff transferred from the outer Budapest Directorate.

HTC used to have a four level organisation consisting of the general directorate, regional directorates, county offices and primary regions. The Organisational Development Department found that there was no real need for county offices and proposed the elimination of the county offices with telecom centres in the regions reporting directly to the regional directorate. This would allow the organisational structure to mirror the network structure, i.e the regional directorate will coincide with the secondary switches (backbone network) and the telecom centres will be based on primary areas (and switches). This change will help to overcome the weakness of the county offices in their dealings with municipalities, improve efficiency and make the organisation more customer-orientated. In the past business administration was carried out at county level. Applications were sent to the county office even though data came from local areas. There was a lot of duplication at county and local (primary) level. Therefore, the county level has become irrelevant. This change is being tried out as a pilot project in the Miskolc region, partly to overcome some of the hostility that the Organisational Development Department has experienced to its plans. Miskolc now has 6 primary areas reporting directly to the regional office. This area was chosen since HTC holds all the local concessions in this area. Where HTC has won a concession it has had to set up a local company. Privatisation held up the full implementation of this change, i.e. the elimination of county offices.

4.3.4 Future restructuring

HTC's new foreign partners, Ameritech and DBT, are still in the process of understanding the organisation after privatisation. Their investigations should be complete by September 1994, and there will be no change in the organisation's

structure until then. The need for further restructuring and efficiency gains means that the Organisational Development department should exist for another 3 years. The financial and operational control functions will probably become more separated when a new structure is introduced at the end of 1994 or the beginning of 1995. The structure will be more centralised than at present, especially the financial functions. As supply meets demand, probably some time after 1996, HTC will be able to split its customers into two main groups: basic telephony serving many people as a cheap service where cost-efficiency will be important, and other high quality differentiated (value added) services for richer customers. This will lead to a split in HTC's way of thinking. There is a new department that has been set up to serve key customers which is looking for a role in company. There is a lot of spare capacity in the new digital backbone network, so HTC should be able to lease its lines.

4.3.5 Developing A New Culture

a) Customer Care

The managers and advisors of HTC realise that reorganisation of the company is not enough to achieve success. In order to gain a competitive edge and improve its public image, a new market-driven, customer-oriented culture is needed. This will not be easy and will take many years to achieve. HTC realise that they should:

- expand and develop the network of customer caring offices;
- formulate a strategy for improving customer relations and promoting a customer-oriented company-wide culture;
- review relations with the media;
- provide customers with a free directory of telecommunications services each year;
- look for corporate sponsorships;
- introduce the idea of customer-orientation in personnel management and educational policies;

- deploy operations support systems to improve customer care.

b) Improving The Quality of Service

HTC has taken the steps of modernising the network, and centralising its maintenance and operations functions in order to improve the quality of service. They will do this by using a number of indicators to monitor the service quality, such as traffic congestion and average downtime (table 4.4). The company has already introduced a 24-hour 'urgent troubleshooting service' in Budapest for all telecommunications services. The company is also aiming to reduce the repair time for any payphone in Budapest to 24 hours. Traffic congestion will be eased by an increase in the number of lines, reduction of party-lines and better traffic routing.

With the introduction of new technology, HTC can offer customers new services such as caller identification, itemised bills, national and international inquiries etc. Customers will be able to dial more countries directly, and Hungarians travelling abroad will be able to take advantage of a home-billing service.

4.4 PERSONNEL AND TRAINING

In the three year plan, HTC places a lot of emphasis on staff management and development,

> "The ability to adapt to market conditions, to create a customer-oriented corporate culture and to implement technical/technological changes is largely dependent on human factors."

HTC planned to improve operational efficiency and expand its service without increasing staff numbers. Staff efficiency measured as the number of customer stations per employee was planned to increase from 47.4 in 1990 to 66.6 in 1993. Taking the branch programmes into account increases efficiency to 80.4 customer

Table 4.4

Quality performance of the telephone service
IN THE PROVINCE

Successful long-distance call attempts, %

Item	1990	1991	1992	1993
From the existing automated analogue network	46	48	52	56
In the digital network	54	59	63	68
From the digital into the analogue network	47	49	53	59

Average downtime per customer station (hours/year/station)

Item	1990	1991	1992	1993
Business customers	65	50	33	15
Residential customer	85	79	72	65
Pay-phone	350	300	220	170
Average	85	76	65	54

IN BUDAPEST

Successful local call attempts, %

Item	1990	1991	1992	1993
From the existing automated analogue network	47	48	52	54
In the digital network		54	63	70
From the digital into the analogue network	47	49	53	55

Average downtime per customer station (hours/year/station)

Item	1990	1991	1992	1993
Business customers	70	55	30	15
Residential customer	90	80	70	65
Pay-phone	650	350	220	170
Average	97	79	62	54

stations per employee (figure 4.9). These numbers suggest an increase in staff efficiency of 40 per cent and 70 per cent respectively. In fact, the number of customer stations per employee increased to a figure of 77.9 by the end of 1993, representing an increase in staff efficiency of 64 per cent. Internal training and recruitment of qualified personnel are needed to prepare HTC for the application of advanced engineering methods and technology, and for the sales and marketing functions. Inevitably. this will lead to a higher proportion of qualified white-collar and skilled blue-collar jobs. HTC have been relying to some extent on foreign experts due to the lack of skills in modern management, organisational and engineering methods.

4.4.1 Training Courses

The training plans in the three year programme included:

- the retraining of about 1,200 staff to equip them with skills needed on new projects;
- retraining of about 1,000 staff in three years in customer care, sales and marketing;
- management training for about 1,200 staff in new technologies, market challenges and business attitudes;
- training of 4,000 to 4,200 staff over the course of the three-year programme.

Training was provided at target-oriented modular retraining courses beginning in 1991. The laboratories and educational facilities were upgraded and a complete educational system was in place by the end of 1993. HTC sought international support in commercial and language training. Training in HTC was initially organised at three levels: management training, telecommunications training and regional training. In April 1993, training was consolidated into one organisation, divided along functional lines and including many new courses to meet the demands of the environment. A joint venture training company, Citcom, was set

IMPROVEMENT OF CORPORATE STAFF EFFICIENCY

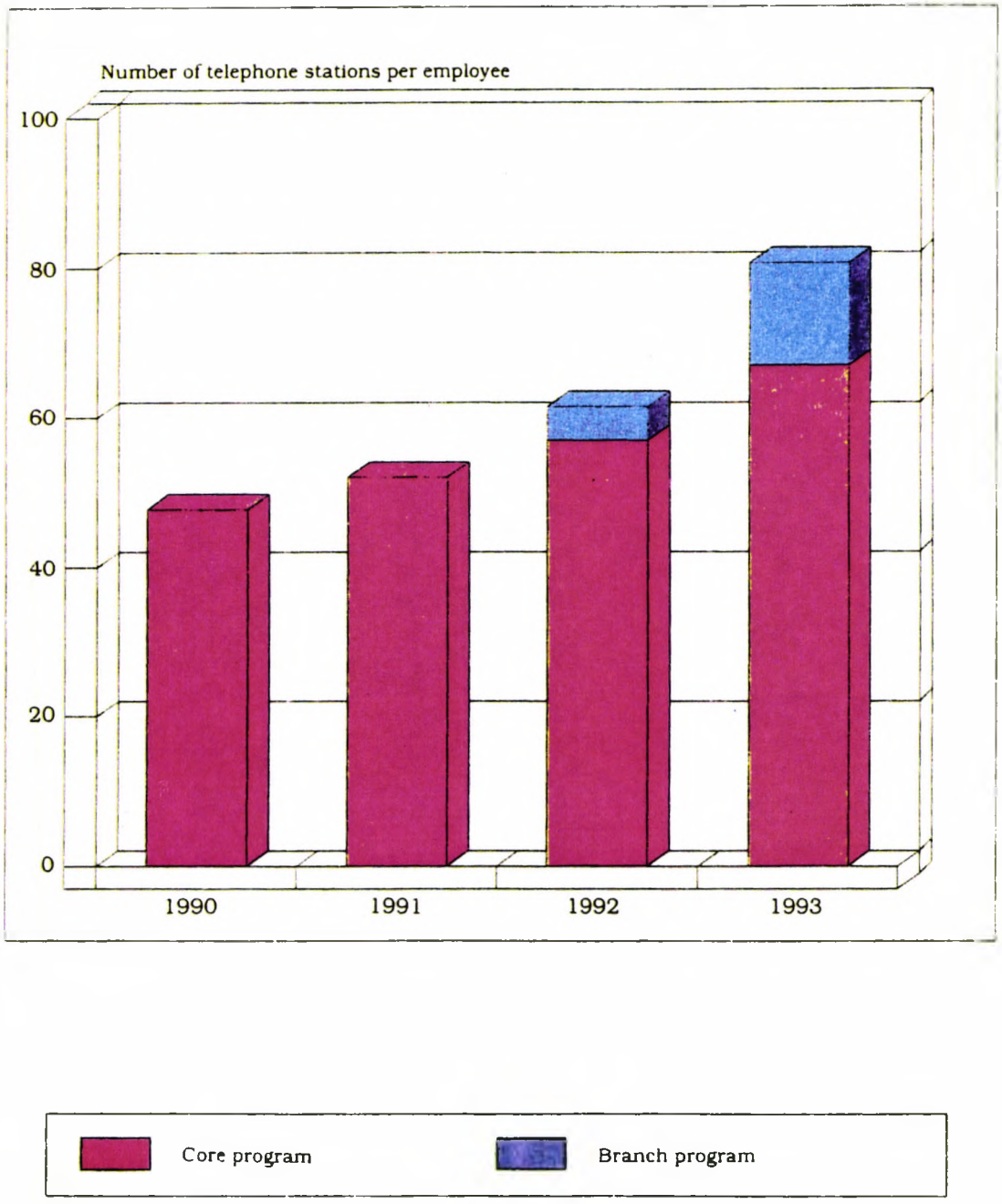


Figure 4.9

up with France Telecom.

The training programme has adapted to continuous changes in the demand for skills. Emphasis has been placed on subjects such as marketing, financial management and cost control in response to the new commercial environment. Training has also adapted to feedback from participants in order to make it as relevant as possible. Training needs are discussed with senior managers and staff are questioned on the effectiveness of the training they receive when they return to their jobs.

Trainers were recruited from outside the organisation including university lecturers and freelance teachers. Trainers were recruited and trained under a 'train the trainer' programme in order to provide management training. Courses contain about 40 per cent theory and 60 per cent practical content. The need for training has been recognised by managers and it is provided for all levels of management. Since managers have a limited time to attend training courses due to the demands on their time during constant change, training has been geared to their needs through initiatives such as distance learning and self learning.

Training has been targeted towards groups that will play a more prominent role in the future and individuals displaying great potential. About 1,500 managers and so-called 'high flyers' are undergoing a management training programme developed to fit HTC's corporate strategy. It is intended to:

- make staff at all levels identify with HTC's objectives
- manage and develop human resources
- contribute towards the dissemination of corporate culture
- make the organisation more customer-oriented
- allow management to adapt to quick changes
- provide 'modern' managers

Training in HTC has very close links with universities and schools. HTC is legally bound to contribute towards curricula and to provide financial support. The reorganisation of training was part of the overall changes in HTC. Managers tried to create a structure according to organisational processes. Consultants involved in the overall reorganisation looked at the training function and asked for the input of trainers in their assessment.

4.4.2 Personnel Policy

The company will ensure that measures are taken to:

- review job descriptions and to upgrade recruitment policy;
- define and fully implement a personal performance appraisal system by 1993;
- pursue a long-term wage policy and build a career-planning system for a selected 1,000 high calibre staff;
- improve staff satisfaction and working conditions by formulating a proactive social policy, including a benefit society and corporate health and retirement insurance.

4.5 RESULTS OF THE THREE YEAR PLAN

There were several changes to the implementation of the three year development plan. The programme of digitalisation rested on the assumption that it would be funded by higher tariffs, privatisation proceeds and internal revenue. The passing of the telecommunications law and the core programme was delayed by the Mayors of several municipalities. They claimed that local networks were not being developed fast enough due to the emphasis on the digital overlay network. The government had allowed local municipalities a say in the drafting of the telecommunications law, so the Mayors decided effectively to veto it until their demands were met. This forced funds to be diverted from the core programme to

the branch programme which delayed the core programme by between six and twelve months.

Tariffs were capped for political reasons. In 1992, only charges for international calls were raised. However, this broke an agreement with the World Bank and so all tariffs were increased from January 1993. Regulated prices increased by 15 per cent, monthly fees by 40 per cent and call fees by 10 per cent. The company also increased the number of charge bands from two to four (Nyevrikel, 1993). The sale of a minority stake to foreign investors was delayed for over a year, but a 30 per cent stake was finally sold in December 1993 to a consortium of Germany's Deutsche Bundepost Telekom (DBT) and Ameritech of the US which raised $875 million (Denton, 1993b). This was more than double the $400 million that was hoped for at the beginning of the plan. However, this value should be taken in the context of the devaluation of the forint in the intervening years. For example, the Forint was devalued by 1.9 per cent in June 1993, followed by a further 3 per cent devaluation the following month (Denton, 1993c). However, HTC earns revenue of $700 million a year and pays VAT of 10 per cent, as opposed to the standard rate of 25 per cent. This allows HTC extra funds to increase development without raising tariffs (which have been carefully controlled by the regulators). The government could increase its annual revenue by $100 million approximately if it brought HTC's VAT liability into line with the standard rate. However, the government will gain by other means; its 75 per cent stake in a partly-privatised HTC will bring in more revenue, once the company's partners achieve improvements in efficiency, than when the company was fully state-owned. In 1994, the third stage of privatisation in which shares were to be offered to the public was still a long way off. The capping of tariffs and delay in development of the network meant that internal revenue was less than assumed. The plan still had to be implemented due to the high demand, but the programme had to change due to lack of resources.

As a result, the technical content of the plan was reduced and the timescale was loosened. Funds from the World Bank and the EBRD for specific projects for

purchasing imports had to be reassigned, technically contravening the loan agreements. However, it was felt that this was worth the risk partly because HTC faced a problem in paying for labour. This appeared to pay off since the number of lines increased from 1 million to just under 1.5 million between 1991 and 1993, thereby meeting the line density target of 14.5 lines per 100 people.

Some organisational programmes lost 2,000 employees in 2 years. The number of staff fell from 22,000 to 20,000. By 1996, there should be 1 million more lines and even less staff, yet more software and better project management is still needed to cope with this automation. HTC is now testing 3 different systems to support investment projects and hopes to be in a position to evaluate all developments using project management tools in the future.

From a series of interviews conducted between 1991 and 1993, it was found that, in general, staff at all levels of HTC felt that the three year plan was successful for the following reasons:

- Before 1990 only 20,000 lines were being connected a year. By 1992 over 150,000 lines were being installed per annum.

- HTC achieved a line density of 14.5 lines per 100 people at the end of 1993. It is now on course for a figure of 17 by the end of 1994, 25 at the end of 1996 and between 30 and 35 by the year 2000.

- Quality has improved as analogue switches have been replaced by digital ones. HTC achieved its goal of building a digital overlay network.

- Finance is playing a more important role in the organisation. The former Hungarian PTT only used internal resources or state subsidies to finance the network. Between 1991 and 1993 HTC used other sources, such as loans from international banks and funds from

the international capital markets.

- The telecommunications function is no longer state-controlled but a holding company. Some subsidiaries have become more independent of HTC and the state.

- In the past, there was no strategic planning. There were only five year plans, but these were state economic programmes which did not take account of reality and were not strategic.

HTC may have achieved its stated aim in building the digital overlay network between 1991 and 1993, but some employees held more cynical views about this achievement (as detailed in the interviews contained in Appendix C) such as:

- HTC's real goal was to be granted a monopoly for long distance and international telecommunications. It achieved this through its stated goal of building the overlay digital network.

- The overlay network is wasted since there is huge unused capacity due to the lack of underdeveloped local networks at the end points of the overlay network.

- HTC overinvested in the network pushing the debt/equity ratio of the company to a figure of 1:2. This was, in fact, the financial limit set by the company and could constrain other developments. In theory, HTC could finance itself with a debt/equity ratio of 1:1 due to the current value of its assets, but this is not advisable in the uncertain economic environment. If Hungary joined the European Union and satisfied the money markets that it could achieve financial stability HTC would probably be able to finance a 1:1 ratio.

4.6 SUMMARY

This Chapter presented an overview of HTC's development plans and some interim results between 1991 and 1993. These changes have led to radical change in the organisation. The management of the change process will be analysed in the following chapters.

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CHAPTER FIVE

USING THE EXPERIENCES OF BRITISH TELECOM AS A MODEL

"Experience is the greatest teacher"

- Anon

5.1 THE CASE FOR COMPARISON

Prima facie there would appear to be a case for using the changes in British Telecom in the 1980s as a model for analysing the changes in HTC. After all, both HTC in the early 1990s and British Telecom in the early 1980s had just become autonomous companies after being part of the state-owned post office for many years. Both companies were undergoing major changes in order to compete in a more liberalised market and to prepare for privatisation. The privatisation of British Telecom in 1984 was a 'flagship' privatisation for the British Government, the success of which led to the sell-off of many other state-owned organisations. According to Newman (1986: 173), "the successful privatisation marked a qualitative breakthrough in the formation of public opinion and perception." The privatisation of HTC at the end of 1993 marked the largest privatisation of any state-owned company in Hungary.

The success of British Telecom's privatisation also inspired other countries, such as New Zealand and Mexico, to liberalise their telecommunications market and to privatise national telecommunications companies. Since the political changes in 1989, telecommunications experts from central and eastern Europe have visited the UK to learn about the 'British Telecom model' and the lessons that can be applied to the telecommunications organisations in their own countries. If it is possible to compare the changes in HTC at the beginning of the 1990s to the changes in any organisation in the world, the only realistic candidate for comparison would be British Telecom in the 1980s.

This Chapter examines the feasibility of the experiences of British Telecom in the run up to privatisation in the early 1980s acting as a model for analysing the changes within HTC. Before any comparison can be made the political and technical environment must be understood.

5.2 POLITICAL ENVIRONMENT

5.2.1 The United Kingdom

The liberalisation of the UK telecommunications sector was set against the background of a radical government intent on rolling back the frontiers of the state. In previous decades, many large companies had been nationalised by governments who spoke of partnerships between industry and state, but presided over the domination of industry by the state. This led to once successful companies being run by personnel whose first loyalty was to their own job security rather than to the customer. Despite this, the liberalisation was not popular with many who believed that the state should run the public utilities. Most of the public discerned British Telecom's role as running the basic voice network, which was seen as a public service and not one to be 'exploited' for profit. In the end, the privatisation of British Telecom proved a success, partly due to the windfall profits on offer to small investors.

5.2.2 Hungary

In post-communist Hungary, the now tried and tested formula of privatisation that had brought prosperity to the west was popular with the electors - their only fear being the domination of local industry by foreigners. However, as the economic pain to ensure recovery tightens, the government is likely to come under increasing pressure from both those who want to slow the reforms and those who want to speed them up. Despite the economic pain, a 1992 survey revealed a small majority in favour of selling off state industry (Denton, 1992b).

The change facing Hungary was more radical in that there was no recent history of a private sector with stock markets, whereas in the UK the sale of British Telecom and other formerly state-owned companies merely expanded the existing private sector. It could be argued that the changes were less radical since Hungarians seemed more willing to accept the pain, with the hindsight of western examples.

5.3 TECHNICAL ENVIRONMENT

Hungary entered the 1990s with one of the lowest line densities in central and eastern Europe, with only 8 lines per 100 inhabitants (Bright, 1991: 168). The UK had a similar figure in the 1950s (BT Archives). At the time of privatisation, the UK had a line density of 36 per 100 inhabitants. HTC managed to reach a line density of 15 lines per 100 inhabitants at the time of its privatisation in December 1993. HTC expects to achieve a line density of between 30 and 35 per 100 inhabitants by the year 2000. This requires an annual growth in the number of lines installed of 10 per cent (Denton, 1992a). The waiting time for a telephone in 1989 was between twelve and thirteen years. This was reduced to three years by the time of HTC's privatisation at the end of 1993. In 1984, at the time of British Telecom's privatisation, 75 per cent of residential customers could expect to wait a mere twelve days for a telephone. In fact, the worse waiting time on record at the British Telecom Archives was only six months for customers in Brighton in the South of England during the 1950s. The waiting time in the UK has probably never been as long as twelve years. If the waiting time in the UK has ever been as bad as three years, the figure for Hungary in early 1994, then this probably occurred during World War Two. However, it must be stressed that this is only an estimate.

At the beginning of the 1990s, most of the rural service in Hungary was still provided by manual exchanges, though exact figures are not available. The last manual exchanges in the UK were removed by the 1970s. One area in which

Hungary is ahead of pre-privatisation British Telecom is in digitalisation. In 1983, less than 1 per cent of British Telecom's local exchanges were digital compared to 10 per cent of HTC's local exchanges in 1990 (British Telecom Journal, 1986). Of course, British Telecom were constrained by the availability of such technology, but they achieved the 10 per cent figure by the end of 1986 (BT Archives, 1992).

Therefore, in terms of technology, pre-privatised HTC were perhaps 50 years behind pre-privatised British Telecom in terms of meeting demand, 30 years behind in terms of line density and 20 years in terms of manual exchanges. In fact, Hungary's telephone penetration figures, of less than 10 lines per 100 residents in 1990, were closer to those of Eire in the 1970s. (Horvath, 1991: 28-36).

5.4 RE-ORGANISATION OF BRITISH TELECOM AND HTC

5.4.1 British Telecom

The British Telecommunications Act 1981 separated the telecommunications and postal functions of the old General Post Office, thereby creating British Telecom. In the same year, a new telecommunications rival, Mercury Communications, was established by British Petroleum, Barclays Merchant Bank and Cable & Wireless (Newman, 1986). In 1982, the government announced its intention to sell 51 per cent of its shares in British Telecom, and granted a licence to Mercury to operate a public telecommunications network in competition with British Telecom. The 1984 Telecommunications Act provided for the privatisation of British Telecom. It also set up the Office of Telecommunications (OFTEL) to act as the industry ombudsman, reporting to the Department of Trade and Industry.

In the lead up to privatisation British Telecom was re-organised into four main divisions, as shown in figure 5.1:

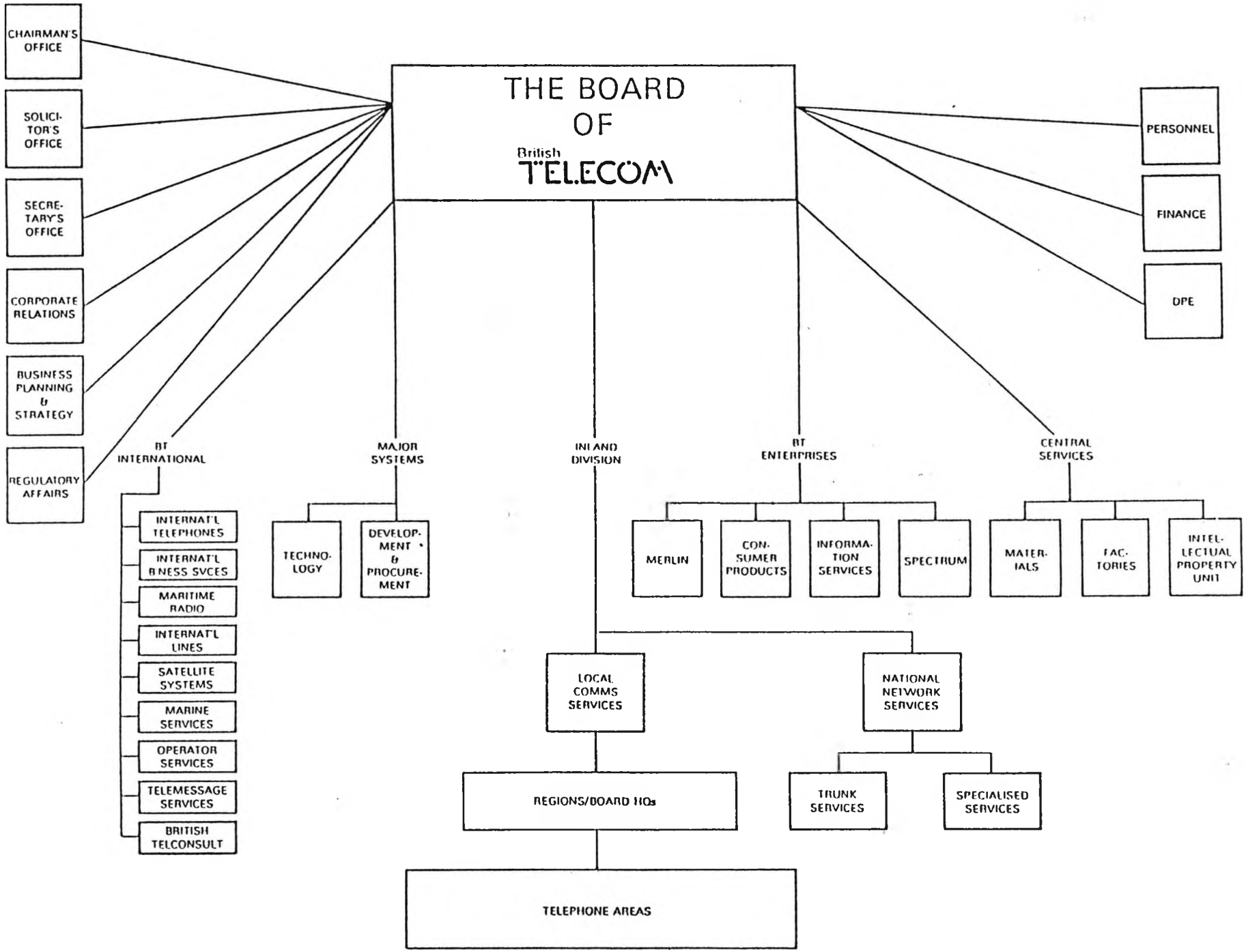

FIGURE 5.1

BRITISH TELECOM ORGANISATION AT MARCH 1983

- Major Systems - responsible for development and procurement and technology
- Inland Division - local communications and national network
- BT International - worldwide communications
- BT Enterprise - consumer products, business systems (PABXs, telex etc.) and value added services

British Telecom also had the following functions reporting directly to the board of directors:

- Corporate Relations
- Business Planning & Strategy
- Regulatory Affairs
- Personnel
- Finance

5.4.2 HTC

As discussed in Chapter Four, in early 1990 the Hungarian Post Office was broken up into three state owned companies; one of which was the Hungarian Telecommunications Company. The Telecommunications Directorate of the Ministry of Transport, Communication and Water Management became responsible for enforcing regulations. Later that year, HTC was divided into four main divisions, in preparation for privatisation, as shown in figure 5.2

- Telecommunication Strategy
- Telecommunications Network
- Finance
- Human Resources Development (Horvath, 1991)

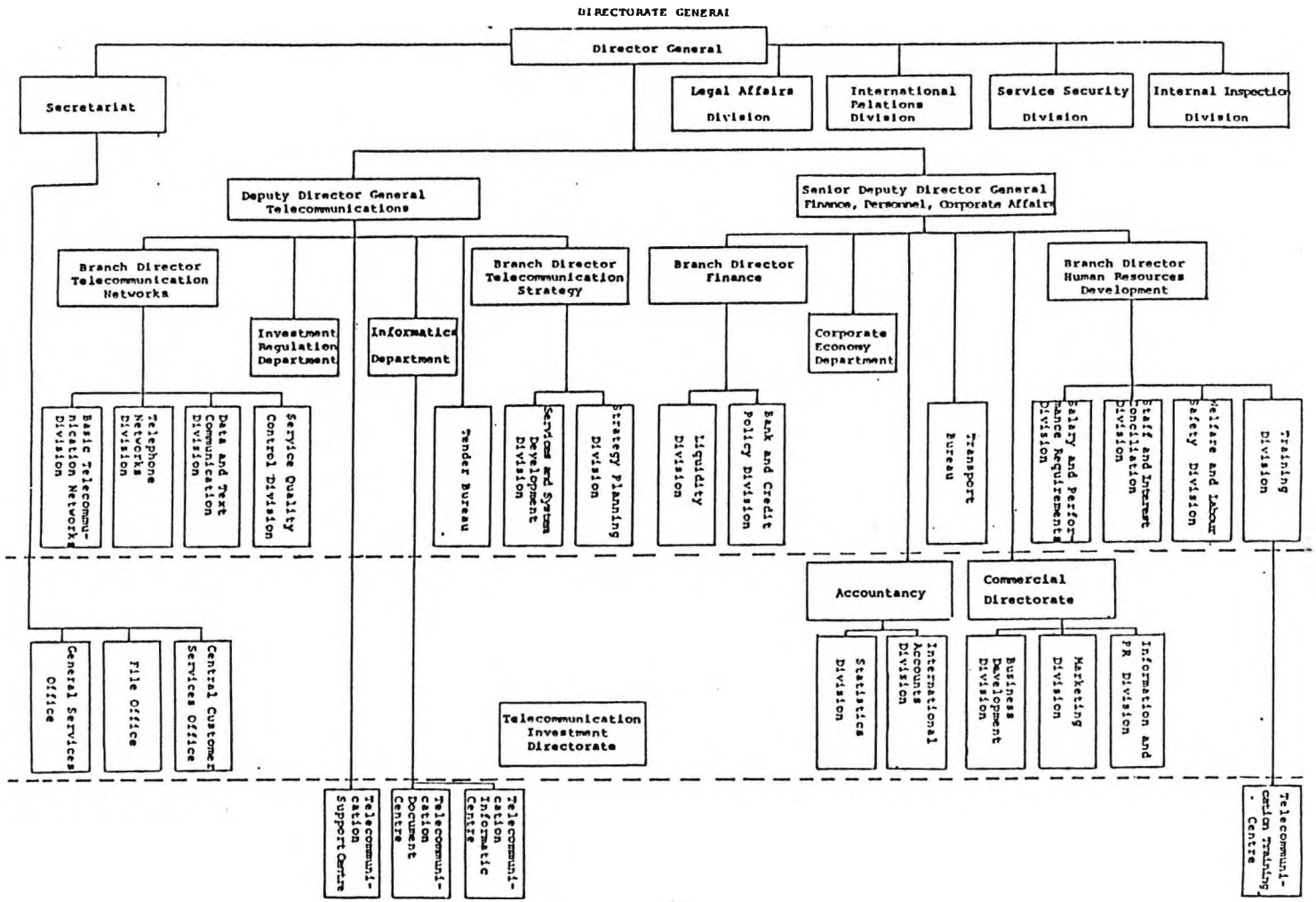

Figure 5.2 - HIC's organisational chart following restructuring

In addition, the following functions reported directly to the General Manager:

- o Marketing and servicing functions
- o Investment
- o Telecommunications Research Institute (PKI-TI) consisting of:
  - Operations Support
  - Development Support (planning and coordination)
  - Strategic Support Centre (long term strategic planning)

Later changes in the structure led to some functions reporting to a Deputy General Manager instead of directly to the General Manager. Further details on the organisational structures are discussed in Chapter Four.

5.4.3 Differences in Structures

The difference in structures between pre-privatisation British Telecom and pre-privatisation HTC are explained by the contrasting levels of network development that the two companies inherited, and the difference in priorities. Both companies established network divisions: British Telecom - Inland; HTC - Network. Since HTC needed to concentrate on domestic development, there was no need to set up a major international division. The functions of the PKI-TI Telecommunications Institute were similar to those of British Telecom's Major Systems division. Likewise, HTC's marketing and services Directorate and covered similar roles to that of BT Enterprises.

HTC's decision to have a major division responsible for finance indicated that money was a critical success factor. In 1992, it was estimated that HTC needed to raise between $2 billion and $3 billion over the following ten years (Denton, 1992a) in order to sustain the required level of development. Therefore, the company felt that it could not afford to devolve the finance function amongst its divisions, unlike British Telecom which was able to raise money relatively easily.

HTC also faced a great skills gap, but also needed to shed certain jobs. In order to combat uncertainty and motivate staff during the leap to modern technology, the Human Resource Development division was established. HTC believed that future success could be measured by the degree of staff satisfaction (Horvath, 1991) so it decided to guarantee employment but not for specific jobs. British Telecom did not face as large a leap in technology. In fact, it had the opposite problem; too many skilled staff. However, no company could afford to neglect the importance of staff motivation and so the Personnel function reported directly to the British Telecom board. Following privatisation, British Telecom's managers discovered that they had inherited an organisation that was significantly overstaffed. This led to major redundancy programmes throughout the 1980s and well into the early 1990s, which needed skilled personnel staff to handle.

HTC's other major division of Strategic Affairs was similar to the Business Planning & Strategy function of British Telecom. This division was needed to chart the future direction of HTC through the stormy waters of liberalisation and beyond, drawing heavily on the work of the telecommunications institute (PKI-TI).

5.5 SUMMARY

Hungary like the UK has decided to privatise its monopoly telecommunications operator as one entity while allowing competition in certain sectors. However, this is where the similarity ends. There is a major difference between the market structures facing HTC in the 1990s and British Telecom in the 1980s. As discussed in Chapter Four, HTC has been granted a monopoly in long distance and international traffic until the year 2000. It faced competition in bidding for the local areas, but holds a monopoly in those areas for which it won the tender. British Telecom faced competition for all traffic; international, long distance and local. However, in practice Mercury decided to compete for the more profitable long distance and international traffic, and so British Telecom faced no competition in the local market for residential customers throughout the 1980s. Mercury

entered the public payphone market, but decided not to install coin payphones; probably due to the higher cost of maintaining coin payphones and their propensity to attract vandals and thieves. Mercury's public payphones accepted the company's own phonecards and credit cards which encouraged higher value calls. In response, British Telecom began to modify many of its payphones enabling callers to use credit cards.

By 1994, ten years after privatisation, Mercury generated nearly half of its income from international calls and there was little incentive to enter the local telecommunications market since cable television companies were competing hard against British Telecom in this sector (Adonis, 1994). It could be argued that HTC faces competition from the national cellular networks. However, HTC holds a 51 per cent stake in Westel which operates two of the three cellular networks. The cellular network in which HTC has no stake, Pannon GSM, will probably not achieve national coverage until the Autumn of 1995.

HTC in the 1990s is trying to achieve a jump of between 10 and 50 years in terms of technology, while British Telecom in the 1980s was almost operating at the edge of technology. Therefore, the differences in technological development and hence market structures mean that 1990's HTC will not compete in all the sectors that 1980's British Telecom did. The different organisational structures would appear to reflect this difference. On a micro-level, HTC probably faces the same fundamental problem as British Telecom did in that it hopes to put in place an organisation with the right people, in terms of attitude and talent, to meet customer demand and compete effectively. However, HTC's immediate priority is to develop the network to meet customer demand. Once supply meets demand and HTC loses its monopoly, only then will HTC be forced to be truly customer-orientated. British Telecom was forced to focus on customer service almost as soon as it was privatised since Mercury, its competitor, was targeting British Telecom's most profitable markets. For these reasons, the experience of British Telecom does not act as a useful model since the externalities faced by 1990's HTC are very different to those faced by 1980's British Telecom. The main differences lie in the:

- level of network development
- available technology
- market structures and level of competition
- regulatory environment
- ownership of organisations

All of the above differences or 'change factors' would appear to be external to the organisation, which therefore suggests that the environmental factors merit further attention in analysing the changes in HTC. This leads to a consideration of contingency theory which is discussed in more detail in Chapter Six.

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CHAPTER SIX

A REVIEW OF CHANGE MANAGEMENT LITERATURE

> **"Change is not made without inconvenience, even from worse to better"**
> - Samuel Johnson (1709-1784) quoting Richard Hooker, *Of the laws of Ecclesiastical Polity*, IV. xiv

In order to analyse the type of radical change that HTC is experiencing, the established theories of change management will be reviewed. However, current theories can present two problems: they may be constrained by their intellectual origin and the practical experience of those who have generated them; and they are largely based on case studies of incremental changes within organisations in western Europe, the USA and other developed countries. Even where the literature talks about 'radical change' it refers to changes that are quite modest compared to those affecting organisations in Central and Eastern Europe. The transition in Central and Eastern Europe is producing more extreme examples of radical change. This Chapter examines the current literature on management of change and radical change, to identify those aspects that could serve in building a theoretical framework for the type of change that HTC faces.

6.1 CURRENT MANAGEMENT OF CHANGE THEORIES

As good a place to start as any is with Burnes (1992). In his comprehensive analysis of management of change, he lists three main schools of thought on the subject; individual perspective, group dynamics and open systems schools.

6.1.1 Individual Perspective School

The Individual Perspective School focuses on individuals and their needs. For Wilson and Rosenfeld (1990), the key to change "lies in people. Individuals create

and maintain change ... Unless people are involved, committed and prepared to adapt and learn, objectives, plans and future desired states will founder on the rocks of resistance." Kotter, Schlesinger and Sathe (1986) give four reasons for resistance to change:

- self interest
- a lack of trust coupled with misunderstanding
- different viewpoints or assessments of the benefits of change.
- a low tolerance for change

Carnall (1990) lists four needs to help staff overcome this resistance and to cope with the process of change.

- The need to understand the changes and therefore the need for lucid information.
- The need to develop new skills, if only the skills to deal with new colleagues and managers.
- The need for support to help deal with problems, and encouragement to try out new systems.
- The need for empathy. Senior management must show understanding and ease stress and anxiety by providing information, giving staff time and involving them in the process of change.

The individual perspective theorists encourage the sharing of information to empower lower level staff to drive change forward. For example, Kanter (1983) believes that the key to organisational success is by empowering employees through participation. She implies that authoritarian management by its very nature is bad. Allowing more participation in decision-making and giving staff time to understand the changes may reduce resistance, increase satisfaction and gain commitment, but it would also empower individuals and coalitions opposed to change. Those who advocate greater participation see it as a means to gaining commitment. They usually view participation and commitment as two sides of the same coin, but if

individuals fear a loss of status then no amount of participation is going to gain their commitment to change. The radical change that HTC is undergoing is bound to produce losers whose interests coincide with the existing structure. From a political point of view, change can only be achieved by denying opponents power in the form of information and implementing change in an autocratic manner.

The individual perspective school derives from the human relations school of management theory which assumes that organisations consist of rational individuals. Janis & Mann (1977: 15) suggest that contrary to the beliefs of the human relations school, man is not "a rational calculator ... but a reluctant decision maker beset by conflicts, doubts and worries, struggling with incongruous longings, antipathies and loyalties." Simon (1957) rejects the idea of the rational individuals and proposes the concept of bounded rationality. This suggests that individuals have limits to their perception and ability to process information. Even though they may intend to act rationally, they can only do so to a limited extent by acting on a basis of sufficient rather than complete knowledge, by using simple rules to find a solution when a problem arises, and by using shortcuts when possible. Therefore, individuals believe that they are acting rationally, when in fact they are only acting with a bounded rationality due to their limitations. As Weick (1969: 10) puts it, "rationality is in the eyes of the beholder".

The fallacy of the individual perspective school in placing emphasis on man as a rational being, and its failure to cope with the need for radical change suggests the way forward lies elsewhere.

6.1.2 Group Dynamics School

Since individuals rarely work in isolation in organisations, the group dynamics school places emphasis on the role of groups of individuals rather than individuals themselves in the process of change. Lewin (Burnes, 1992) believed that the behaviour of individuals is affected by and is therefore a function of group behaviour. Weick (1969: 8) considers an organisation as a group of groups, and

describes two types of group member. Link-pins are individuals that are members of more than one group and promote cooperation between groups. Ethnocentrics are individuals loyal to their own group and hostile to other groups. For example, Janis & Mann (1977: 24) believe that managers do not always make decisions in terms of the long term welfare of the organisation, since senior managers who are ethnocentric are inclined to remain loyal to the objectives of their own divisions over those of the firm. This is especially true when there is competition for scarce resources between different groups. Weick examines the reasons that groups form and bind together. He refers to Simmel (1950) who wrote that the basis for association is "primitive forms ... that are inferior in terms of finesse and intellectuality ... [since] ... "what is common to all can be the property of those who possess least." Toch (1966) supports the view that people combine around simple absolute ideas. He concludes that social groups form around extreme pessimistic or optimistic views, precisely because they are *extreme*. i.e. they are not refined, subtle or complex, but simple. Newcomb (1961) believed that groups form around shared attitudes which are retained, even if they are inflexible, because they are shared and provide a basis for reciprocal actions.

Blau (1961) develops his ideas around the notion of organisational need, which indicates the relationship between the consequences of established practices and emergence of new ones. To meet organisational needs requires group action, since individuals who have feelings of anxiety, in the face of uncertainty, unite in opposition to the unknown. Groups of a particular profession also resist changes when change threatens the position of their profession within the organisation. This resistance can often lead to the profession searching for situations where their function is seen as more important. This could occur in HTC since it is moving away from an engineer-led company to one where marketing and customer service functions will feature more prominently.

In his famous force-field model, Lewin (1951) suggested that organisations exist in a quasi-stationary equilibrium caused by forces against change (restraining forces) in opposition to forces for change (driving forces), acting on the organisation and

its members. These forces could be viewed as an expression of coalitions pushing for and opposing change. In order to promote change, the equilibrium should be 'unfrozen' by creating an imbalance of forces, by either removing restraint or feeding the driving forces. Lewin suggested that the restraining forces should be selectively removed causing the driving forces to push change forward. The new 'pro-change' equilibrium should then be 'frozen'. Lewin believed that feeding the driving forces first would only lead to an equal increase in the restraining forces, thus making change even harder to achieve.

In what would appear to be a restatement of Lewin's ideas, Kanter (1983: 213) believes that to bring about change "people need that extra bit of power to move the system off the course in which it was heading." They need "enough power to mobilize people and resources to get something *nonroutine* done." In order to achieve this change, organisational power tools are needed. These derive from three sources: information; resources; and support. Managers pursuing change may "find some portion of these power tools already attached to their positions." However, innovations [change] require "a search for additional supplies ... elsewhere in the organisation. Thus, a great deal of the innovation process consists of a search for power." She defines power as "the capacity to mobilize people and resources to get things done," and feels that all change "has a political dimension" though companies act as if this was not true. Kanter makes it clear that she does not use 'political' in the sense of "backroom deal making, but in the positive sense that it requires campaigning, lobbying, bargaining, negotiating, caucusing, collaborating and winning votes." There would appear to be a contradiction here in that, in the real world, lobbying and bargaining does involve backroom deal making. Also, if change would appear to produce many losers, no amount of selling is going to persuade these potential losers to support the change.

A point that arises from Lewin's analysis is that change is best achieved by focusing on group behaviour and changing its norms, roles and values. However, the argument that individuals are affected by group behaviour can be extended to suggest that groups should not be treated in isolation from the rest of the

organisation. Some norms and roles are indeed unique to groups, but some exist across the organisation as a whole. Values are more difficult to assess, in that they may be organisation-wide or even society-wide. There are probably three main ways to change an organisation's culture (Kamall and Reavill, 1994):

- **Replacement** of staff in key positions with individuals more attuned to change or the new culture
- **Retraining** of employees with skills to cope with change and to deal with new job functions
- **Realisation** by staff that formerly held values are no longer relevant or that change brings benefits

These three concepts are closely related and should not be viewed without being considered together. Realisation may come about as part of retraining, for example an individual being re-educated in market economics may realise that central planning was always doomed to failure. Group dynamics contributes to the analysis of change in seeking to understand the forces for and against change, and the balance of power in an organisation. However, Clegg & Dunkerly (1980: 179) believe that the equilibrium model showing group dynamics is unable to deal with revolutionary [i.e radical] change. This is because it focuses on consequences of action, neglects sources of change and causes of conflict and is unable to explain how societies change in a radical way. Therefore, there is still a need to look at how change affects the organisation as a whole.

6.1.3 Contingency & Open Systems Theories:

Contingencies are factors or 'situational variables' on which the structure and operation of an organisation are dependent (contingent). The main ones are the environment, technology and size (Burnes, 1992). No two organisations face the same contingencies, so there is no 'one best way' for all organisations. Therefore, the organisation is seen as an open system interacting with contingencies. As Kanter (1983) wrote "it is increasingly inappropriate for corporations ... to see

themselves as closed systems or bounded entities impermeable by ... the forces of external change."

Clegg & Dunkerly (1980) view an organisation as an open system that interacts with its environment. The survival of an organisation is seen as dependent upon boundary exchanges with its environment which may impose constraints upon the organisation thereby affecting its structure. The general environment of organisations consists of technological, legal, political and economic conditions. Hall (1977: 305) wrote that "a technological development in any sphere of activity will eventually get to the organisations related to it. New ideas come into circulation and become part of the environment." However, the old Hungarian PTT was prevented from taking advantage of developments in telecommunications technology for many years due to political constraints. Legal conditions in the environment have become increasingly important in recent years. The increase in deregulation, liberalisation and privatisation has forced organisations all over the world to adopt strategies for radical change. HTC faces a transition from a situation where its services were determined by law or by committee to a situation where supply will meet demand and customer demand will begin to drive its services. This should occur between 1996 and the year 2000, and will be discussed in more detail in Chapter Eight. Hall (1977: 307-8) believes that economic conditions are crucial yet "strangely neglected by most sociologists." This is probably less true 16 years on, but it does explain the limits of many approaches to management of change. It would be fairly safe to say that it is precisely the changing political and economic conditions of the environment that is driving change in Hungary.

Child (1972) refers to the environment as a source of determinism for organisations and distinguishes three variants. **Environmental variability** refers to the degree of change in environmental activities which, in turn, is a function of three variables: "the frequency of change in relevant environmental activities, the degree of difference involved at each change, the degree of irregularity in the overall pattern of change." The relationship between environmental variability and the

organisation is that the more variable the environment, the more uncertainty the organisation has to cope with (Weick, 1969). **Environmental complexity** is regarded as causing more uncertainty, but Child (1972) believes that this should not necessarily be so. It depends on the degree of environmental variability and [effective] monitoring resources of the organisation. Since there was virtually no environmental monitoring at the old Hungarian PTT, HTC has much uncertainty to cope with. **Environmental illiberality** "refers to the degree of threat that faces organisational decision makers, in the achievement of their goals from external competition, hostility or indifference." (Child 1972: 4). HTC's only threats are from so-far sympathetic regulators and future competitors, which have yet to make an impact. Child stresses the role of strategic choice in which "the organisational decision-makers have certain opportunities to select the types of environment in which they will have to operate." HTC faces no such choice, thereby limiting Child's contribution to this research.

Lawrence and Lorsch (1967) found that effective organisations achieve a degree of differentiation and integration compatible with the demands of the environment. In other words, the organisation seeks the most appropriate structure in a given environment since there is no one optimal way to structure an organisation. In reality, organisations attempt to achieve the best fit with their view of the environment. Aldrich and Mindlin (1978) suggest that the decision makers' perceptions about the organisation's environment matter more than the actual constructs of the environment. There will still be a degree of uncertainty in the minds of decision makers. Clegg and Dunkerly (1980) claim to disagree with this since a number of alternative structures may be equally viable in any one environmental setting. However, there is no real disagreement here, since the idea of a number of alternative viable structures is entirely compatible with there being no optimal structure.

Parsons (1960) argues that environmental change, mainly as a result of changes in the central value system of society, is responsible for organisational change. A change in the value system requires a change in organisational goals which, in turn,

produces changes in the structure of the organisation. Heller (1993) would appear to agree since she believes that the management of change in Hungary is driven by contingencies (illustrated in figure 6.1). Changes in Hungarian society and policy have driven changes in the market and in organisations. She believes that established management of change theories only look at changes in organisations in response to particular contingencies, such as changing market conditions or regulation. They are inadequate for changes in the type of unstable environment that HTC faces. Using case studies, such as the experience of British Telecom in the early 1980s, fails to take account of differences in contingencies, as discussed in Chapter Five. Changing markets have usually been preceded by some form of decline, be it organisational or economic decline. The established management of change theories are inadequate in dealing with change as a result of the decline of a political or economic order. When they discuss environmental stimuli, they refer to new competitors products, regulation etc., and not the wholesale change of society including changes in the values of individuals in that society. This is not surprising since western society has not faced such upheavals possibly since the industrial revolution.

Weick (1969) criticises contingency theories for portraying the human as reactive to environmental contingencies. He believes that the organisation can be understood as a contrived mechanism for adapting to environmental contingencies in the pursuit of goals. Weick (1969: 28) feels that theories fail to explain exactly what constitutes the environment, and that until this is done one can never be certain what is adapting to what. He feels that until adaptation is localised and boundaries are made more explicit, "it will be difficult to know much about an organisation, what it does or why it does it." It would seem that Weick is so caught up in the conceptual world that he fails to see that what an organisation does can be understood simply by looking at it. To be fair to him, Weick is looking at the process of organising and his criticism of contingency theory should be viewed in that context. However, this does mean that for our purposes, Weick's criticisms are invalid.

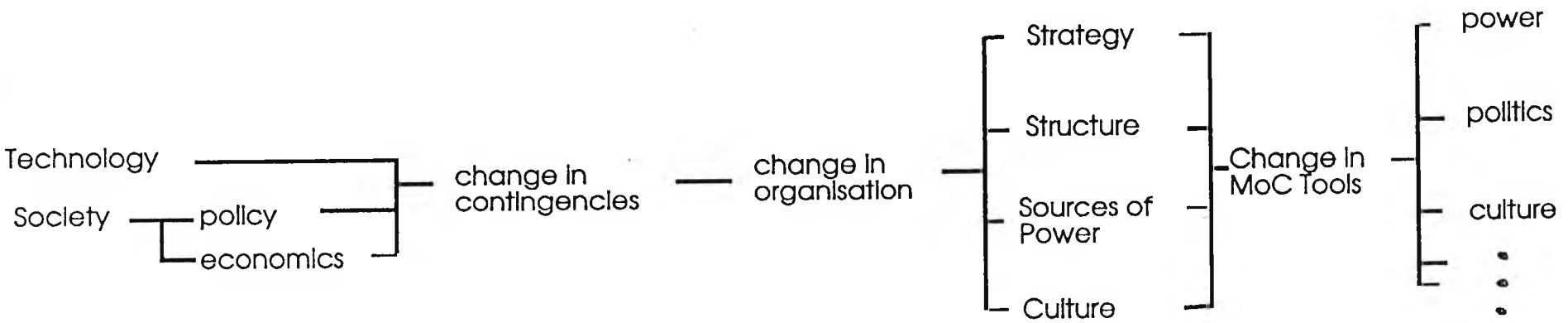

Figure 6.1 - Heller's view of contingencies driving change

6.2 RADICAL CHANGE

6.2.1 Burrell & Morgan

There is very little literature available on the subject. Burrell & Morgan (1979) considered organisations in the late 1970s as "located in a turbulent environment [radically changing] in which technical, economic, market, social and political change is rapidly becoming a norm characteristic of post-industrial society". If organisations in the late 1970s were seen as operating in 'turbulent environments' then the current situation in Hungary would defy definition in Burrell and Morgan's terms.

Of perhaps more use is their adoption of a sociological approach to compare radical change to regulation of society. For them, the *sociology of regulation* i.e the need for regulation in human affairs examines the need to understand why society is maintained as an entity, rather than falling apart. In contrast, the *sociology of radical change* attempts to explain the radical change, deep-seated structural conflict, modes of domination and structural contradiction which theorists see as characterising modern society. However, the modern society that Burrell and Morgan discuss is probably that of western Europe in the late 1970s, vastly different to contemporary eastern Europe. The sociology of radical change is concerned with man's emancipation from the structures which limit and stunts his potential for development. This would include the previous political structure in Hungary that discouraged individual enterprise. The basic questions it asks, focus upon the material and psychic deprivation of man. Many economists including Kornai (1979) blame Socialism for post-war shortages in Hungary. The sociology of radical change prefers to look at what is possible rather than what is, testing options rather than simply accepting the *status quo*. The distinction between the sociologies are highlighted below (Burrell and Morgan 1979: 17-18):

THE SOCIOLOGY OF REGULATION is concerned with:	THE SOCIOLOGY OF RADICAL CHANGE is concerned with:
The status quo	Radical change
Social order	Structural conflict
Consensus	Modes of domination
Social integration & cohesion	Contradiction
Solidarity	Emancipation
Need Satisfaction	Deprivation
Actuality	Potentiality

6.2.2 Daft

This analysis is useful in understanding radical change in the wider society, but at an organisational level Daft (1992) proves more useful. He describes radical change as breaking the frame of reference for the organisation, and transforming the entire organisation to create a new equilibrium. While incremental change occurs through the established structure and management processes, radical change involves the creation of a new structure and management processes. New technology may play a role in creating new products [or services] and establishing new markets. Most change is incremental, such as continuous improvements in quality. Radical change is important when an entire industry [or society] undergoes upheaval. Daft (1992: 251) distinguishes radical change from incremental change below.

INCREMENTAL CHANGE	RADICAL CHANGE
Continuous progression	Frame-breaking burst
Maintain Equilibrium	Reach new equilibrium
Affect organisational part	Transform entire organisation
Through normal structure and management processes	Create new structure and management
New technology	Breakthrough technology
Product improvement	New products create new markets

This is a helpful comparison, but does not actually say much about radical change as such. Also, the radical change to which Daft refers occurs in a relatively slow changing business environment, e.g. companies in the US facing greater competition from South East Asian competitors. This does not compare to the environment that HTC is operating in.

6.2.3 Hardy

Hardy (1990: 273) refers to radical change as turnaround, which means managing change under the most difficult of circumstances. Turnaround is preceded, by definition, by decline: falling revenues and profits or even the threat of bankruptcy, threatening jobs and standards of living. If applied to Hungary, the preceding decline would be that of the old political order. Hardy feels that such a turbulent time is not the ideal one in which to be introducing major changes, and yet it is the time when they are most needed. To make matters worse, the resources needed to bring about change are usually scarce when the organisation faces such a desperate situation. However, such turbulence may in fact act as a catalyst for changing the organisation for the better. Individuals in desperate situations are often forced to work together and focus their minds on the problem they face, to be more open to trying out new ideas and to be decisive in taking decisions. Much of the literature and most managers view turnaround as mainly an economic process, but turnaround is as much a political problem since it depends upon the cooperation of various interest groups; many of whom will have been threatened

by the preceding decline, and all of which will have a stake in the future plans of the organisation.

Referring to the business literature, Hardy defines decline in terms of reduced profitability, sales or revenues, but does not refer to decline of a political structure. Decline has been attributed to a variety of causes - higher wage and raw material costs, increased competition, strikes, inefficient production, technological change, substitute products, lower prices and depressed demand. Decline forces the organization either to 'do different things' or 'do things differently'. The former relates to strategic turnaround, the latter to operating turnaround. The choice depends on the cause of decline; if the underlying cause is structural market change, the response should be strategic; if internal inefficiency is the problem, operating turnaround will suffice. However, HTC itself is not declining. It is embracing change due to a decline in the old political order and economic system. Changes in society have led to structural market change and highlighted inefficiency. Therefore, managers must consider carefully the causes of decline and its effect on the shape and size of what Zammuto (1988) calls the organization's niche. This refers to the environment or domain in which the organization operates. If the size of the niche decreases, the level of activity that can be sustained also decreases. Thus, competition heightens and organizations have to perform more efficiently. HTC faces a situation where decline has modified the shape of the niche because the nature of demand has changed, i.e formerly suppressed demand has suddenly been allowed to express itself. In this case new forms of activity will be required (Hardy, 1990: 273), such as new services.

Turnaround is perhaps more relevant to advanced capitalist economies or the old 'smokestack' industries of the post-Communist economies , where firms face a 'do or die' situation. If they do not introduce radical change in a relatively short time period, they will cease to exist. In many ways, the type of change that 'turnaround' refers to is far more radical. HTC faces radical change of the kind that Daft (1992) describes, but has been given protection from potential competitors as well as the extended time period to which Burnes (1992) refers. This will be discussed

further below. However, the change of rules, norms and values required of firms facing turnaround in advanced market economies is less radical than that faced by HTC.

6.2.4 Burnes

In common with Daft, Burnes (1992: 150) believes that "radical change ... relates to large-scale organisation-wide transformation programmes involving the rapid and wholesale overturning of old ways and old ideas and their replacement by new and unique ones. Radical change is characterised by its speed, scale and break with the past, but it cannot be achieved quickly or by a wholesale change to structures and systems. When new forms of behaviour are needed, it also requires a coordinated programme of smaller and more localised projects, spreading over a longer period and designed to bring about, reinforce and act as the building blocks of the overall programme." As Kanter (1983: 122) claimed, there is a certain irony in that "change requires stability ... any department needs to be able to hold other things still for a while. Time is one of the first requirements for significant long-term organisational changes".

Radical change operates at the organisational level and aims to transform and renew the entire organisation whereas incremental change aims to change or improve a small part of the organisation. Though radical change involves major adjustments to structure and procedures, it only affects most members of an organisation through a series of localised incremental changes. This is similar to Peters and Waterman's (1982) idea of 'chunking': making large objectives manageable by breaking them down into small but interrelated chunks. Therefore, radical change can be viewed as a coordinated sequence of incremental changes covering an extended time period and [according to Heller (1993)] "also covering all (or more than one) levels of organisation and its contingencies." In this respect, Burnes (1992) believes that radical change is analogous to the definition of strategy given by Mintzberg (1987a) i.e. a consistent pattern of actions taken over a period of time to achieve a desired objective. Burnes (1992: 179) believes that "it is the

consistency and the pattern which separates radical from incremental change rather than differences in the actual tools and techniques themselves."

6.2.5 The Politics of Change

Other authors discuss the politics of opting for incremental rather than radical change. Halperin (1974: 34) claimed that incremental changes are often made primarily to keep other politically powerful groups in the hierarchy sufficiently satisfied. Etzioni (1967: 36) believed that it is easier to gain consensus on "increments similar to the existing policies than to gain support for a new policy." Cyert and March (1963) found that "the more uncertainty there is about a long term outcome the greater the tendency to make a policy decision on the basis of its short term acceptability within the organisation. Therefore, managers satisfice i.e. look for a course of action that is good enough to meet a minimum set of requirements (Janis & Mann, 1977). However, during radical change managers are unable to satisfice since there are bound to be a number of losers. Janis & Mann feel that policy makers may prefer incremental change [to radical change] to avoid the risks of drastic societal changes that Popper (1963: 158) says "may easily lead to an intolerable increase in human suffering," but there is the danger that it may instead lead to unanticipated disaster. Lindblom (1965: 33) believes that by not considering the long term view "the incrementalist shows his preference for ... omission over ... confusion." The politics of opting for incremental rather than radical change has been sadly neglected by management of change theorists.

6.2.6 Culture and Uncertainty

In a changing environment, the structure-culture nexus that served an organisation well in the past is no longer appropriate or effective. This calls for radical change, but attempts to change only the structure, which is the easier option, without compensating changes in culture are likely only to add to uncertainty, friction and conflict rather than to resolve it. The ideal answer would be for changes in structure and culture to take place simultaneously, but the core elements of culture

are embedded deep in people's consciousness and cannot easily or quickly be changed. Ogburn (1922) spoke about the phenomenum of "cultural lag" in organisations undergoing change. He found that artifacts and peripheral contents were modified more rapidly than attitudes. Changing the ingrained values and beliefs that govern the entire groups of individuals in organisations requires the commitment of senior management. However, it is senior managers, influenced by factors such as the organisation's history, past leadership, industry and technology (Allaire and Firsirotu, 1984), who create, promote and maintain organisational culture. Burnes feels this places senior managers in a dilemma since the existing culture influences their feelings, decisions and actions. They are being asked to adopt a whole new philosophy of life which for most people is difficult, when they have spent their entire adult life learning and gaining experience at work. Most people resist the uncertainty of change when it threatens to disturb their state of equilibrium (Burnes 1992: 289). This is especially true for individuals in a position of power. People do not necessarily work their way up an organisation's hierarchy due to their ability. They may have achieved their position by increasing their personal autonomy through organisational politics. The process of change may either enhance or imperil their niche within the organisation, but they cannot be certain of the outcome and so fear the worse. Weick (1969: 99) believes that staff satisfaction "is determined by the extent to which an actor can remove equivocality [uncertainty] from his environment." A changing environment introduces uncertainty and a possible loss of autonomy, and this is compounded by resulting changes. Some senior managers may not fear change since they were involved in the planning stage and feel that they are able to picture the organisation, and their own positions in it, after the changes have been implemented. However, their subordinates are not in such a privileged position and their outlook will be clouded by uncertainty.

Most approaches to managing change, e.g. Burnes (1992), Daft (1992) begin with defining a vision and developing strategies. Heller (1993) believes that these guidelines are irrelevant during radical change when the contingencies are changing too quickly and there is much uncertainty. However, Weick (1969) believed that

"chaotic action is preferable to orderly inaction"... since "it increases the likelihood that something will be generated which can then be made more meaningful." There is a Chinese proverb that states "a journey of a thousand miles begins with a single step." Whichever strategy is chosen by HTC, the initial steps will be the same i.e. moving away from the present structure. Therefore, the best policy might be to get on with the process of change and aim for a vague goal somewhere in the future, since a number of strategies would move HTC nearer its final goal. Besides, HTC will have many opportunities to change direction along the way. Heller feels that there is too much uncertainty for Burnes' approach to prove effective, and questions whether a comprehensive change project is possible. Instead, she suggests that a solution might be to breakdown the time-frame and distinguish between long-term and medium-term prospects. She has no doubt that in the long-term, HTC will become a customer-oriented, private company in a democratic and competitive society, but it has to prepare its long-term strategy, while reacting to short-term and medium term contingencies. She would feel that this is a better approach than aiming for a vague final goal without a defined time-frame. Most management of change theories discuss uncertainty, and it is a crucial factor during radical change.

6.2.7 Losers

Heller (1993) believes that radical change in HTC will lead to "too many losers" including some of HTC's management "who are in the position to implement the changes needed ... [and] whose source of power was being a member of the old establishment instead of being well educated, speaking foreign languages etc." Some may fear the increased responsibility that they will face in a more autonomous HTC. As Blau (1961: 344) says, "In state-run organisations, management controls operations, but not employment conditions, whereas in private autonomous companies management controls both. Other losers include "engineers, since financing and marketing will be[come] a source of power, ... [and] ... employees who will be dismissed." Probably more than half of the employees will lose out to some degree, but no-one is certain as to who will gain or lose from the changes.

Heller believes that "it is impossible to create [enough] winners from the majority of future losers." As Clegg (1980) says in his criticism of those who believe that organisations can be understood by looking at beneficiaries, "the political role of organisations is overlooked ... it may well be true to say that an organisation is primarily beneficial to a certain group. But at the same time, and perhaps more insidiously, the organisation may be serving some larger group such as, for example, a dominant elite within the wider society or within the organisation. An organisation needs to be understood, not only in terms of its apparent manifest function and activity but also in terms of latennfunctions and activities. This may involve not only asking 'who benefits' but also ... 'who does not benefit?' and 'who controls?'. The notion of winners and losers from radical change needs further examination.

6.3 DISCUSSION

It is evident that the current theories on management of change and radical change are inadequate for analysing the type of change that organisations in Central and Eastern Europe face. However, certain aspects of the theories are useful in building a framework for such an analysis. The contribution of current schools of management of change theory are summarised below:

INDIVIDUAL PERSPECTIVE	GROUP DYNAMICS	CONTINGENCY/ OPEN SYSTEMS
Individuals fear uncertainty of change	Individuals form groups during change	Organisations are open systems influenced by environmental change
Individuals act out of self interest	Groups form around simple ideas and uncertainty	Environmental change creates uncertainty
Individuals display a low tolerance for change	Norms and roles are easier to change than values	Organisations attempt to fit their environment
Individuals hold different views on the benefits of change	Politics and power are determinants of change	Using case studies as a guide fails to take account of differences in contingencies
	There may be a clash between individuals' interests and that of the group or organisation	Contingencies are driving change in Central and Eastern Europe
	There may be a clash between the interests of the group and that of the organisation	

The following concepts from the current literature on radical change would contribute to the construction of a framework for analysing change:

- The idea that radical change comprises of chunks of incremental change over an extended time period (Burnes, 1992) and at all levels of an organisation and its contingencies (Heller, 1993)

- Change has to be managed at three levels; individual, group and contingencies

- The politics of opting for incremental rather than radical change

- Changing the culture and overcoming uncertainty

- Winners and losers from the change situation

6.4 SUMMARY

This Chapter has examined current management of change theories in relation to the radical change that organisations face in a rapidly changing society. Current theories, including the few texts on radical change, have proved inadequate though certain aspects warrant further attention. What is now needed is a theoretical framework for radical change including aspects of contingencies, structures, culture, uncertainty, power, politics, individuals and groups, and winners and losers. Further research will apply this framework to the changes in HTC, i.e. technical change in an organisation which is itself undergoing structural and commercial change; this in a country experiencing economic, social and political changes.

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CHAPTER SEVEN

TOWARDS A FRAMEWORK FOR ANALYSIS

7.1 McKINSEY'S 7-S FRAMEWORK

No attempt to construct a framework to analyse change would be complete without a consideration of the McKinsey 7-S Framework (Waterman, Peters and Phillips, 1980). The underlying philosophy of the framework for change is that "structure is not organisation". The authors believed that,

> "productive organisation change is not simply a matter of structure, although structure is important ... [E]ffective organisational change is really the relationship between structure, strategy, systems, style, skills, staff and ... superordinate goals. (The alliteration is intentional: it serves as an aid to memory)"

The seven components should not be considered on their own, but as part of the overall framework interacting with the other components. The framework is shown in figure 7.1. In order to understand the framework better, each component is discussed below.

7.1.1 Structure

Most managers consider structures as a way of dividing up tasks, whereas they should be looking to improve coordination in order to make the whole organisation work. Managers should not necessarily attempt to understand all the different dimensions of an organisation's structure. Instead, they should seek to focus on those dimensions that are critical to the organisation's evolution and to refocus when and where it is necessary to introduce change.

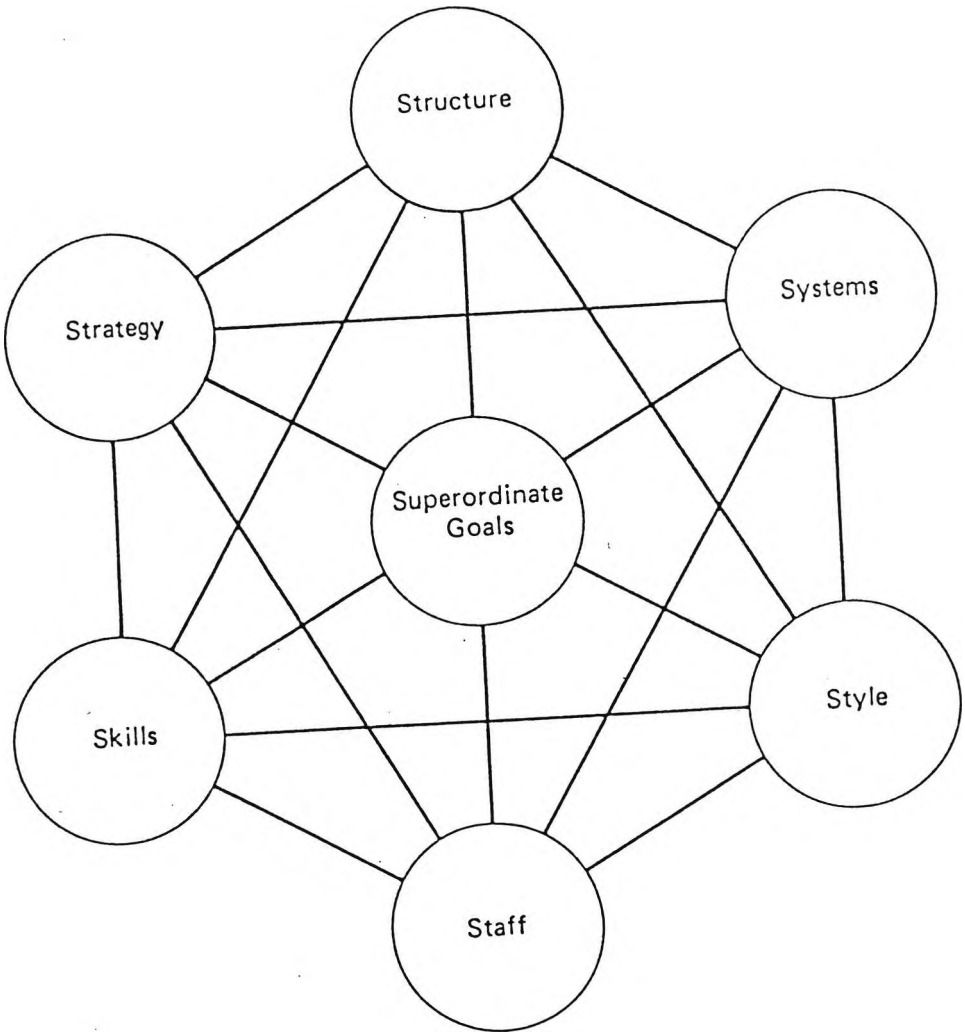

Figure 7.1 McKinsey's 7-S Framework

7.1.2 Strategy

Chandler (1962) believed that structure followed strategy. In the 1980s, organisation theorists paid close attention to the interplay between strategy and structure. Mintzberg (1987b) presented the 5-P's to define strategy. He defined strategy as a:

- **plan**, i.e an intended course of action. Strategy was originally used in this context in military campaigns, where generals developing a strategy had to "draft the plan of war ... shape the individual campaigns and within these, decide on the individual engagements (Von Clausewitz, 1976: 177)
- **ploy** - a specific manoeuvre intended to outwit competitors.
- **pattern** in a stream of actions, i.e. instead of being planned, a strategy may emerge as a result of different actions. In other words, a strategy may be realised.
- **position** or means of locating the organisation in its environment. This would appear to be a restatement of the open systems school of change management discussed in Chapter Six. The open systems school considers that an organisation introduces change in order to achieve an appropriate fit with its environment.
- **perspective** or how an organisation perceives the outside world. This is similar to the German word 'Weltanschauung' meaning literally translated as 'worldview' meaning collective intuition on how the world works. In this respect "strategy is to the organisation what personality is to the individual" (Mintzberg, 1987b).

7.1.3 Systems

The use of the word 'system' should not to be confused with its use in the context of systems thinking. Systems in the context of the 7-S framework refers to procedures, formal and informal, that ensure the organisation continues to function.

For example, accounting systems, information systems and so on. Changes in strategy and structures cannot be achieved without changing the key systems.

7.1.4 Style

The management literature pays little attention to an organisation's style. The style is often set by the personality of the senior managers and how they are received by the rest of the organisation. Employees usually form their opinion of managers by what managers do and not what they say. Two aspects of style are examined: the first is how managers spend their time, e.g, listen, dominate, motivate, plan, waste time etc; the second is managers symbolic behaviour, e.g. do managers give preference to R&D, Sales & Marketing, Engineering etc.

7.1.5 Staff

The individual perspective school of change management, discussed in Chapter Six, believed that people were the key to change. No discussion of organisational change can afford to ignore the issue of the people who make up the organisation. However, the 7-S framework does not see the issue of staff as the most important variable, but as only one of seven important variables. The role of staff during change is very important, but should be considered within the context of the overall framework.

7.1.6 Skills

Companies are usually characterised not by their strategies or structures, but by what they do best or are perceived as doing well. For example, McDonalds is known for its quick, clean efficient service or Mercedes is known for its engineering excellence. However, an organisation's strengths can also become weaknesses, especially if the organisation fails to acquire new skills or shed redundant skills as its environment changes. For example, GM and IBM used to be known for their sheer market power, but with smaller more nimble competitors they came to be

seen as giant laggards.

7.1.7 Superordinate Goals

These are the broad notions of an organisation's future direction and fundamental values around which a business is built. The word 'superordinate' means of 'a higher order' and is used to convey the idea that superordinate goals are more akin to a guiding principle or a corporate vision than stated organisational objectives. However, it could be argued that the word 'superordinate' was used because, in common with the other components of the framework, it begins with the letter 's'. The authors believe that superordinate goals are usually only present in successful organisations, but this assumes that superordinate goals are always appropriate for an organisation. There may be cases of organisations setting themselves inappropriate superordinate goals which have led to disaster, but Waterman, Peters and Phillips fail to take account of this possibility.

7.1.8 Analysis of the 7-S Framework

The main advantage of the 7-S framework is that it is simply presented and easy to understand. It also rejects a reductionist view of the organisation, and stresses the importance of considering all seven components together as part of a holistic view. However, it fails to address adequately the influences of culture and power on an organisation. These may have been neglected in the authors' enthusiasm for alliteration. It could be argued that the role of culture and power are implied by one or more of the 7-S's. For example, the culture of an organisation is often revealed by its style, and individuals may use the formal and informal systems as a source of power within an organisation. The importance of culture and power are too important merely to be implied; they should be made explicit. For this reason, the 7-S framework was found to be inadequate for analysing radical change. However, the idea of adopting a holistic view of the organisation is a very powerful one and should be considered in more detail. This brings the discussion on to systems thinking.

7.2 SYSTEMS THINKING

7.2.1 Definition of Systems

Ludwig Von Bertalanffy (1940) is widely acknowledged as one of the pioneers of systems thinking. He considered living organisms as whole systems in constant interaction with their environment. Bertalanffy found that these ideas could be applied to other areas of interest, such as social sciences, politics, economics etc., and not just biological sciences. He believed that there were enough similarities between different disciplines to develop a more general framework of concepts. His early work became known as General Systems Theory (GST). GST has stood the test of time and is still in use today, but other frameworks for systems thinking have since been developed. Since these early days, systems thinking has been applied to a variety of problems from the geopolitical (international relations) to office automation (systems analysis).

Systems thinking has been used by a number of social scientists, especially by organisational theorists who have tended towards a general conception of a system. This is illustrated in figure 7.2 (Flood and Jackson, 1991a). Schoderbek, Schoderbek and Kafalas (1980) define a system as,

> "a set of objects together with relationships between the objects and between their attributes connected or related to each other and to their environment in such a manner as to form an entirety or a whole."

There are two types of objects to consider. The static objects are the elements of the system, i.e the parts that make up the system. The functional objects of the system are the inputs, processes, outputs, feedback and control. Inputs to the system may be physical or abstract flows, which enter the system from outside the system's defined boundary. Inputs are transformed by processes into outputs which leave the system by crossing the boundary. Outputs of processes may feed back to influence elements of the system and to help monitor and control processes.

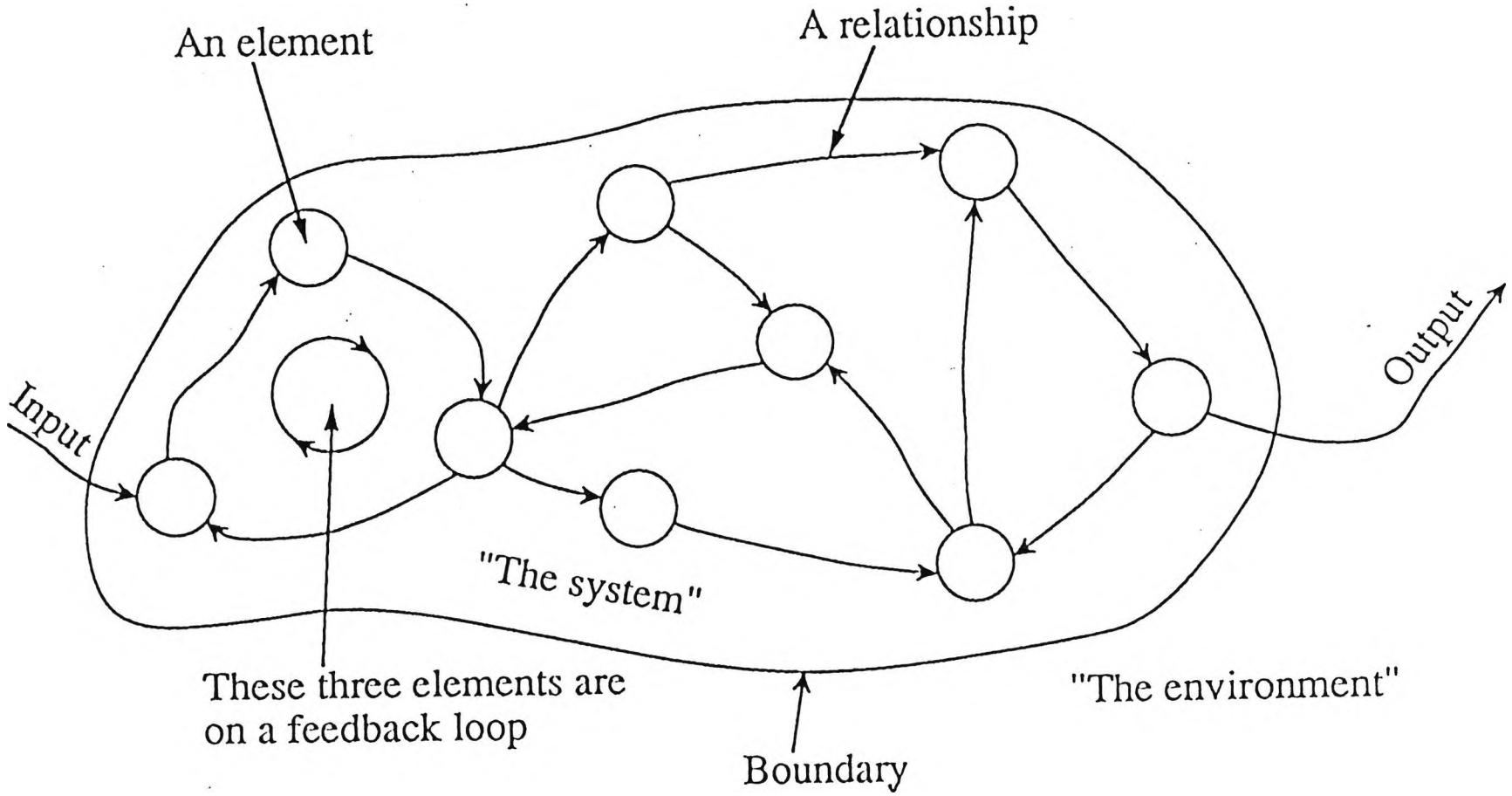

Figure 7.2 A general conception of a system

Elements are described by their attributes e.g. colour, name etc. They communicate and display relationships with other elements inside and outside the system. Established systems theories use the concept of open systems, as discussed in Chapter Six, i.e they interact with their environment. A system maintains its identity by preserving an equilibrium with its changing environment. This is known as homeostasis. Systems are not isolated from other systems and are usually seen to occur in hierarchies. Therefore, any system is usually a subsystem of a larger system, and is itself composed of subsystems.

Systems can be either linear or non-linear. Since in linear relationships, a given cause produces one and only one effect, linear systems can be explained simply as a sum of their parts. They can be understood by breaking the system down into parts, analysing each part, and putting the system back together for an explanation of the whole system. In non-linear relationships, a given cause may produce a number of different outcomes. Therefore, for non-linear systems the whole is greater than the sum of the parts. A non-linear system cannot be understood by breaking it down into parts and explaining each part.

7.2.2 Using Systems Thinking to Develop a Framework

Since the problem situation for which we hope to develop a framework is a complex one, systems thinking would appear to offer a way forward. Various systems approaches and methodologies were examined including:

- GST - General Systems Theory (Bertalanffy, 1940). This approach was considered to adopt a far too generalised and conceptual view of systems.
- SSM - Soft Systems Methodology (Checkland, 1981). This methodology was found to be far too orientated towards problem solving. Wilson (1984) offers a modified version of SSM for managing change in an organisation, but it is too prescriptive for the purposes of the research.

- VSM - Viable Systems Model (Beer, 1985). This approach was considered to be more useful as a methodology for problem solving. Even though VSM can be used in an analytical mode, as a methodology it is only effective where the organisation is considered to be a unitary one (discussed below) and there is genuine agreement about goals. This was probably not true in the case of HTC.
- SAST - Strategic Assumption Surfacing and Testing was also found to be too orientated towards problem solving. Also, it considers that problems can be solved merely by understanding the different points of views within a system, which is too simplistic an assumption (Flood and Jackson, 1991b).
- TSI - Total Systems Intervention (Flood and Jackson, 1991a). This is discussed in more detail below.

7.2.3 Total Systems Intervention

The Total Systems Intervention approach developed by Flood and Jackson (1991a) examines organisations using a variety of filters known as systems metaphors. Since organisations are complex systems, they cannot be understood by the use of one particular model or metaphor. TSI promotes the use of a "system of systems methodologies", i.e. using different metaphors to look at different features of an organisation, such as structural, cultural and political aspects in order to choose an appropriate methodology. The main metaphors to be considered are:

- machine metaphor (closed system view)
- organic metaphor (open system view)
- neurocybernetic metaphor (viable system view)
- culture metaphor
- political metaphor.

a) The machine metaphor views an organisation as a bureaucratic 'machine', drawing on the views of Weber (1947) and Taylor (1947). The organisation as a

system is seen as being composed of several parts, each with a specific function. The system functions like a machine, in a routine and repetitive manner performing its activities, and seeking rational and efficient means of achieving its goals. Emphasis is placed on internal control and efficiency while little attention is paid to the environment. This metaphor is useful for simple and repetitive activities in a stable environment. A machine-like organisation is not very adaptable and requires a mindless contribution from individuals.

b) The organic metaphor views the organisation as an open system. This has already been discussed in Chapter Six. It is useful where the organisation is responsive to changes in a complex environment. It does little to examine the organisation from the individual's point of view and pays little attention to internal conflicts. It views the organisation as reactive to its environment and not proactive.

c) The neurocybernetic metaphor uses the brain as an analogy to view the organisation as a system that learns about and communicates with its environment. It is based upon the standard cybernetic model (see figure 7.3) which consists of a controlled process (that which is being controlled), an information system (to relay information on the controlled process to a control unit) , a control unit (to compare desired output with actual output) and an activating unit (to bring about desired changes). The neurocybernetic view encourages self-enquiry and criticism in the process of learning. It is useful for coping with uncertainty and allows creativity. However, it neglects the fact that the goals of the systems' parts may be different to the goal of the whole organisational system. It also ignores the fact that organisations are socially constructed phenomena and not necessarily rational constructions.

d) The culture metaphor views the organisation through individual values, group culture and organisational culture. This has been already discussed in Chapter Six. It emphasises the fact that organisational life is only rational in the context of the prevailing culture which may either inhibit or promote progress. However, it should be recognised that attempts to control culture could backfire and lead to

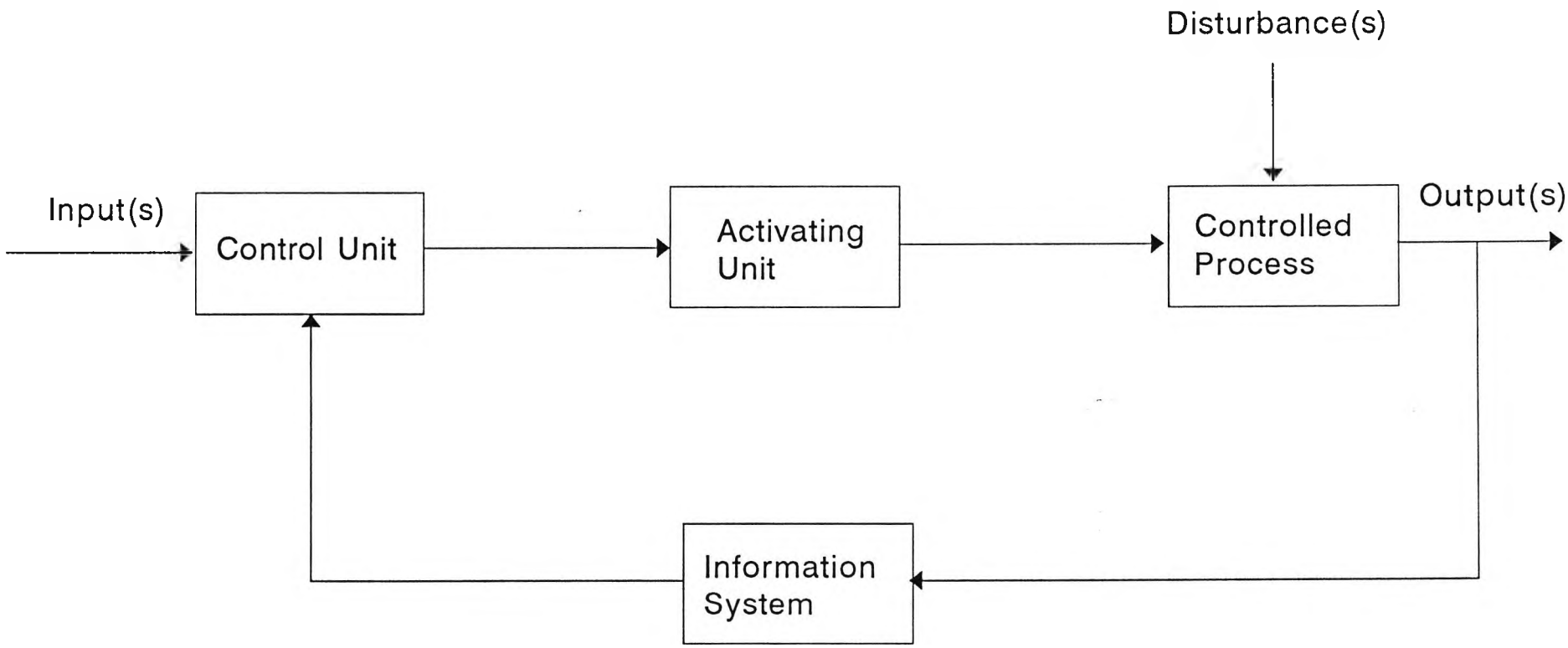

Figure 7.3 - Standard Cybernetic Model

mistrust and that cultural change lags behind structural change. The culture metaphor is not useful when trying to restructure the organisation.

e) **The political metaphor** examines the relationships between competing individuals and groups in the pursuit of power. It draws on the discipline of industrial relations to view the political situation of the organisation as unitary, pluralist or coercive. Individuals and groups within a unitary organisation work together as a team in the pursuit of organisational goals. The pluralist view considers the organisation as an arena of conflict where the activities of individuals and groups "are orientated towards the achievement of their own personal goals, values and interests" (Burrell and Morgan, 1979). Power and conflict between shifting coalitions are important phenomena in pluralist organisations. The coercive organisation is one in which force is used to coerce individuals and groups to carry out functions in pursuit of the organisation's goals. For example, a prison or the Victorian workhouses. These ideas are summarised below:

	UNITARY	PLURALIST	COERCIVE
Interest	Shared objectives (integrated team)	Different group interests. Organisation as mutual focal point (loose coalition)	Opposing interests (rival forces)
Conflict	Rare	Inherent - positive as well as negative	Inevitable
Power	Replaced by ideas of leadership and control	Medium through which conflict of interest may be resolved	Unequal leading to domination and subordination

The actual TSI methodology consists of three phases:

a) The **creativity** phase aids organisational theorists or managers to think creatively about the organisation with the use of system metaphors. This should result in the choice of a dominant metaphor which stresses the major

interests and important issues. In practice, this could result in different metaphors being chosen depending on the aspect of the organisation under consideration.

b) **Choice** of a relevant systems based methodology (or set of methodologies) to analyse the organisation. TSI suggest the use of the "system of systems methodologies" to help in this choice. Flood and Jackson prefer not to link system metaphors and methodologies directly, since they feel that "the pattern in the variety of systems is best discerned if the link is made through the system of systems methodologies." (Flood and Jackson, 1991b: 326-7). The use of the system of systems methodologies aims to reveal the assumptions that are made by the different approaches when looking at the system(s) with which they deal, and the relationship between actors. Actors are defined by Checkland (1981: 224) as "agents who carry out or cause to be carried out the main activities of the system." In simple terms systems are considered to be either simple or complex, and relationships between actors are assumed to be unitary, pluralist or coercive. Using the information gained from the creativity phase and the knowledge of the "system of systems methodologies" it should be possible to choose a particular system methodology to analyse the organisation. The system of systems methodologies is summarised below:

	UNITARY	PLURALIST	COERCIVE
SIMPLE	Operational research Systems analysis Systems engineering	Social systems design Strategic assumption surfacing and testing (SAST)	Critical systems heuristics
COMPLEX	Cybernetics General Systems Theory (GST) Socio-tech Contingency theory	Soft Systems Methodology (SSM) Interactive planning	

c) The **implementation** phase employs the chosen system methodology either to analyse the problem situation or to elicit proposals for change. This should involve looking the use of the systems metaphors relevant to the particular methodology. The relationship between the different systems methodologies and the relevant metaphors is shown below.

Systems Methodology (examples)	Underlying Metaphors
Operational research	Machine Unitary
Cybernetics	Organic Neurocybernetic Unitary
Strategic assumption surfacing and testing (SAST)	Machine Culture Pluralist
Soft Systems Methodology (SSM)	Organic Culture Pluralist
Critical systems heuristics	Machine Organic Coercive

7.2.4 Review of TSI

The use of systems metaphors in the creativity phase is a useful way of analysing change in an organisation. The value of this approach is its flexibility, i.e. it realises that there is no one best way to view an organisation. However, a problem occurs when it comes to choosing a systems methodology from the "system of systems methodologies". TSI takes the research back to the initial problem where an appropriate methodology needs to be chosen. None of the methodologies listed are adequate to construct a framework to analyse the change in HTC. This leaves two options:

a) A framework of metaphors could be developed which employs the different metaphors or combinations of them to view different aspects of the organisation during change. For example, radical change in Hungarian Telecommunications could be viewed as the transition from a relatively closed system (machine metaphor) to a more open system (organic metaphor) (Kamall and Reavill, 1994).

This would probably result in a framework of "weighted" metaphors where the relevance of each metaphor would be considered in viewing a particular aspect of the change process. The problem with this approach is that anyone who wanted to analyse the framework itself, other than the person who actually constructed it, would find it easy to disagree with the weightings afforded to each metaphor. In other words, a framework of systems metaphors, and the analysis of such a framework is too subjective. Subjectivity may be one of the strengths of systems thinking, but in this case it could prove to be too much of a weakness.

b) A different methodology or framework which is less subjective, but which offers the flexibility of systems thinking and metaphors. Two other possible approaches are discussed below.

7.3 CHAOS THEORY

In order to understand chaos theory, it is necessary to return to some of the concepts that were discussed above. Organisations are considered as non-linear open systems that react to changes or deviations in the environment. Open systems use negative feedback to dampen out the effects of deviations in contingencies in order to return to stability. Chaos theory considers the idea that organisations use only negative feedback in order to return to a point of equilibrium as too simplistic. Organisations also exhibit positive feedback which has the effect of amplifying deviations and introducing instability. Therefore, in organisations there is a creative tension between stability and instability.

Such instability would cause a linear system to destroy itself as a result of entering an endless destabilising loop. However, since organisations are non-linear systems with unpredictable outcomes they do not self destruct. Non-linear systems can move far from equilibrium and apply internal constraints to keep instability within boundaries. This is known as bounded instability (Parker and Stacey, 1994: 28) where the organisation operates in the region of chaos on the boundary of stability

and instability. Chaos theory also rejects the notion that organisations return to a normal attractor, i.e. a point of stable equilibrium. Instead, they move from point to point within a set of points, but this movement is not regular like a clock pendulum. If it were, the organisation would be said to return to a periodic attractor. Chaos theory considers organisations as returning to a strange attractor, i.e. movement is irregular from point to point within a set of points like complex oscillations. Therefore, the system behaves in a chaotic manner, a mixture of stability and instability. The system is unstable in that it does not return to a specific point of equilibrium, but stable in that it moves within a set of points. Parker and Stacey (1994: 29) explain this using the analogy of a ball moving in a fruit bowl. The point at the bottom of the bowl where the ball eventually settles is analogous to a normal attractor. While the ball is rolling in the bowl, it appears to move from point to point in a random manner. However, it never leaves the bowl and so movement is from point to point within a set of points, i.e. within the bowl. The analogy here is with a strange attractor.

In order to introduce change to organisations, they must be made changeable. Robust non-linear systems are only changeable when moved far from an initial equilibrium where they are able to import energy or information from the environment which is then dissipated throughout the system. This may lead to the destruction of existing structures or patterns of behaviour, but the system retains what Prigogine and Stengers (1990: 12) called a 'dissipative structure'. Dissipative structures use positive feedback to amplify deviations in order to disturb existing patterns of behaviour. However, they also enable new structures to emerge in the form of communication in order to rebuild the system through what Hayek (1948) referred to as self-organisation. Therefore, by operating on the boundary between stability and instability an organisation can change by destroying existing structures in order to create new ones. Schumpeter (Harvey, 1989:16) referred to this as 'creative destruction'. However, the results of even small changes cannot be predicted since organisations as non-linear systems display positive feedback.

Open systems theory was discussed in some detail in Chapter Six. It views organisations as adapting to changes in contingencies in order to achieve a 'fit' with their environment and other contingencies. Open systems theorists believe that organisations that do not maintain an equilibrium with the environment will simply fail. Parker and Stacey (1994: 49) reject this:

> "Organisations stumble, not because they fail to adapt to plan to achieve a 'fit' with their future environments, ... but because *they simply adapt instead of create* and they do not realise long-term intended outcomes because *it is impossible to do so*."

They criticise management of change literature for relying too heavily on the idea of equilibrium (Parker and Stacey, 1994:63):

> "The idea that people can manage change assumes that there is a predictable end point, a point to which the organisation can move so as to return to 'normal' or 'equilibrium'. The insights of chaos theory show just how limited this idea is. If we wish organisations to be innovative we have to accept that change is continuous. Results will be inherently unpredictable so that stability is only a chance, temporary phase."

Parker and Stacey adopt a very extreme and limited view of equilibrium to further their argument. When Lewin (1951) considered the forces for and against change acting on an organisation, he did not speak of organisations 'returning' to a point of equilibrium or normal attractor. He spoke of a quasi-stationary equilibrium; a temporary state of stability or a 'snapshot' of a constantly changing organisation. This is fully compatible with the idea of an organisation moving from point to point. However, Parker and Stacey's limited view of the equilibrium concept should not be allowed to cloud what has otherwise been a refreshing departure from existing management of change theory.

Chaos theory would appear to offer the following advantages as an aid to constructing the framework for analysis:

- It fits in with the intention of the framework to describe the process of radical change rather than prescribe solutions

- It appears to describe the situation that HTC faces, i.e. the changes in Hungary have almost literally thrown HTC into chaos where it is operating far from equilibrium. As HTC learns more about changes in contingencies, old patterns of behaviour have been destroyed and new structures have emerged through self-organisation.

However, it also has a major disadvantage. Chaos theory may explain changes at a conceptual level, but it offers very little in seeking to explain everyday processes of change such as power and politics or cultural change. Also, it cannot be used as a planning tool since it has, as yet, no predictive capability. Stacey (1994) admits that chaos theory, at its present stage of evolution, does not help in constructing the type of analytical framework sought. He suggests a possible way forward might be to identify the attractors, especially strange attractors, in the system. However, this appears to be of little practical relevance, which implies that the way forward lies elsewhere.

7.4 A DIALECTICAL FRAMEWORK

7.4.1 Definitions of Dialectics

The existence of positive and negative feedback in organisational systems leads to a dialectic between order and disorder. In simple terms, there is a unity and creative tension between apparent opposites. Dialectical thought has been much discussed by philosophers and sociologists. More recently it has begun to be applied to organisational theory. However, it remains very much the preserve of

theorists with little or no practical application to organisations.

The roots of dialectical thought are found in ancient Chinese Taoist philosophy which believed that any phenomenon implies and generates its opposite. For example, what is good cannot be understood without understanding what is evil. Opposites are interdependent and united in a state of tension. This tension between contradictory incidents is believed to be a major cause of change. The Greek philosopher Heraclitus continued this line of reasoning when he wrote that "you cannot step twice into the same river, for other waters are continually flowing on". A river that was in a constant state of change appeared to an observer as stable. Therefore, the river illustrated the unity of change and stability. This idea is now known as the dialectical view of reality. The German philosopher Hegel did much to advance the dialectical method and heavily influenced Karl Marx. Hegel's dialectical view on the unity of opposites is often summed up as 'thesis-antithesis-synthesis'.

Even though the works of Marx have been much discredited by events, not least in Central and Eastern Europe, his works remain one of the best sources of dialectical thought. Marx never wrote about the dialectical method employed in his work, preferring to apply it in the analysis of certain situations (Morgan, 1986). Many argue with some justification that Marx drew the wrong conclusions. For example Fukuyama (1992) claims that Marx misinterpreted the works of Hegel. This is an argument against Marx's ideas and not the dialectical approach as such.

Marx's ideas on social change and the dialectic drew on three main principles:

- the struggle or unity of opposites
- the negation of the negation
- summation of quantitative leading to qualitative change

The first principle has been discussed above. The second principle explains how change is incremental in rejecting a previous structure, yet retaining some aspect

of the previous structure. For example, when the old political order was overturned in Central and Eastern Europe, many civil servants remained in place. When state-owned companies were given joint stock status, many of the old managers remained in place. Each act of negation retained an element of the previous negation. The third principle refers to the process of radical change where one form of social organisation gives way to another. For example, a series of incremental changes may lead to a situation where the old order is no longer relevant, which in turn leads to radical change. This is similar to the views of Burnes (1992), discussed in the previous Chapter, where he believed that radical change could be viewed as a sequence of incremental changes covering an extended time period.

7.4.2. Benson's Dialectic View of Organisations

Benson (1977) believes that "the study of organizations has not developed a capacity to deal with fundamental [radical] change". He proposes an alternative view of organizations and change "which takes a dialectical view of organizations committed to the centrality of process". Analysis is guided by four basic principles - social construction, totality, contradiction and praxis.

a) Social Construction

The organisation is viewed as existing in a state of constant change and flux. Structures that appear to be fixed and permanent are in fact in a state of equilibrium, or what Lewin (1951) referred to as a quasi-stationary equilibrium. The organisation is viewed as a product of past acts of social construction, which allows relationships among it components to be understood or even predicted. The dialectic view draws attention to transformation where a particular structure is replaced by another. Several principles are offered as guidelines for investigation:

Ideas and Actions: Individuals and groups are influenced, but not confined, by the context of the organisation for which they work. They may look beyond the limits

of their present situation and develop alternative ideas on the purposes, structures, technologies and other features of the organisation. They may then attempt to reconstruct the organisation on the basis of their ideas.

Interests: The interests of individuals and groups influence the formation of ideas over time. Therefore, the process of social construction and reconstruction has to take account of different interests. The success of change usually depends on the extent to which interests of individuals and groups are satisfied.

Power: The ideas that lead to the construction of the organisation depend upon the power of various participants and their capacity to control the direction of events. Some individuals or groups may have the power to impose their ideas on others. Their power may derive from the official authority structure and allow them to restructure the organisation in accordance to their ideas. Once the organisation reaches a new equilibrium, they can use their power to maintain the structure and resist opposing forces. Perrow (1972) recognised that the organisation may be used as a tool in the hands of powerful actors. Organisational theorists have paid little attention to examining the concept of power beyond the boundaries of the organisation. The dialectic approach considers organisational power within the context of larger systems, such as political/economic power blocs, legal systems and other contingencies.

A dialectical analysis focuses on sources of power to resist and overturn the existing structure. It looks at how some groups are able to extract advantages and privileges from the organisation, and to influence major decisions affecting the direction of the organisation. It also looks at how individuals and groups are mobilised to pursue their interests and seek new organisational structures. This aspect has not received much attention in existing organisational theories.

b) Totality

The dialectic approach examines the organisation as a whole, covering all levels, its various components and their relationships. In other words, it takes a systems view of the organisation. In adopting a systemic view, it totally rejects approaches that abstract the organisation as a formal structure separate from relations and behaviour in the wider society. Instead, the intricate interplay between form and content, between structure and process are seen as more relevant. This line of reasoning allows the relationship between the organisation and wider society to be seen, since developments within an organisation often appear to be related to events occurring in society as a whole. This should not be confined to relations with larger systems such as political and economic systems, but also to daily activities of individuals and groups. The reasoning behind the drawing of the boundary between the organisation and its contingencies should be critically assessed, taking account of various interests and power relations. The analysis of change looks at the social, political and economic processes through which a particular view comes to dominate, and leads to the emergence of new structures based on shifting power relations.

The organisation substructure should also be considered. This refers to the sphere of organisation action and the complex network of relations linking individuals to each other, to groups and to the wider society in a number of ways. Different interests in the larger society are often able to set limits upon the operations of the organisation and the power structure controlling the flow of resources and information. Within the organisation, the ability of different interests to understand technology or to control uncertainty provides them with power in their relations with other interests.

c) Contradictions

Looking at an organisation's structure, its various levels and varied relations to the wider society reveals contradictions that are an important feature of organisational

life. Some contradictions are inherent to the organisation due to different departmental goals, reward structures and control structures. Individuals and groups tend to develop views of the organisation based on the priorities and problems of their particular occupation, department or level within the organisation. Therefore, opposing views, goals and objectives are generated across the organisation at all levels. At any given time, a large complex organisation contains many structural inconsistencies. For example, some departments may adopt a fairly flexible structure while others may be more bureaucratic. Sociologists have examined such inconsistencies in themselves and tried to explain how they arise and are able to co-exist. However, little attention has been given to the idea that inconsistencies and contradictions may provide the basis for change.

The constant development of new ideas and ongoing social construction within an organisation generates alternatives or contradictions to existing structures. Contradictions may be generated in the wider society and imposed on the organisation. For example, governments may expect companies to provide job security at a minimum wage, whereas companies themselves seek to make profits. These two goals are not necessarily compatible, and may not both be achievable. Contradictions in the wider society may eventually feed through to organisations that operate within that society. The contradictions of Marxism and its failure to take account of individual aspirations led to its eventual downfall. Organisations in former Marxist societies are being forced to adapt to new norms, roles and values.

Therefore, contradictions affect social construction and development of new structures in several ways. They:

- are a constant source of tensions and conflicts which may lead to a change in the existing order
- introduce the possibility for reconstruction at any given time
- may produce crises which enhance the possibilities for reconstruction

- may help to define the limits of a system

The most basic contradiction is that between the existing structures and the ongoing process of social construction. At some point, individuals and groups realise that the organisation is not a fixed entity which is able to resist the ongoing process of development. As more individuals and groups come to realise this, they attempt to restructure the organisation to overcome its limitations. Therefore, they arrive at a new praxis.

d) Praxis

Dialectical theory examines the connection between organisational practice and theory. Current organisational theories have been created by individuals or groups on the basis of their limited view of particular concerns. Therefore, theories are partly a product of the social context or construction in which they were devised. In turn, theories may be used to construct organisations. Managers may use theories as a guide in seeking to understand and control the organisation. Therefore, there is a dialectical relation between organisational structures and theories.

Current theories help managers and other staff to formalise methods for dealing with problems in daily organisational life. The dialectical view does not dismiss these theories, but seeks to supersede them in a more encompassing framework. Other schools of thought on subjects such as contingency, non-linear systems, resource dependency, power relations and political economic theories are easily incorporated into a dialectic framework. These contributions represent partial perspectives which may provide accurate predictions on some aspects of organisational change within limited time periods and in certain environments. The dialectic view seeks to elaborate a more complete framework into which these more limited ideas may be drawn.

7.5 DISCUSSION

Established theories of organisational change tend to concentrate on incremental change involving minor adjustments to the present order. Dialectical thought has demonstrated how change is usually brought about by tensions in the unity of opposite phenomena. Benson (1977) felt that existing theories on change were unable to cope with fundamental change and proposed a dialectical approach applying the principles of social construction, totality, contradiction and praxis. Such an approach would appear to be useful in developing a framework for analysing radical change.

However, the question of why the dialectic approach has been barely developed since Benson's 1977 paper has to be examined, in order to prevent the research from embarking on a redundant route of enquiry. From a survey of other texts on the subject, mostly by Benson, the following conclusions may be drawn:

- dialectic thought still remains very much in the realm of philosophers and sociologists, despite the efforts of other authors, such as Morgan (1986), to apply it to organisational theory. Much of the language used by proponents of the dialectic view of organisations is turgid and too theoretical for organisational theorists who deal with organisations and employees in the real world. The important points are often presented in such a conceptual manner as to be ambiguous or misunderstood.

- organisational interventionists (e.g. managers and consultants) found that more practical techniques such as total quality management and continuous improvement were more relevant to the problems that they confronted in the organisation and produced a more immediate practical outcome. The 1980s was an era of tremendous growth in the developed world with organisations looking to meet increased demand, focusing on product differentiation and improving quality.

Therefore, organisations looked for incremental changes in the way they operated. There was some radical change as a result of liberalisation, privatisation and deregulation, but this was generally implemented as a series of incremental changes, and could be analysed as such. There was not the degree of radical change that is being experienced in Central and Eastern Europe, and therefore no need to look to the dialectic approach.

- the dialectic approach was considered to be a product of the school of Marxist organisational theory. Its advocates may have been seen as no more than Marxist philosophers; a position that was out of tune with the eighties, an era where laissez-faire liberalism prospered.

These reasons should not deter the use of the dialectic framework for the research, for the following reasons:

- the changes being experienced in the post-Communist economies of Central and Eastern Europe are beyond anything seen in the 1980s. The popular concepts of the last decade, such as Total Quality Management, Just In Time, Concurrent Engineering, Continuous Improvement etc., fail to address the problems of radical change.

- there is nothing inherently Marxist about the dialectic approach. As mentioned earlier, dialectic thought dates back to the ancient Chinese.

Therefore, the dialectic framework will be used to analyse the changes in HTC.

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CHAPTER EIGHT

CONSTRUCTION AND APPLICATION OF FRAMEWORK

"A picture paints a thousand words"
- Anon

8.1 THE FRAMEWORK FOR ANALYSIS

In order to a construct a framework from Benson's dialectic and the relevant concepts from the literature, a mindmap was drawn (figure 8.1). From the mindmap it can be seen that the relevant concepts from the change management literature appear to fit neatly into Benson's framework. The next stage is to construct the framework for analysing radical change in HTC. This is represented as a soft systems diagram (Flood and Carson, 1988: 45-6). The soft systems diagram (figure 8.2) can be understood by considering each concept (or bubble) and the lines that connect them as making up a sentence. For example, "Ongoing social construction viewed as changes in contingencies drives organisational change." A summary of soft systems diagrams is given in Appendix B. It should be borne in mind that this diagram represents only the author's view of the relationship between Benson's dialectic approach and the relevant change management concepts. This is only one out of many possible different views that could be represented. Other soft systems diagrams could be drawn to represent alternative views of the framework for analysis, but the main point of the framework is to show that the identified concepts are consistent with Benson's dialectic approach. Differences in the soft systems diagrams of the framework would only reflect different interpretations of the relationships.

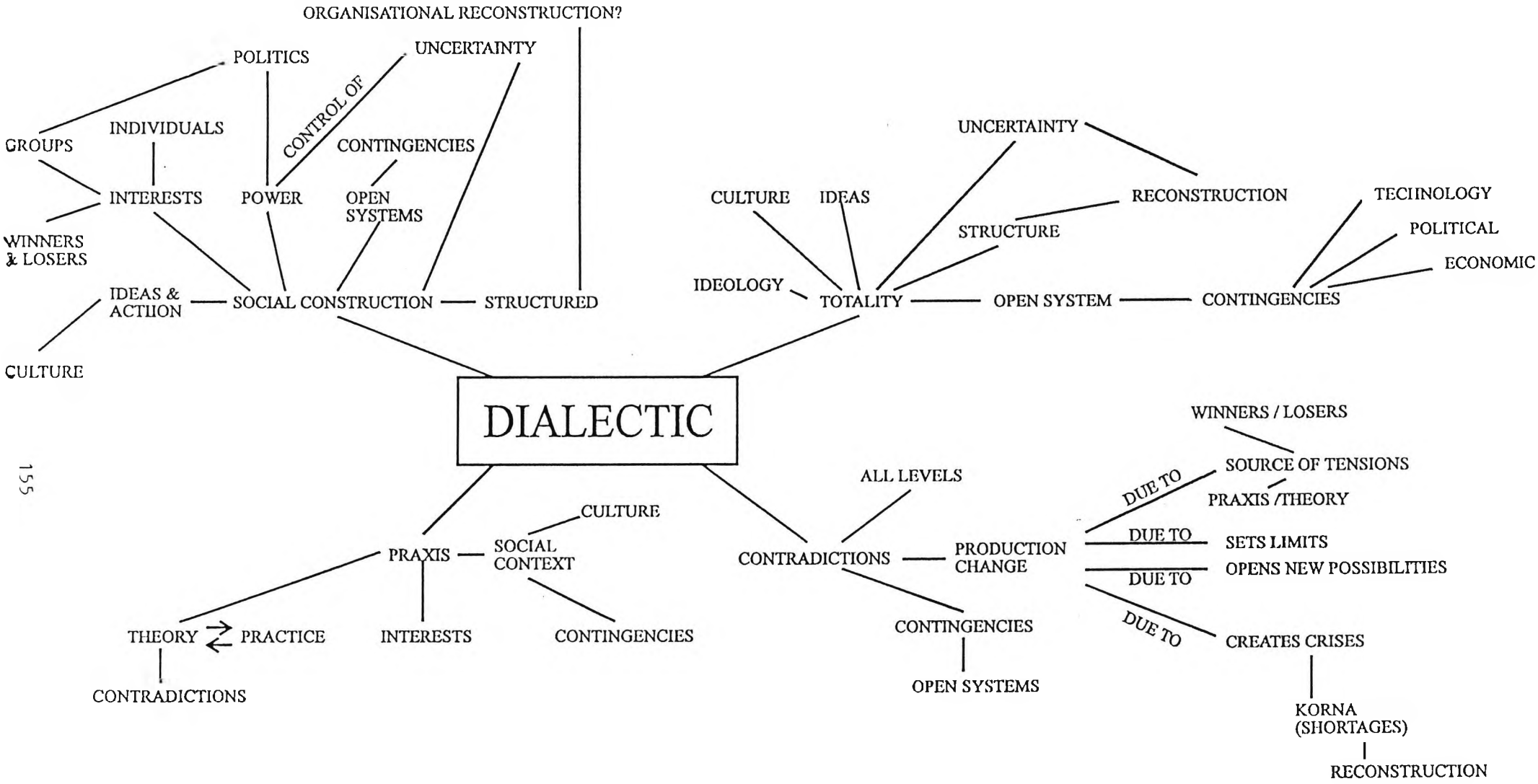

FIGURE 8.1 MINDMAP OF DIALECTIC FRAMEWORK

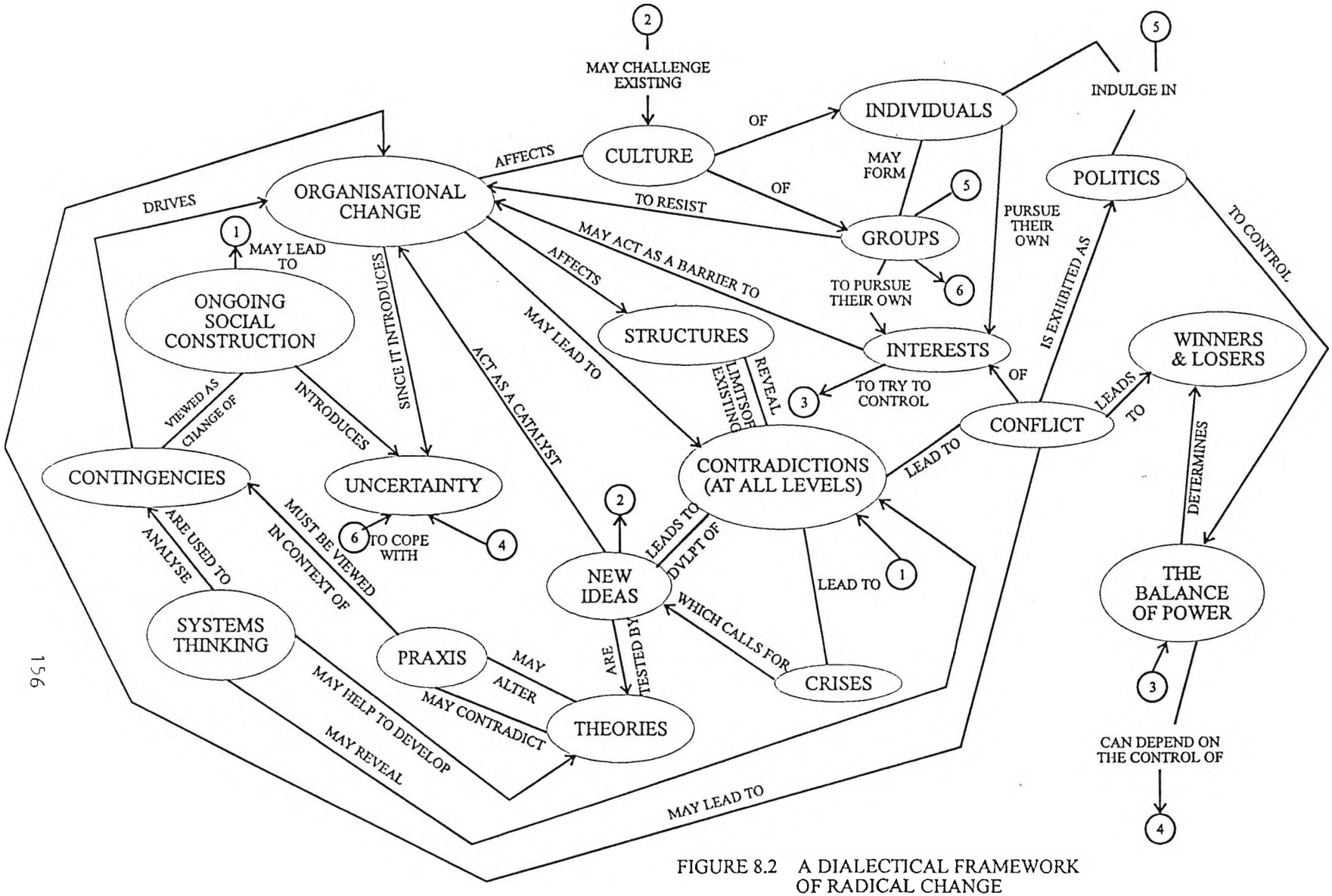

FIGURE 8.2 A DIALECTICAL FRAMEWORK OF RADICAL CHANGE

8.2 A DIALECTICAL VIEW OF THE CHANGES IN HTC

Social construction in Hungary viewed as changes in contingencies, i.e. changes in the economic, political and social conditions, has led to **contradictions** at all levels of the organisation. The changes in the contingencies led to a drastic change in the economic and regulatory environment. The organisation has been forced to adopt strategies for radical change in order to prevent the operation of the organisation from contradicting the reality of the contingencies. This led to changes in structures (see section 8.3.1) and an attempt to introduce a new culture (see section 8.3.2) into the organisation. The changes soon made it apparent that the practices inherited from the old PTT were out of place in a modern more customer-orientated organisation.

However, managers of many organisations across central and eastern Europe faced a problem, as such radical changes had not been attempted before. Nowhere in the world did there exist management of change literature that could tell managers how to achieve the type of changes they sought. However, certain concepts of existing theory proved to be relevant. These were discussed in Chapter Six. The senior management of HTC introduced change through a combination of learning the theory, relying on the experiences of external consultants, management of change literature and by simply trying out new ideas. One manager commented that one problem was anyone could learn the theory, but few knew how to apply it to the situation in hand.

In simple terms, existing theories were used to bring about some changes in **praxis** while other changes occurred as a result of managers trying out new ideas. The changes in the praxis led to a reexamination of theory. These changes have taken place at all levels of the organisation and so an overall view of the organisation is needed to view the changes in their entirety (**totality**). For example, cultural change has occurred at three main levels. There has been a change in individual values, group culture and organisational culture.

Structures have changed to reflect the greater role to be given to certain functions such as marketing, finance and public relations and to eliminate obsolete functions such as manual operators. Changes in structures have occurred mostly within the General Directorate, but there are plans in place for changes in the regional directorates. Structures continue to change as the organisation learns more about the changes in contingencies and as more contradictions are revealed. The contradictions revealed by social construction have also led to conflicts of interests exhibited as internal politics (see section 8.3.4) with each party to the conflict attempting to control the balance of power (see section 8.3.3) in order to influence the outcome of changes. The conflict of interests has not been confined within the organisation. In introducing the changes, managers have also had to be aware of the external interests such as regulators, local and national politicians, customers, suppliers and potential competitors.

The changes in contingencies and within the organisation have introduced uncertainty, with employees wondering whether they will gain or lose from the changes. This is discussed in section 8.3.5 under the heading of "winners and losers". The changes in contingencies have already been discussed in Chapters Two, Three and Four. The rest of this chapter attempts to apply the framework in figure 8.2 to the recent changes in HTC. Since the relevant concepts from the change management literature can be related to more than one of the four tenets of Benson's framework they are considered separately to avoid both repetition and a fruitless attempt to explain a picture with words.

8.3 APPLICATION OF THE FRAMEWORK

The framework was applied to the company through a series of interviews conducted with employees at all levels of HTC. The notes from these interviews are presented in Appendix C. The identity of the interviewees has been concealed.

8.3.1 Structures

Structural changes have already been discussed in some detail in Chapter Four. In this section, these changes will be analysed within the context of the dialectic framework for radical change.

The first major act in the process of change was to replace the former management with a younger team. It was hoped that by getting the right people in place at the top of the organisation, they could put in place the appropriate structures for change, while changing the organisation's culture. The former General Manager believed that, with hindsight, it would have been better to rebuild the organisation from scratch. However, this would have been very difficult to achieve in practice for political and motivational reasons. Also, the organisation was unable to find the right people to work in the regional directorates, especially for the senior posts. Even though the posts of head of regional directorates were advertised widely, few really able people applied due to the bad reputation of the former PTT. New regional directors were appointed in only two cases, but even they were badly chosen according to a senior manager who was interviewed. The majority of regional directors retained their posts. It would have been better to headhunt for heads of regional directorates. As a result, change in the general directorate progressed much faster.

Looking back over the 1990-93 period, opinion is divided over the success of the changes. Some employees felt that HTC probably did not develop the best structures to cope with its environment despite its efforts which saw about five major restructures in three years. There have been problems due to changing structure, management and staff at all levels. Others feel that the restructuring between 1990-93 was as good as could have been expected, and that HTC has almost achieved what was possible given the uncertainty introduced by contingencies and political constraints. Of course, there was potential for further structural changes, but these were held back by culture and values. Many employees felt that HTC has not really had a major restructuring aimed at

changing the company. Most of the changes have been in the general directorate, and this has had little effect in the regions or the rest of the company. Some staff felt that most of the changes were for political reasons and not necessarily in the long term interests of the company.

The main criticism of the restructures was that they were determined on a functional basis, and were implemented by middle-level managers which led to a lack of coordination. Managers failed to realise the merits of multi-functional groups or departments. Some functions will only be carried out effectively if they are split across departments. Since the structure of the general directorate is split along functional lines, it is not the ideal organisational structure to face the changes in contingencies. For example, some feel that the restructure in non-voice telephony which left non-voice services in subsidiaries led to a loss of control by management. Others feel that this was not necessarily a bad thing since it allowed the subsidiaries to be more innovative, once they had been released by the constraints of management in the General Directorate.

A major reason for the loss of control between 1990-93 was the uncertainty introduced by the changing contingencies. The more sinister side of this loss of control was exposed in a region of Budapest, where managers were found selling lines on the black market. Lack of resources and time and hence intelligence gathering allowed this practice to continue until it was discovered. Despite these problems, it appeared that overall HTC managed to maintain discipline. Staff in other departments claimed that Marketing and Customer Relations considered themselves as independent from the rest of HTC when they were set up. Critics complained that this was partly due to the fact that their tasks were not clarified and that no real objectives were set. Since these were new functions, managers felt that they were unable to set objectives for them, and that their main objective was to be different to the rest of the old organisation.

Further uncertainty was introduced by the plans to privatise HTC. The privatisation process lasted more than two years, with plans constantly being

changed. Now that the company has been partly privatised, the new partners, Ameritech and DBT, are seeking to centralise control in order to improve efficiency and to increase profits. For example, procurement has become more centralised in order to standardise purchasing and to gain discounts through bulk orders. There will be more change as the banks and the new partners push for it. It is hoped that privatisation will lead to objectives being set. Many staff feel that performance improves if the correct structures are set, but they realise that changes in the organisation require more than just changes in structures. This was discussed in Chapter Seven. One manager felt that the commercial side of HTC should change while the technical side needed no real changes. He felt that everything would fall into place after privatisation, but this view was not shared by the majority of the staff interviewed.

However, the new partners themselves have introduced uncertainty by doing nothing while they take time to learn about HTC. This means that there will be no change in the organisation's structure for six months. The financial and operational control functions will become more separated when a new structure is introduced in late 1994 or early 1995. The structure will be more centralised than at present, especially the financial functions. Many employees feel that while managers are trying to do their best, they have missed opportunities to make crucial decisions. HTC's former General Manager was well respected since he was willing to make decisions. Since his departure, it appears that managers are either no longer willing to take decisions, or take a long time to make them. Many members of staff feel that they worked very hard in the run up to privatisation in the belief that they could 'breathe' again once privatisation was over. However, staff find that they are having to work as hard as ever and feel that their work has not produced many results. Despite the structural changes, there is still a lot of bureaucracy. Many of the old rules no longer exist, but have yet to be replaced by new rules. Therefore, the organisation is in a sort of limbo.

Changes have been not necessarily been introduced on a functional basis. The power games within the organisation have also been responsible for changes.

Despite the rhetoric, HTC is only now starting to become customer-orientated. The regional directorates, where the actual service is provided to customers have yet to become service-oriented. A new flatter structure has been planned in the Miskolc region which will become a pilot project for other regions, but the project must wait upon the decision of the new partners. Staff in the Organisational Development Department, responsible for structural changes, feel that the pilot project will get the go-ahead, but they are unsure whether it will be extended to other regions.

In order to be truly customer-orientated, the priority must be the development of the infrastructure. Until this is achieved, the company will not necessarily become market/customer-oriented since better customer service will not hide the fact that a customer has to wait years for a telephone. As the network is developed and supply begins to meet demand, probably some time after 1996, HTC will be able to split its customers into two main groups: basic telephony serving many people as a cheap service where cost-efficiency will be important, and other high quality differentiated value added services for richer customers. This will lead to a split in HTC's way of thinking. There is a new department that has been set up to serve key customers, but which has not received adequate resources to be truly effective. There is a large technical capacity in the backbone network, so HTC will be able to lease its lines. However, it will be very difficult for the Key Customer Department to get resources from the company since there is a lot of competition between it and basic telephony. It would make sense to focus on selling value-added services to generate higher revenue to invest in further development, but the new owners need to satisfy the government that they are fulfilling the terms of their contract.

8.3.2 Culture

Managers in HTC have attempted to introduce a more customer-orientated culture into the organisation. This included the establishment of a service directorate, including a marketing function, and the setting up of 100 retail outlets where

customers are able to discuss their requirements with HTC staff who have been trained in customer service. However, making the organisation more customer-oriented takes more than setting up new structures. Staff may have been trained to give the appearance that HTC is customer-oriented, but they have no real idea about customers' rights or how long a customer can expect to wait to have a phone installed. As long as demand continues to outstrip supply, HTC will be unable to offer customers a telephone. This should disappear with increased development of the network. In March 1994, there were still 700,000 people on the waiting list for a telephone. HTC has been able to reduce the waiting time from more than twelve years in 1990 to three years in early 1994. By 1997, the waiting time should be about six months. By then, HTC will have to meet 90 per cent of requests within 6 months and 98 per cent of requests within a year, under the terms of the contract with Ameritech/DBT. Perversely, since HTC lost 14 primary areas it should be easier to meet network development and service objectives. However, HTC still has some way to go before it can meet the level of service provided by the mobile service. Business customers in Budapest have to wait only a week to be connected to the Westel cellular network.

HTC has started to measure the level of customer satisfaction. Directors' bonuses are now linked to customer satisfaction, which should drive changes in the organisation. Since 1990, the Public Relations department has surveyed a sample of 5000 subscribers every quarter. They have used the feedback from these surveys to try to meet customers' needs. On the whole, most complaints were about the quality of lines and the length of time that the service has broken down. On the positive side, about 45 per cent of those surveyed believed that the service has improved. Street surveys have been carried out to test the public's opinion on payphones. The new owners have shown an interest in the results of the surveys. At first, HTC decided upon the parameters to measure, but has now started to ask customers to set their own parameters.

HTC is also learning to work closely with other customers. The company has set up major accounts with large companies and has worked with local governments

to develop the network. Small investment companies were set up to raise finance to lend to HTC in order to develop local telecommunications. This prevented HTC from building up high debts and helped to maintain HTC's credit rating. This scheme was so successful that HTC was forced to reject other such offers from local government. HTC has also started to work closely with manufacturers in order to deliver a better service to customers. The company is starting to realise that the quality of service depends very much on customers' perceptions. Even though all quality service problems are not the fault of HTC, the company is held responsible by the public. This forces the company to spend time and effort on problems not necessarily of their making. For example, many different types of telephones appeared on the market soon after liberalisation of the equipment market. HTC received many complaints from customers who purchased cheap low quality telephones. In response, HTC decided to issue a tender to standardise equipment and to mount an aggressive campaign to sell HTC approved handsets.

HTC's efforts to inject a more market-oriented culture into the organisation have not met initial expectations. The organisation appears to have encountered the problem of cultural lag. Staff are being trained in new functions and to cope with change, but the results of this in terms of changing the culture will take time. The main problem with cultural change in HTC is that everyone knows the theory, but few know how to apply it to the situation in hand. Senior managers cannot change the culture by merely reading books on the subject, they have to help manage the change in culture by actually doing something. They need to talk to staff and convince them of the merits of change. Managers attempted to do this during 1990-92 with some success. However, during 1993 managers were busy preparing for privatisation and spent less time talking to lower level staff about the changes.

Opinion was divided over the pace of cultural change in the organisation. Some employees believed that the culture of the organisation changed too slowly. They believe that change was slowed down by managers who managed their time badly and spent too much time at unstructured meetings that produced no decisions. They criticise managers for merely trouble-shooting, rather than trying to change

the organisation's culture. However, this was to be expected since cultural lag occurs at all levels of an organisation, and managers need time to change their outlook. Other staff felt that managers were trying their hardest and recognised the difficulty of trying to change the mindsets of individuals. They believed that cultural change in an organisation takes time since it is very difficult to know exactly what to change when the contingencies are constantly changing and introducing more uncertainty.

It would appear that the organisation's attempts to change its culture have followed the 3 R's (Replacement, Retraining, Realisation) discussed in section 4.1.2.

Replacement: The replacement of the senior management with a younger generation has already been discussed in some detail. The fact that this occurred fairly early on in the life of the company demonstrates the importance of getting the right people in the right place. This move was welcomed by many employees who had felt frustration with the organisation under the former management. The new general manager was well respected by staff at all levels and many staff were dismayed at his dismissal, especially since the network achieved an average growth rate of 15 per cent per annum under his leadership. Unfortunately, since then many staff feel that there has not been enough replacement, and some newer members of staff were involved in conflicts with longer serving members who did not recognise the need for change. Another criticism is that while new staff were brought in less able staff were not displaced. As a result, the overall number of employees in the General Directorate has risen from 30 to about 60. This problem may be due to the fact that senior managers decided to guarantee employment to existing staff, which prevented the dismissal of less able staff.

Despite the changes, the organisation is still geared towards the old way of thinking. People are inexperienced in formulating plans. Some employees feel that there are still too many managers with a background in engineering which prevents the change in culture to a more commercially-oriented organisation. Until privatisation, former engineers with no real training in finance were still responsible

for spending and were accountable to no-one. HTC has benefited from former PTT employees who had left for other organisations before returning to HTC.

While staff recognise the need to involve outsiders in changing the culture and to introduce new functions such as Marketing and Public Relations, they would prefer to work with more external advisors who understand telecommunications. Some employees feel that the company needs people who understand both organisational systems and the technology. Not all of the foreign advisors have worked in other telecommunications organisations, and this creates a credibility problem with Hungarian staff.

Retraining: Service and technical training is developing rapidly within the organisation. However, the modular training programme is not yet well developed. HTC staff that have been retrained have not necessarily been taught skills relevant to their existing or future job. Therefore, managers would prefer to see better coordination between training and job functions. This problem should disappear as the company learns more about customers' needs and the skills that are required. Despite the criticisms, HTC has been praised for its standard of technical training. Siemens, a German supplier of telecommunications equipment, have been so impressed that they are considering providing all their training on switching technology in Hungary instead of Germany. It has been suggested that Hungary could even become their regional training centre for Central Europe

Some staff would have preferred more on-the-job training or 'learning by doing', with the old ways of doing things slowly replaced by more modern methods. One manager felt that cultural change would be more successful if the new and old cultures are allowed to co-existing during a transition, rather than trying to impose a new culture and simply ignoring the old ways. Employees have been more responsive to internal trainers than trainers brought in from outside the organisation.

Realisation: HTC has encountered lots of resistance from staff at all levels in trying to achieve a new way of thinking. This has sometimes involved making compromises. This has affected decision-making when earlier decisions had to be revisited and signed off before progressing to where discussions could begin. However, there has been some success in changing peoples' views. Some staff believe that it is easy to change the organisation's culture and individual values. Changes in the Hungarian society have helped to change the culture. The changes are being driven by contingencies. After 1990, there was much optimism in Hungary. Foreigners paid a lot of attention to Hungary and Hungarians have been able to receive English and American television. A Hungarian sociologist surveyed a sample of Hungarians living abroad to find out their opinion of their compatriots who had remained in Hungary. The ex-patriots characterised Hungarians as visionary and self-confident. One respondent claimed that Hungarians have learned to confront power, and cites as an example the fact that Hungary was the only catholic country not to undergo a Spanish-type inquisition. Hungarians have always strived for a open society, even while under occupation. World Bank experts believe that the culture in Hungary is easy to change due to its proximity to the European Union. This makes change in Hungarian organisations easier. HTC is also helped by the poor economic conditions. The high unemployment rate has persuaded staff to change, since those who do not measure up or resist change can easily be replaced. It is an employer's market. Commercially minded managers welcome the changes in contingencies while technical managers are open to change as a result of the new technology that has entered the country following the relaxing of CoCom restrictions. HTC still faces a problem in introducing a genuine marketing department. They organisation will rely heavily on the new partners for this.

8.3.3 Power

Before 1990, the planning committees held the power in Hungarian telecommunications. They distributed telephones to friends and contacts in order to maintain the power structure. After the split between regulation and operations

in 1990, the regulators and politicians held the authority to determine the future of telecommunications. HTC was forced to lobby them to look favourably upon their case during the drafting of the new telecommunications law. HTC was able to gain power from the state administration due to the ability of new younger managers. HTC's new and younger management were more attuned to the needs of the business and recognised the opportunities for change. This cultural change at the top level of HTC proved to be a useful 'power tool' in their dealings with state administrators. As a result, the company was granted a monopoly in long distance and international telephony until the year 2000.

Between 1990 and 1993, the organisation became more decentralised as senior managers loosened their control. They did this in the hope that giving lower level staff more autonomy would generate new ideas and make individuals more committed to change. Overall, this ploy seemed quite successful as the majority of staff recognise the need for changes. However, this loosening of control also meant a loss of power due to the lack of feedback in the organisation. Part of the problem is that General Directorate is assumed to be synonymous with the whole organisation, but the service is actually provided by the regions. The organisation usually makes decisions without taking account of information from regional directorates. Since the formal communication channels are not working, informal channels based on personal contact are being used. Managers' power depends on being in contact with the informal information channels. This is no different to the situation under communism where personal contact was very important. Some managers tried to assume responsibility for as many problems as possible in order to gain more power within the organisation. However, this meant that they were able to spend less time one each problem and this slowed down change.

Between 1994-96, the DBT/Ameritech consortium will become the most powerful stakeholders. The main goals will be efficiency and profit, for which the Germans and Americans have the expertise. In 1993, 37 billion Ft were invested in the network. At the time of privatisation, 18 billion Ft had already been spent with 60 billion Ft planned for 1994. The new partners were startled by the amount that

had been spent and they have decided that all contracts must be approved by the OC. Before privatisation, regional directorates were given more autonomy with the general directorate assuming a supervisory role. The new partners will seek to centralise control in order to improve efficiency. They are still in the process of understanding the organisation after privatisation. Even though they only own a 30 per cent stake, they exercise effective control. Their power is invested in the new Operating Committee (OC). This consists of two HTC appointees, one DBT appointee and one Ameritech appointee. The Ameritech and DBT appointees together hold the casting vote. In addition, the position of Chief Technical Officer (CTO) is held by a DBT employee and the Chief Finance Officer (CFO) is an Ameritech employee. Since the two Hungarians are in a position of relative weakness on the OC, many employees would like to see a strong General Manager, since the OC intends to stop dealing with relatively minor issues and leave these decisions to the General Manager. Employees would like to see a General Manager who feels confident enough to stand up to the German CTO and American CFO. Many employees would not be in favour of a General Manager being appointed by the state, since they feel that he or she would be unable to resist government interference.

Contrary to the publicity at the time, the main aim of the organisation between 1990 and 1993 was not to become more customer-oriented. This will not happen while demand for telephones exceeds supply and as long as HTC enjoys a virtual monopoly. In other words, HTC will continue to hold the balance of power in its relations with customers. As supply begins to meet demand, customers will be able to exert more power on HTC. Business customers demanding higher value services will have more power than residential customers in this relationship. Between 1996 and 1998, supply and demand of basic voice services will reach equilibrium. Only then will customers will begin to exercise more power over HTC. This will be a very difficult change for the organisation. The revenue from basic telephony will drop from 90 per cent to about 70 per cent as value added services are offered more. If HTC's monopoly is broken in the review of the year 2000 and alternative suppliers of telecommunications services are allowed, there will be real competition

in the telecommunications sector for the first time. Customers will then exercise real power and the company will have to make extra efforts to attract customers. However, this does depend heavily on how politicians and regulators decide to exercise their power. For example, customers will not exercise more power if regulators allow a cartel to exist between the different suppliers of telecommunications services.

HTC recognises this future shift in power and is beginning to reorganise in order to serve the customers better. However, the new department set up to serve key customers has found it difficult to secure resources from the company since there is a lot of competition between it and basic telephony. It would make sense to focus on selling value-added services to generate higher revenue to invest in further development, but the new owners need to satisfy the government that they are fulfilling the terms of their contract.

In some cases, the customer has gained more power over the organisation. For example, some customers refuse to pay their bills since they feel they are too high due to billing mistakes. Under the new telecommunications law, the burden of proof is on HTC. However, for the most part the organisation does not yet have the technology to prove that these calls originated from the customer's phone, which places it in a position of weakness.

HTC is trying to exercise its power over suppliers. Before the changes, procurement was decentralised, but it has become more centralised in order to standardise purchasing and to gain discounts through bulk orders. However, the suppliers themselves have adopted methods to increase their bargaining power in Hungary. For example, some HTC staff feel that some foreign suppliers were behind the bids for some of the local area telecommunications contracts. Many local operators were heavily backed by particular suppliers on the look out for a market to sell their equipment. It was expected that they would install their own people in key positions in these local telecommunications companies in order to secure contracts. This ploy was not restricted to telecommunications companies.

Non-telecommunications companies became involved in consortiums that won contracts, in order to establish a presence in Hungary, and to give them an advantage once their target sector is liberalised.

8.3.4 Politics

Looking back over the changes between 1990 and 1993, many managers felt that they were influenced too much by both internal and external political considerations. Some employees felt that most of the changes in the organisation's structure had been carried out for political reasons. The majority of the changes took place in the general directorate which had little effect in the regions or the rest of the company. Managers maintained that the political games that were played slowed down their attempts to improve the service. They felt that local and national politicians tried to take advantage of HTC to further their own needs. Between 1990 and 1992, the Minister of Telecommunications allowed HTC's managers a certain amount of autonomy. This lasted until a new Minister of Telecommunications was appointed in 1993. Since he was a member of the MDF party, which was set to lose the general election in May 1994, he wanted to exert his authority in order to gain favourable publicity. He made a pledge to reduce the salaries and severance pay for top managers of the company. The state holding company (AvRt), which assumed ownership of the government's 70 per cent stake in HTC from the SPA, became locked in a dispute with the Minister over his right to carry out this pledge. Senior management argued that if the welfare of managers and their families became dependent on the government, they would refrain from making difficult decisions. Therefore, HTC needed the independence to set its own financial terms. However, a counter argument was that managers would not be afraid of making bad decisions if they realised that the worse that could happen would be for them to receive a handsome payoff.

In the end, the politics forced out the former General Manager. The Minister of Telecommunications at the time had read in the press that people were not happy with HTC and this gave him an excuse to exert his influence. The Deputy General

Manager was appointed as the Acting General Manager. It was thought unlikely that he would be appointed to the job of General Manager full time for political reasons. In March 1994, a new General Manager had still not been appointed. Many employees believed that the vacancy would remain open until after the election when the current minister, having lost his job, would put in a claim for the position. Organisational politics also forced out a former Deputy General Manager. He invited people, who he believed to be change agents, to meetings to discuss the changes. Change agents were defined as people or departments who could contribute ideas to or help deliver changes. For example, the Human Resources and Privatisation Departments were change agents. Managers who were not invited to these meetings began to resent him, especially if their subordinates were invited. This is believed to have been a factor that led to his dismissal.

Some employees with a background in economics felt that the organisation faced more of a political challenge than an economic challenge. For example, tariffs were capped for political reasons. The regulators attempted to set a price capping mechanism similar to that adopted by Oftel in the United Kingdom for British Telecom (BT). BT had to set its prices according to the RPI-x formula where RPI was the Retail Price Index, and 'x' was an amount decided by the regulator. HTC's managers argued against this decision since HTC was at a completely different stage of development to that of BT in the 1980s. The Hungarian network is still underdeveloped while BT's was relatively developed. Also, Hungary is developing its network during a recession while BT developed its network during a boom. To make matters worse, the regulators decided to use the IPI-x formula where IPI was the Industrial Price Index. This favoured the politicians at a time of high inflation since the IPI was 10 per cent lower than the RPI. This is an example of a political decision being substituted for an economic decision.

The politics surrounding the organisation forced HTC's managers to indulge in politics. The Privatisation Secretariat tried to ensure that the interests of HTC's managers were maintained after privatisation within the constraints imposed by the AvRt. The Privatisation Secretariat helped senior management to develop a

strategy that would prove acceptable to the AvRt. The rules for the sale of the 30 per cent stake had been drawn up the AvRt. Potential investors were informed of the constraints imposed upon HTC during their visits to assess the company. Sometimes they were not told of existing plans and constraints directly, but made aware of them through internal documents or reports. The politics meant that the privatisation process took a lot longer than was hoped. It started in 1991 and ended in December 1993. One employee of the Privatisation Secretariat felt that attempts to bring about change involved far too many conflicts. This was probably because he had not worked for the old PTT and joined HTC after working for a bank, which made him an outsider.

The Mayors of municipalities were given a say in the drafting of the telecommunications law. It was felt by some commentators that since they wanted to be seen standing up for their local areas they decided to veto the law until more provision was made for local telecommunications. Therefore, telecommunications development was constrained by local politics.

The new partners were shocked by the political turmoil surrounding HTC. Just after privatisation, managers were hopeful that their interests would coincide with those of the new partners. However, they foresaw problems with the advisors that the new partners would bring in. They believed that the new partners would try to sell advice not all of which would be needed by the company. HTC employed many foreign advisors between 1990 and 1993. Managers believed that there could be some conflict between existing advisors and consultants that the new partners may bring with them.

8.3.5 Winners & Losers

Most people in the organisation realised that changes were bound to produce winners and losers. High ranking engineers will do well (win), other engineers may well lose out as finance and marketing functions assume a greater importance. There has been no significant decrease in the number of employees since jobs,

though not positions, have been guaranteed. Engineers will not necessarily become losers, since some of them could make better marketing staff than economists due to their familiarity with the technology. It would not be difficult for them to learn marketing theory. Some managers claimed that HTC would be reasonably successful in converting losers to winners. The organisation has been able to help staff to handle losses through training. Managers attempted to keep staff informed of the changes through a weekly three page circular produced by the Information & Public Relations department. However, an opinion poll carried out in August 1993 found that most employees were only fairly satisfied with the amount of information they received about the changes and relied more on external sources such as the media (figures 8.3 and 8.4).

One manager did not agree with the notion of winners and losers, believing that it sounded too much like the Marxism and the class theory that was espoused under communist rule. He believed that there could be "win-win" situations in the longer term. He believed that the winners would be those who were prepared to take risks. Their success would then provide an incentive for others to try to become winners by also taking risks. However, he stressed that the winners should gain in a fair and transparent way in order to provide an incentive for others. Therefore, structures and legislation should be clear and easily understood. This was one of the most optimistic views in the organisation. His views may have been shaped by the fact that he had done quite well out of working hard, which meant that he had little sympathy for those who were not prepared to change and claimed to be losers. He did agree that perceptions about winning and losing were more important than reality, but he did not agree that it was more likely for individuals to adopt a pessimistic outlook during a period of uncertainty. He believed that individuals were more likely to fluctuate between optimism and pessimism during uncertain times. Again, he was probably speaking from his own experience. However, he felt that Hungarians were more prone to be pessimistic due to years of foreign domination.

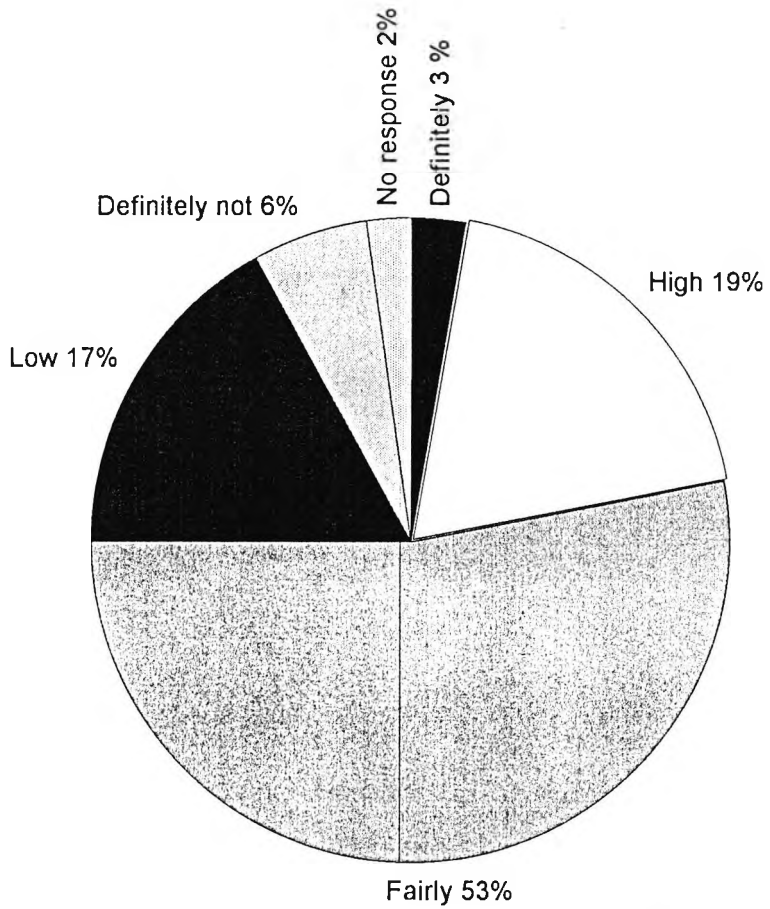

Figure 8.3 - Employee satisfaction with information about the changes

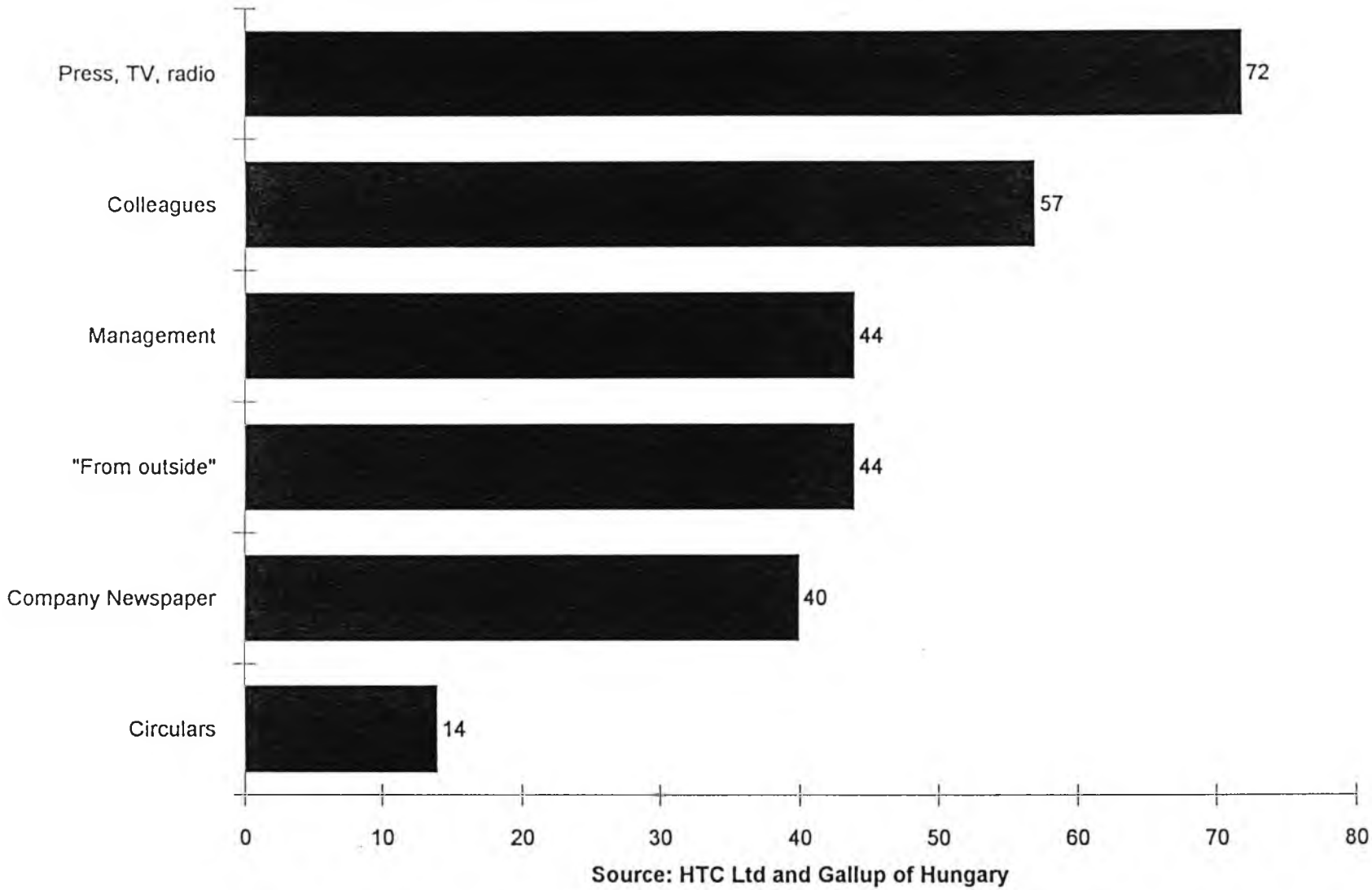

Figure 8.4 - Sources of information on HTC's privatisation

The opinion poll carried out by the Information and Public Relations Department in August 1993 attempted to find out employees's perceptions of the changes in HTC. Employees were asked about the level of information they received about the changes, job security and the effects of privatisation and foreign ownership on their working and private lives. The results are shown in figures 8.5, 8.6, 8.7, 8.8 and 8.9. The polls found that younger people were more optimistic and felt more secure that they would gain under the changes. Women were more pessimistic, perhaps because they made up a larger proportion of administrative and unskilled jobs. University educated individuals were more optimistic than those who had left education after school. Employees in the General Directorate were more optimistic about job security than employees in the regions. It should be noted that these surveys were conducted before the local franchises were awarded, so an opinion poll carried out in April 1994 would probably have shown more pessimism amongst employees in the regions where franchises had been lost. About 80 per cent of staff intended to stay with the company. This may have been due to higher wages that HTC offer and the high unemployment rate. Blue collar workers tended to be more pessimistic about change partly due to their inability to speak English or German. However, the new partners are happy with the skills base since manual staff have been trained to work with digital switches and other new technology. The company has many good management experts and the losers will be people who cannot keep up with the skills base. Similarly, non-English and non-German speaking white collar workers fear for their future.

There will be no losers in terms of layoffs. HTC has pledged to securing jobs, but not particular positions and some employees have been transferred from their old position during reorganisation. However, regional directorates have had to reorganise in those areas where HTC lost the right to provide local telecommunications services. Staff in all regions are uncertain of their future. The directors of regions that have been abolished or lost their licence will expect new positions within HTC. The good managers from these regional directorates should avoid losing out. Staff working for the regions where local areas were lost to competitors will probably lose out. The terms of the local area contracts state that

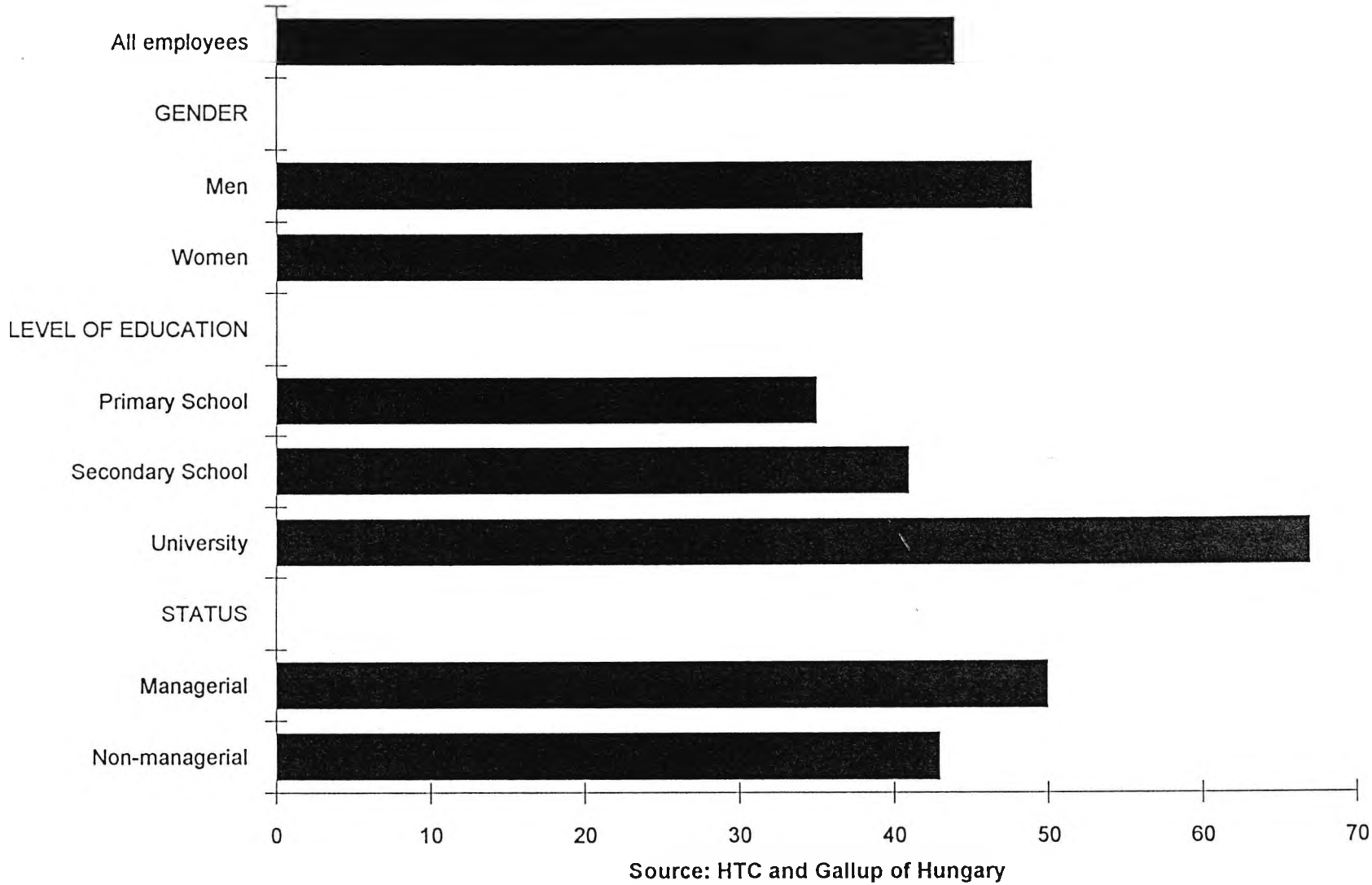

Figure 8.5 - Percentage of staff who believed that their job was safe

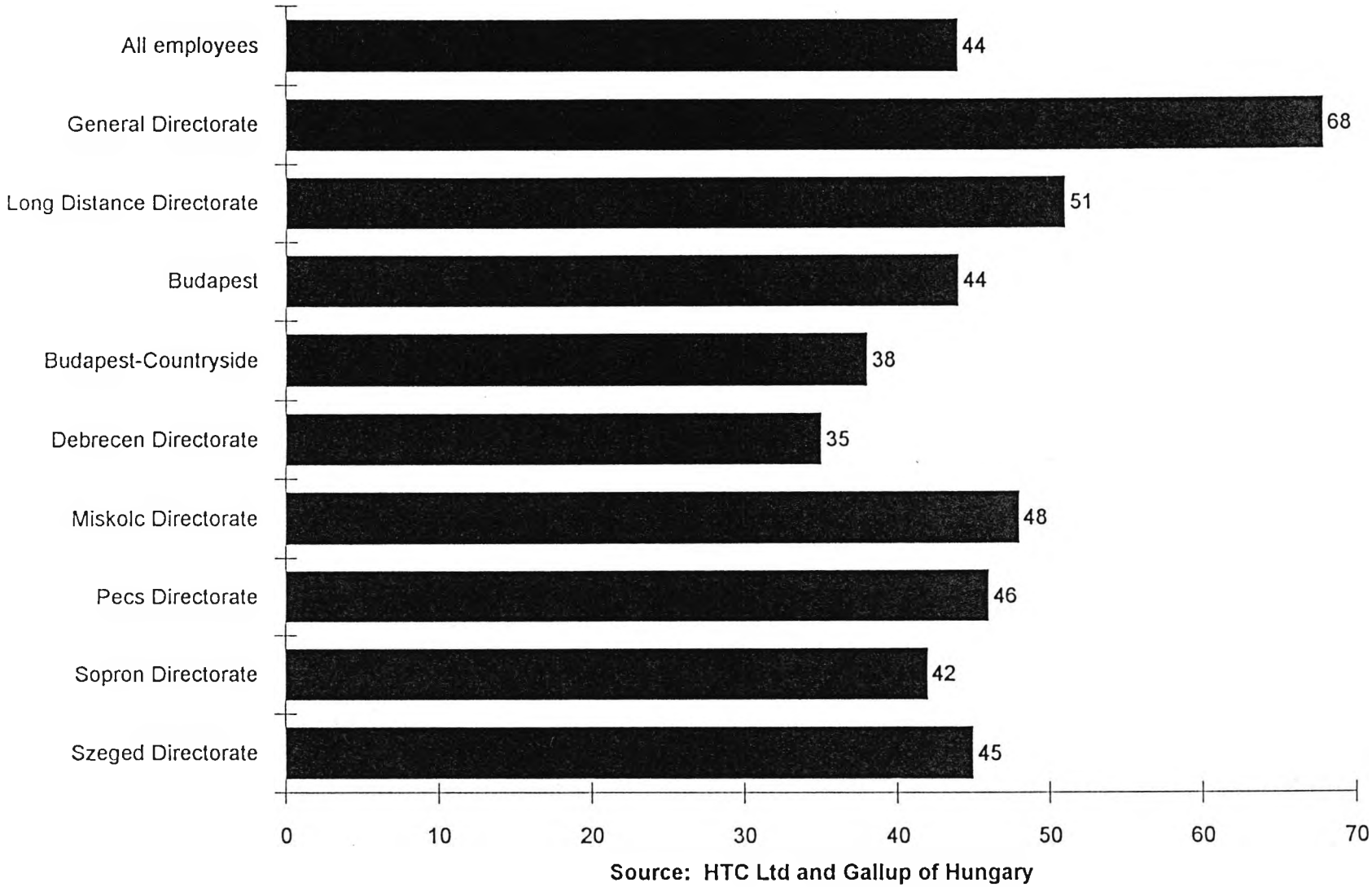

Figure 8.6 - Percentage of employees who believed that their job was safe - by directorate

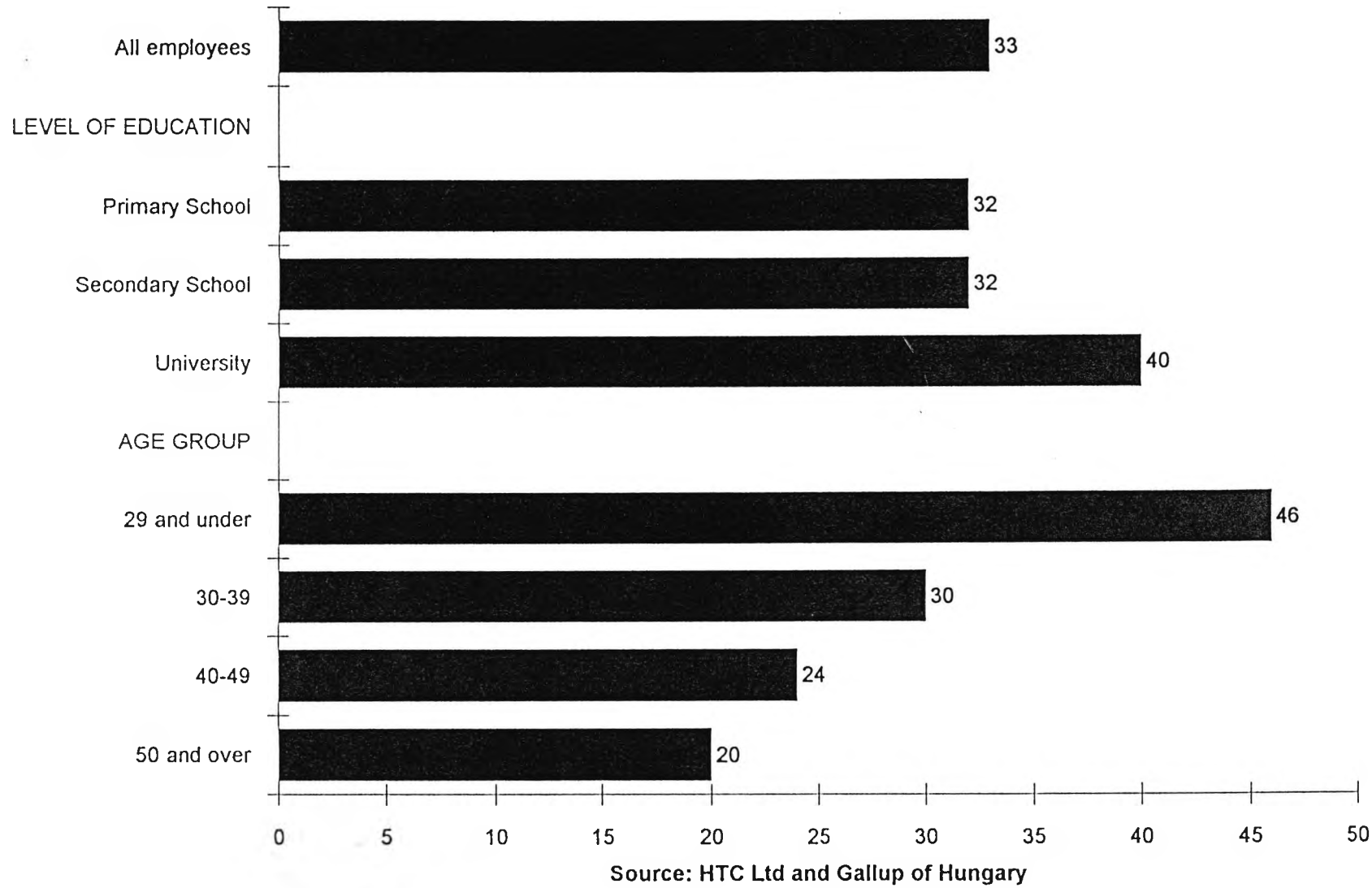

Figure 8.7 - Percentage of employees who would prefer to work for HTC as a privatised company

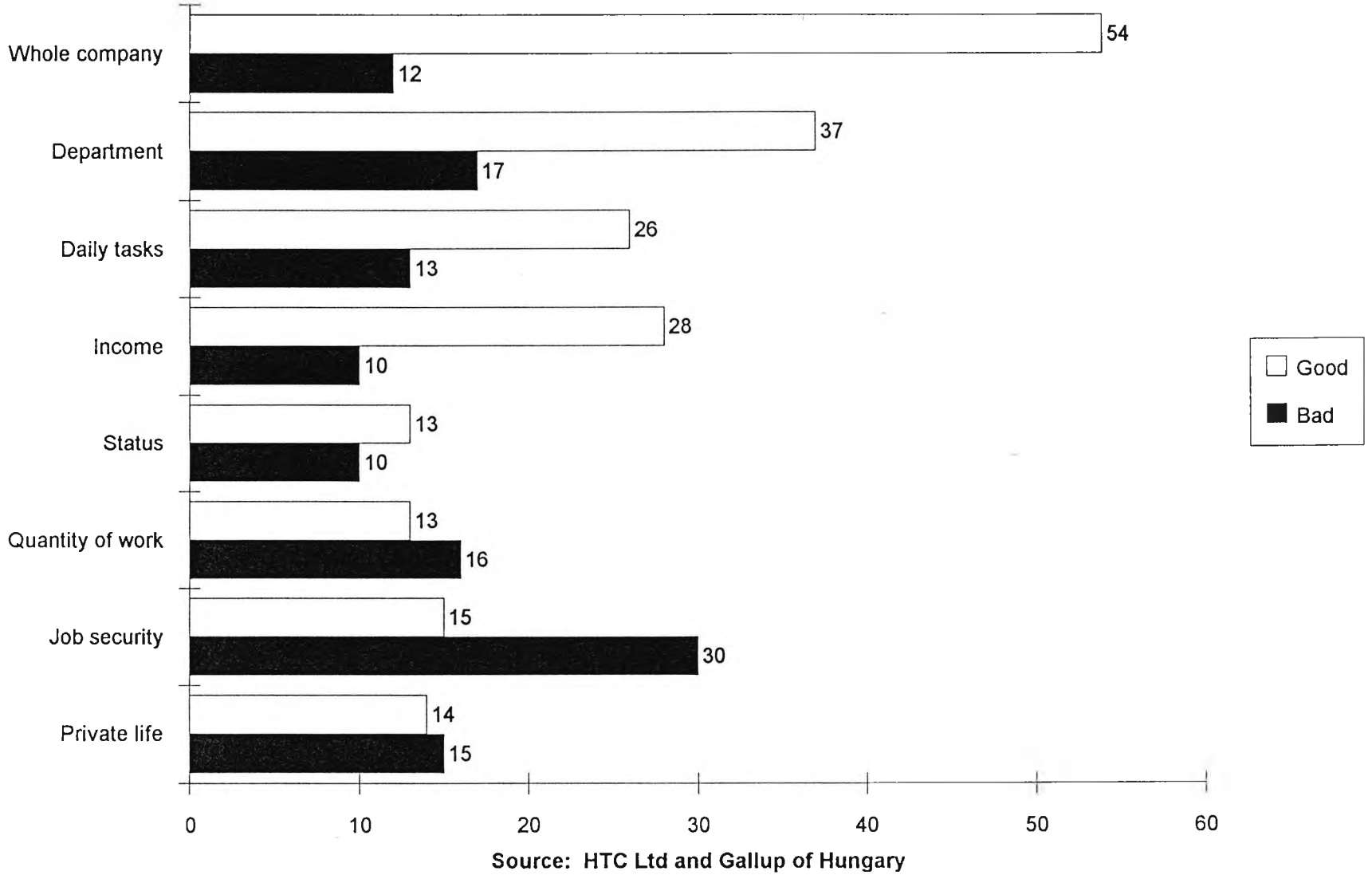

Figure 8.8 - Employees' perceptions of the effects of foreign ownership

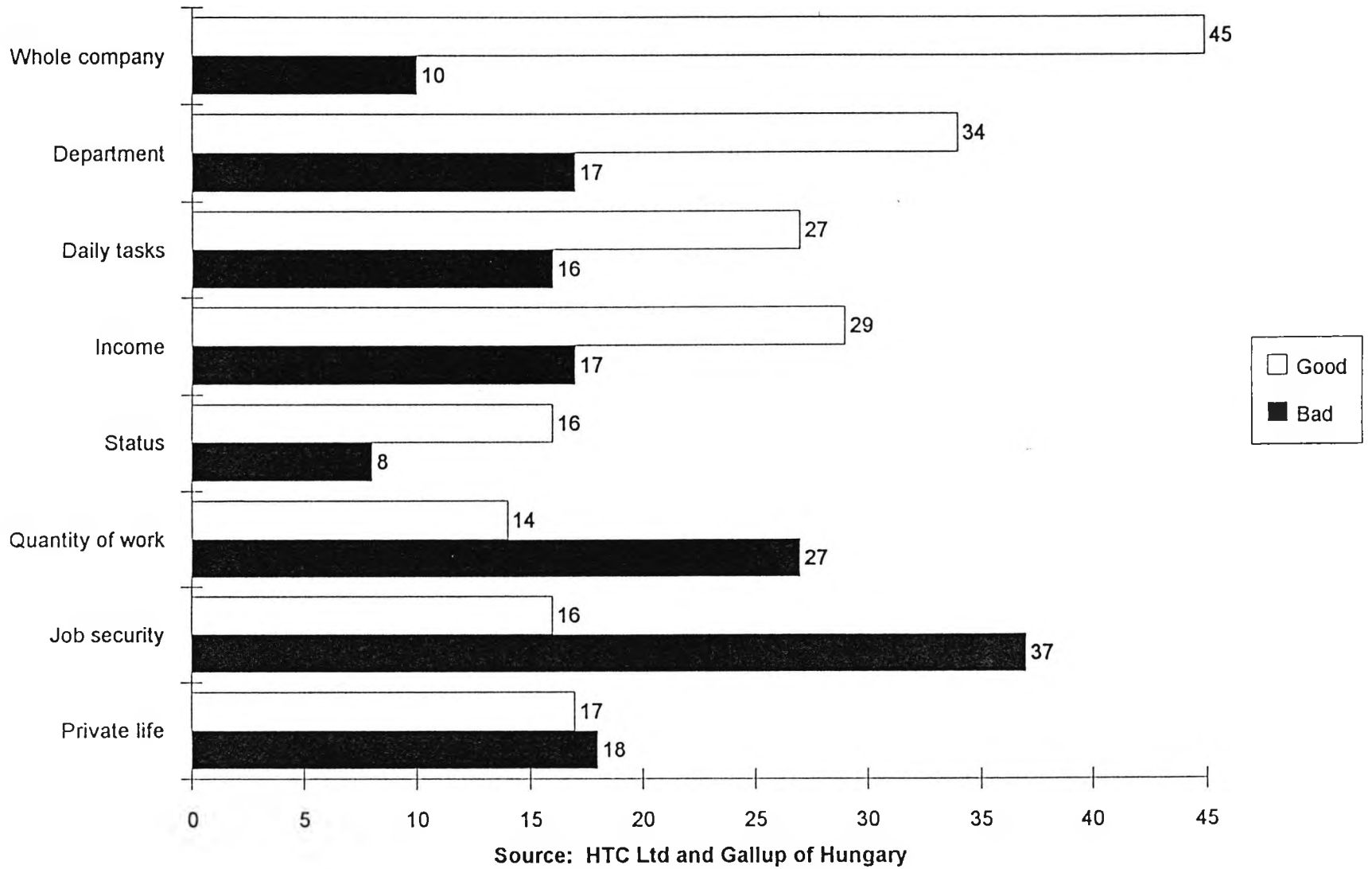

Figure 8.9 - Employees' perceptions of the effects of privatisation

new owners must take on HTC's existing staff in those areas, but they only have to keep them for a year. Some Hungarians are under the impression that private companies pay higher salaries, but local operators work with tighter margins, so the new companies may be less flexible. In order to make a profit, they may reduce social benefits.

In theory, the old style technocrats left over from the former system should become losers at the management level. Some employees wondered how senior managers would deal with the older individuals in the organisation who were responsible for the mess. Most employees would like to see them dismissed, but they were not convinced that this would happen since technocrats are amazingly difficult to remove.

8.4 SUMMARY

It is clear from the framework that during radical change, managers should closely consider issues of contingencies, structures, culture, power, politics, people and uncertainty. It must be stressed that none of these factors should be considered on their own. For example, it is no good changing the structures if organisational culture remains unchanged. This would appear to have been confirmed from the initial application of the framework to the changes in HTC between January 1990 and March 1994.

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CHAPTER NINE

FURTHER APPLICATION AND CRITIQUE OF THE FRAMEWORK

The aim of the framework, as discussed in Chapter Six, is to present a 'toolkit' of conceptual tools for managers to consider during radical change. It is not in any way meant to predict the future or prescribe how problems should be solved. In Chapter Eight, a dialectical framework was constructed and applied to the changes in HTC between January 1990 and March 1994. During interviews conducted in March 1994, HTC employees raised several issues that they felt needed to be resolved to enable HTC to face the challenges of the future. This Chapter uses the dialectic framework, constructed in Chapter Eight, to discuss the factors that should be considered in resolving these management issues. The second half of the of the Chapter provides a critique of the framework, and suggests how the framework could be made more accessible to management theorists and practitioners.

9.1 THE FUTURE

9.1.1 Accountability and Control

Many HTC employees felt that managers were not in total control of the organisation and that greater accountability was needed. Employees were looking for improvements in:

- management control and coordination
- reporting systems in the General Directorate
- management accountability
- financial management and cost control
- efficiency
- corporate planning

The lack of control can be explained with the use of the framework. Social construction, viewed as changes in contingencies, led to contradictions at all levels of the organisation and an increase in uncertainty. During this period of uncertainty, senior managers were left with little choice but to let staff at all levels of the organisation learn about changes in contingencies and introduce changes in praxis where appropriate. In fact, this loss of control will probably prove beneficial in the longer term. It may have led to a loss of control and coordination, but it also made the organisation more 'changeable'. This makes it easier to improve accountability and control, since the organisation has a better understanding of the consequences of changes in contingencies. Staff at all levels realise the need for better financial control, coordination, accountability and efficiency, whereas these factors were not considered to be important before the changes. The fact that the new partners, DBT and Ameritech, control the balance of power within the organisation will lead to an improvement in accountability and control. They have the necessary expertise to ensure that the appropriate structures and people are in place to improve cost control and efficiency. They will attempt to introduce an awareness of the need for financial accountability. This may take a long time to take root across the whole company and may be impossible to achieve across the whole organisation. In the short term, a finance-orientated culture is only needed in the finance departments as long as these departments are given enough power to control costs in the organisation. To ensure that this happens, an Ameritech employee has been appointed as Chief Finance Officer and he will have the full support of the board. It could be argued that reestablishing control, especially financial control, may not be that difficult since this would involve a partial reversion to the former system. In that case, there is a danger that the will to revert to more centralised control may also lead to a tendency to reintroduce other less appealing elements of the former system. The challenge would lie in maintaining the change in culture while at the same time reverting to more centralised control.

9.1.2 General Manager

Employees were concerned with the fact that the organisation was operating without a full-time General Manager. They would like to see a General Manager appointed who is willing and able to take decisions. The last General Manager was very popular, not least because he was prepared to take decisions. This decisiveness has been lost since he was sacked. For this to be possible the new General Manager must be able to cope with uncertainty introduced as a result of changes in contingencies. The role of the new General Manager will be different to that of his or her predecessor, since changes in the organisational structure mean that the new General Manager will now report to the Operating Committee instead of directly to the board of directors. Employees would like to see a new General Manager who is able to stand up to outside political interference and powerful enough to deal with the Operating Committee. However, this assumes that the majority of employees will support the General Manager in any dispute with the Operating Committee. There is no real evidence to support this assumption which even if true would have little effect since the Operating Committee has the power to overrule the General Manager.

9.1.3 Relations with Customers

As contingencies continue to change and network development proceeds customers will be in a position to exercise their power. Many employees felt that HTC should respond to this challenge by:

- seeking to become a more service-friendly organisation
- being prepared to be customer-orientated and marketing-orientated
- making customers more aware of the company's ability to provide value added services over the overlay digital network. This would generate more revenue. If HTC does not advertise it will lose market share to rivals.

Changes in contingencies, such as deregulation and increased competition, will force the company to be more customer-orientated in order to survive. The organisation must ensure that the right structure is in place to become more customer-orientated. A Marketing Department and other departments serving specific customers have been established, but they have yet to be given the resources to ensure that they can carry out their tasks effectively. While demand continues to outpace supply, and the costs of subscribing to the cellular networks exceed that of HTC's charges, HTC need not necessarily become more customer-orientated in providing basic voice telephony. HTC will still hold the balance of power in its relations with the customer due to its monopoly position. However, HTC must prepare itself for the time when it will face full competition and customers will exercise real power. Managers should ensure that a customer-orientated culture by the year 2000, when the company may face competition in all sectors, by continuing to train staff and recruiting personnel more attuned to the new culture. Cultural change takes time, but HTC is fortunate in this respect since it has time on its side. The new partners realise that increased customer power will force the organisation to respond, and they have the power to ensure that the necessary measures are taken.

The current challenge lies in providing value added services to business customers, since they may look to other companies to provide data communications or build their own data networks. Therefore, business customers are in a position of relative power. HTC needs to focus more on data communications since this will become increasingly important in coming years. If HTC does not make business customers aware of its ability to provide value added services, other companies such as computer network suppliers will dominate this valuable market, or companies may move to other countries where superior data communications are provided. A high quality modern telecommunications system could attract financial institutions and commerce to Hungary enabling the country to become the commercial centre in the region. If Hungary is the first country in the region to develop its telecommunications to the required standard, this will give them a competitive advantage in attracting business customers. However, this assumes that

Germany does not intend to market itself as a commercial centre for both western and eastern Europe. DBT's construction of the Trans European Link (TEL), a fibre-optic telecommunications network connecting Poland, Hungary, Czech Republic and Slovakia to Germany, suggests that Germany does see itself as the commercial centre for the region. Since DBT is also a partner of HTC, it may not allow Hungarian telecommunications to divert attention away from the TEL.

9.1.4 Network Development

Some employees believed that HTC was placing too much emphasis on constructing its own modern network as quickly as possible. They felt that the company should:

- continue to maintain old cables until they are replaced by modern links and supply meets demand
- work together with the national railway company (MAV) in order to avoid overlap of the two companies' networks

As long as HTC continues to command a monopoly position, apart from a few wealthy individuals who can afford cellular services, customers have little choice but to subscribe to HTC's network. This means that customers will have to accept whatever service the organisation offers providing that it fulfils the requirements of the concession agreement. In other words, HTC has little incentive to maintain older cables since customers cannot go elsewhere. However, lack of maintenance could lead to a loss of revenue, but the company must calculate whether it is more cost-effective to maintain older cables or to wait until modern lines can be laid. This is a standard problem faced by most organisations updating their equipment.

Developing a partnership with MAV would effectively introduce another stakeholder in HTC's network. Given that many of HTC's staff feel that there has been too much outside interference, another player may not be welcome. Senior managers must consider whether the benefits of cooperating with MAV outweigh

the disadvantages. Possible benefits would include sharing the risk on network development and tying MAV into a relationship which prevents other telecommunications companies forming a partnership with MAV to provide services in competition with HTC once the market is liberalised. Other disadvantages include the difficulty of pulling out of agreements should the relationship turn sour, transfer of technical knowhow to a possible future rival as well as dilution of HTC's power in the telecommunications market. Once again, this is a standard problem faced by any organisation considering entering a commercial partnership.

9.1.5 Employees

Some managers felt that there were still some personnel issues to be resolved. They wanted:

- to make training more proactive rather than merely reactive to the needs of staff and the environment
- to continue to reduce staffing levels to encourage remaining staff to change
- to assess staff

At the moment, HTC are trying to bridge the skills gap by training staff to cope with the leap in technology. Since this leap in technology is a significant change in a contingency for the organisation to deal with, it comes as no surprise that training is seen as reactive. As the organisation learns more about changes in contingencies training will appear to be less reactive. For training to be truly proactive, the organisation must achieve a far greater understanding of contingencies, realise that contingencies are constantly changing and prepare to become a 'changeable' organisation. This is very difficult to achieve in practice, since employees are looking for greater stability after the changes of the last few years. Staff at all levels must realise that with continuous social construction the organisation must continue to change in order to prosper.

The organisation is unable to reduce staffing levels greatly due to the commitment to guarantee employment. If HTC were to shed many jobs, this would generate unfavourable publicity which could force politicians to be seen to be acting in the interests of the people. This could lead to all sorts of power struggles between politicians, regulators and HTC's partners, especially since 70 per cent of HTC is still owned by the state. Even though DBT and Ameritech are in a position of relative strength, they would not want to incur the wrath of politicians and regulators. A reduction in staff levels would require a great deal of prior political activity.

It is highly likely that staff will be assessed in the future. The new partners have enough power to implement this measure.

9.1.6 Politics

There was much political turmoil in the organisation between January 1990 and March 1994 and this will doubtless continue. However, some employees expressed a wish to see:

- the state bodies (AvRt and Ministry) get their houses in order by replacing or retraining incompetent officials. This is vital as a majority of Hungary's GDP is still produced in the state sector
- the organisation rid itself of internal politics

HTC are unable to do much about either of these suggestions. The organisation has little influence over the state bodies and this problem should be seen as a problem with its contingencies that has to be taken into consideration. Similarly, politics is a fact of life in any organisation with which individuals must learn to cope. Individuals and groups use politics to pursue their ideas and to increase their power within the organisation. Politics was discussed in greater detail in Chapter Six.

9.2 CRITIQUE OF THE FRAMEWORK

The framework as presented in figure 8.2 would appear at first sight to be complicated. However, if organisational practitioners were prepared to spend a little time in gaining an understanding of soft systems diagrams (Appendix B), it would soon appear as a simple diagrammatic representation of the conceptual toolkit that was sought in Chapter Six. It contains all the important factors that should be considered during radical change and avoids being prescriptive. However, managers with little free time may prefer a more accessible framework that is immediately comprehendible and requires no understanding of diagramming techniques. Even though soft systems diagrams are very easy to understand, the framework presented in figure 8.2 is not very easy to commit to memory. This should not be a reason for rejecting the framework, but in this age of management gurus and best sellers, managers and MBA students alike often prefer something that they can get a handle on, even if at only a superficial level. This is one reason the 7-S framework has survived for so long. If that is what the customer wants, then this leaves the author with little choice but to comply. A simpler version of the framework is presented below.

9.2.1 The 'ESCAPE' Diagram

In order to present a simpler version of the framework in figure 8.2, the major issues were examined. These were:

- Contingencies
- Structures
- Culture
- Individuals (and groups)
- Power
- Uncertainty

None of these factors on their own were found to be sufficient to analyse radical change and the analysis adopted a holistic view of the organisation in considering them. McKinseys 7-S framework was memorable since it listed the main important concepts using alliteration. Another memory aid is the use of acronyms. If the word 'environment' is used instead of 'contingencies', 'Actors' instead of 'Individuals' and 'Equivocality' instead of 'Uncertainty'. The factors are shown as:

- Environment
- Structures
- Culture
- Actors
- Power
- Equivocality

Taking the first letter of each word spells the word ESCAPE and this should help managers to remember the important factors to consider during radical change. However, one of the tenets of the dialectic approach is the idea of totality. The factors of the ESCAPE diagram should not be considered in isolation using a reductionist view. The factors should be considered together in understanding the analytical framework to analyse radical change. In other words, managers should adopt a holistic view of the organisation in considering the ESCAPE diagram. Therefore, the concepts of Environment, Structures, Culture, Actors, Power and Equivocality are shown as interrelated in a holistic manner, in the diagram presented in figure 9.1. The ESCAPE diagram is not meant to replace the analytical dialectic framework presented in figure 8.2. Ideally, managers should take the time to understand the dialectic framework, but use the ESCAPE diagram as a memory aid. Therefore, the ESCAPE diagram in figure 9.1 is intended to complement the dialectic framework in figure 8.2.

In order to relate the ESCAPE diagram to the analytical framework developed in Chapter Eight, each component should be considered using the concepts discussed throughout this thesis.

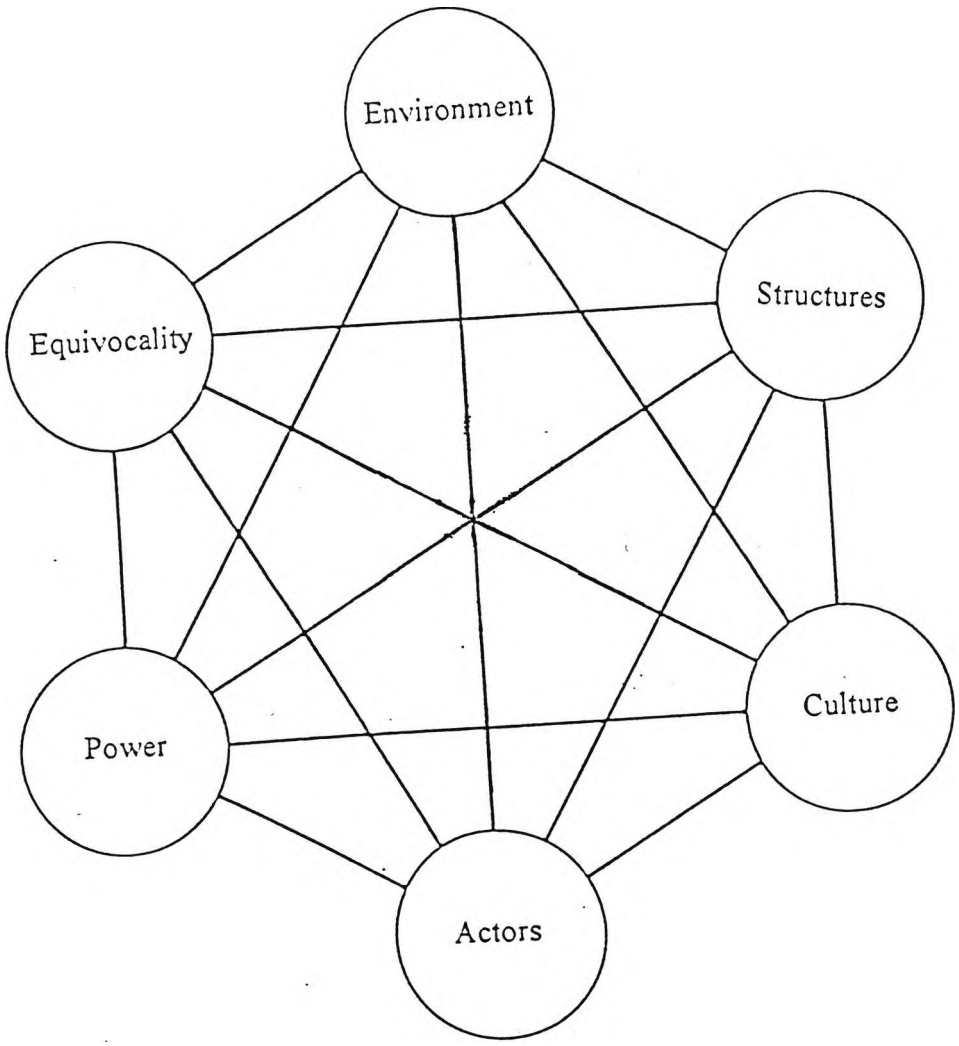

Figure 9.1 - The ESCAPE diagram

9.2.2 Environment

Dialectical theory considers the world as in a constant state of flux or social construction. This is viewed by organisational theorists as changes in environmental factors or contingencies. The environmental factors to consider are political, economic, legal and technological conditions as well as the central value system of society.

9.2.3 Structures

As the environment continues to change, the organisation is forced to adopt strategies for change in order to prevent it losing touch with the realities of its environment. This leads to changes in the organisations structures. However, structural change is not sufficient to cope with environmental changes. The other factors in the ESCAPE diagram need to be considered.

9.2.4 Culture

During the research, it was stressed that changing the culture of the organisation takes longer than changing its structures. Cultural change should be considered at three levels: individual values; group culture; and organisational culture. These are all affected by the central value system of society. The research found that there are probably three main ways to change an organisation's culture:

- **Replacement** of staff in key positions with individuals more attuned to change or the new culture;
- **Retraining** of employees with skills to cope with change and to deal with new job functions;
- **Realisation** by staff that formerly held values are no longer relevant or that change brings benefits.

9.2.5 Actors

Time and again throughout the research the importance of involving people in the change process were stressed. Changing the structures is inadequate if the organisation's actors are not committed to change. This usually involves changing their culture. As with culture, the role of actors should be considered at three levels: the individual, group behaviour and across the whole organisation. This reflects the three main schools of thought found in the existing management of change literature.

9.2.6 Power

Power is difficult to define yet everyone knows it is there. In simple terms, it is the ability to influence others. Power cannot be considered as a commodity which can be quantified. It should be seen more as a bargaining relationship over time within a framework of constraints (Crozier, 1991). Managers have five sources of power; power that comes with their position in the organisation, the power to reward, the power to coerce, expert power and the power that comes with commanding respect and admiration from others (Daft, 1992). Power is usually awarded to those at the top of an organisation due to their formal position, authority to control resources, access to information and position or centrality in the organisation. However, power and authority are not necessarily the same thing. Others lower down in the organisation also have the ability to control information and position themselves in the organisation to gain power.

9.2.7 Equivocality

Changes in the organisation's environment introduces equivocality or uncertainty, and this is compounded by resulting changes in the organisations structures. Employee satisfaction is dependent on an individual's ability to deal with equivocality. Senior managers may not fear change since they were involved in the planning stage and are more certain what change means for their positions within

the organisation. Lower level staff may not be so lucky and their outlook will be clouded by equivocality. However, the ability to cope with equivocality is a source of power. Individuals could use the equivocality introduced by changes to further their own interests and gain power.

9.3 SUMMARY

This Chapter used the dialectic framework for radical change to discuss factors that should be considered in the future. The framework was then analysed and found to be useful for assessing radical change in HTC. However, it suffered from the problem of not being easy to remember. The ESCAPE diagram was devised to act as an aid to memory for the dialectic framework. The ESCAPE diagram could be used on its own as a quick guide to analysing the problems encountered in radical change, but the full dialectic framework should be referred to in order to gain a sufficient level of understanding to manage radical change.

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CHAPTER TEN

CONCLUSION

10.1 THE OBJECTIVES

This Chapter reviews the original objectives laid out in Chapter One and analyses the research in terms of achieving each objective. As stated in Chapter One, it was envisaged that the knowledge gained in achieving each objective would be used as a foundation for developing the next level of research. Conclusions are also made regarding the originality of the research and its contribution to the subject of management of change.

10.1.1 Examination of HTC's Plans

The history of telecommunications in Hungary within the context of Hungarian politics was examined in Chapter Two. The 1992 Telecommunications Law was reviewed in order to gain an understanding of the more liberalised regulatory regime facing HTC. New legislation was passed which allowed privatisation of state entities. After much delay, HTC was finally privatised in December of 1993 when Deutsche Bundepost Telekom of Germany and Ameritech of the United States purchased a 30 per cent stake in the company.

Developments in technology over the last 100 years were examined in order to provide an understanding of the large gap that existed between western and eastern European telecommunications systems at the beginning of the 1990s. One of the reasons for the lag in technology was that Hungary was part of the old eastern bloc and fell under the influence of the Soviet Union. Hungary was unable to import the latest telecommunications technology due to CoCom restrictions which prevented the transfer of high technology to countries allied to the Soviet Union. It was demonstrated that with the availability of modern telecommunications technology such as optical fibres, mobile cellular telephony and digital switching,

HTC was able to leapfrog much of the technology developed over the last forty years. In other words, the company was able to close the gap with more advanced systems in western Europe by replacing obsolete equipment directly with the most modern technology available. In fact, HTC decided to construct a modern overlay fibre optic network from scratch, rather than digging up and replacing older cables.

Once an understanding of the state of Hungarian telecommunications in 1990 had been established, HTC's development plans could then be discussed in Chapter Four. The business plans included preparing for deregulation, market liberalisation and privatisation. HTC decided to focus on meeting the needs of the business community as quickly as possible while developing services for private customers in the less developed and hence less profitable regions. The plans for financing development of the network were also presented. The technical plans included the construction of a national digital overlay network and an increase in line density from under 10 lines per 100 inhabitants to a line density of 14.5 lines per 100 inhabitants by the end of 1993. Manual and the older electromechanical exchanges were to be replaced by modern digital exchanges able to handle greater volumes of traffic and improve the quality of service. In order to undertake such a development and to improve the service the company provided to customers HTC needed to put the appropriate structures in place. The organisational restructures between 1990 and 1993 are briefly discussed and the changes in the organisational chart are shown. In order to achieve successful change, the company realised that it needed to spend a lot of time and effort on developing staff. The Three Year Plan 1991-1993 states:

> "The ability to adapt to market conditions, to create a customer-oriented corporate culture and to implement technical/technological changes is largely dependent on human factors."

HTC's plans for developing personnel and training included plans to increase staff efficiency, measured as the number of customer stations per employee, by between 40 and 70 per cent and a complete reorganisation of the Training Department.

Training was restructured along functional lines and new courses were introduced to enable employees to deal with changes in the technology, the organisation's functions and the relationship between HTC and its customers. Chapter Four concluded with a brief assessment of the results of the 1991-1993 Three Year Plan. On the whole, HTC managed to meet most of the targets it set itself by the end of 1993. The Three Year Plan was seen as a success, but employees realise that they must continue to work hard in order to develop the network and to achieve the quality of service that the company seeks to provide.

10.1.2 Comparison with British Telecom in the 1980s

Once a sufficient understanding of the changes in HTC had been achieved, the next stage was to attempt to analyse the changes in the organisation. In beginning this stage of research, it appeared that the situation facing HTC held some similarities to the changes in British Telecom in the UK in the early 1980s. The UK had led the way in the 1980s in liberalising its telecommunications sector. Since then, telecommunications organisations from all over the world have studied the experiences of British Telecom as a model for adapting to changes in the regulatory regime. Therefore, an analysis of the 'British Telecom model' would appear to provide a reasonable starting point for analysing the changes in HTC.

Chapter Five examined the changes in British Telecom in the 1980s and HTC in the early 1990s within the context of the political environment and the technical environment that both organisations faced. Initially, the liberalisation of the UK telecommunications sector and the privatisation of British Telecom was opposed by a majority of the public. They saw British Telecom's role as operating the basic voice network. The public felt that this was a public service which should not be 'exploited' for profit. By the 1990s, liberalisation and privatisation had come to be seen as a recipe for improving a country's telecommunications system. Despite the pain suffered by many individuals during the economic transition to a more market-orientated economy, a 1992 survey revealed that the majority of public opinion was in favour of selling off state-owned enterprises. The examination of the technical

changes revealed major differences in the level of network development and the technology employed by both organisations. Hungary entered the 1990s with one of the lowest line densities in Europe, with only 8 lines per 100 inhabitants. The UK had a similar figure in the 1950s. By the end of 1990, the line density in Hungary had increased to 9.6 per 100 inhabitants, and at the time of HTC's privatisation in December 1993, a line density of 14.5 lines per 100 had been achieved. The line density in the UK at the time of British Telecom's privatisation, in the 1980s, was 36 lines per 100 inhabitants. At the beginning of the 1990s, the waiting time for a telephone in Hungary was between twelve and thirteen years. This was reduced to three years by the time of HTC's privatisation. The longest waiting time on record at the British Telecom Archives was six months in southern England in the 1950s. It was estimated that if the waiting time in the UK was ever as long as three years, this probably occurred during World War Two. HTC was found to be attempting a leap of between 10 and 50 years in terms of technology, while British Telecom in the 1980s operated almost at the edge of technology.

The differences in technological development probably accounted for the differences in the regulatory regime facing both companies. HTC in the 1990s did not compete in all the sectors that 1980s British Telecom did. The different organisational structures would appear to reflect this difference. HTC also faced a far more sympathetic regulatory regime. In the UK, Mercury Communications were awarded a licence to compete with British Telecom in all sectors. Mercury decided to target the most profitable sectors, i.e. long distance and international traffic. British Telecom continued to enjoy a virtual monopoly in local telecommunications for about ten years until cable television companies decided to compete in this sector. HTC were granted a monopoly on long distance and international voice telephony and was forced to compete for licences in the local telecommunications market. HTC won the tender in 40 out of the 54 local areas. HTC faced no Mercury-style competitor, but it did face competition from the national cellular networks. However, HTC holds a 51 per cent stake in Westel which operated two of the three cellular companies.

On a micro-level, HTC probably faced the same fundamental problem as British Telecom in attempting to put in place the appropriate structures, staffed by the appropriate people in terms of ability, experience and attitude in order to meet customer demand and compete effectively. However, HTC's immediate priority is to develop the network since it will only become truly customer-orientated when supply meets demand and it loses its monopoly in all sectors. British Telecom faced competition in its most profitable markets from Mercury as soon as it was privatised. Therefore, it was found that the experience of British Telecom in the 1980s was insufficient to act as a model for analysing changes in HTC. The main differences were in the externalities facing both organisations. Therefore, a different route of enquiry was needed in order to progress the research. However, it was noted that the importance of environmental factors merited further attention.

10.1.3 Review of literature

The literature on management of change and radical change was examined in Chapter Six in the hope that this might highlight concepts that needed to be considered in constructing the analytical framework. The current management of change literature was classified into three schools of thought: individual perspective; group dynamics; and open systems or contingency theory.

The individual perspective school believed that individuals were the key components in creating and maintaining change. In other words, the needs of individuals had to be met in order to introduce successful change. The commitment of individuals could be gained by sharing information and allowing all staff to participate fully in the change process. This would reduce some employees' resistance to change by increasing satisfaction and gaining commitment, but it would also empower individuals and coalitions opposed to change. The individual perspective school viewed participation and commitment as two sides of the same coin, but if individuals feared a loss of status then no amount of participation would gain their commitment to change. Therefore, some autocracy on the part of managers may be justified during radical change. The individual perspective

school derives from the human relations school of management theory which assumed that organisations consisted of rational individuals. However, this view has been widely criticised. Individuals have been found to display limited rationality since it would be impossible for them to possess perfect knowledge. The notion that change could be introduced successfully, simply by meeting the needs of individuals as rational beings, appeared to be too simplistic a view of the process of change. Furthermore, such a view was simply inadequate for dealing with the radical change facing HTC.

The group dynamics school rejected the idea of viewing the behaviour of individuals in isolation. Since individuals usually work in groups, the behaviour of individuals was seen as a function of group behaviour. An organisation could be viewed as a group of groups, and the dynamics of group formation and behaviour were examined. Groups were found to form around simple ideas that could be understood by even the less intelligent members of that group. The loyalty of individuals to a particular group was examined and it was found that managers sometimes made decisions in the interests of their own group even if this conflicted with the long term welfare of the organisation. It was equally true that the interests of the group may conflict with the interests of the individuals. Therefore, groups could not be considered as static, but as constantly changing, especially since individuals could be members of more than one group. The force field model developed by Lewin (1951) was considered in the context of the relative power of groups driving and resisting change. Change was best achieved by focusing on group behaviour and changing its norms, roles and values. However, the argument that individuals are affected by group behaviour could be extended to suggest that groups should not be considered in isolation. Also, consideration of group dynamics did not yield many helpful insights when attempting to deal with radical change. Therefore, the organisation needed to be considered as a whole.

Contingencies were defined as situational variables on which the structure and operation of an organisation are dependent. The main ones are the environment,

technology and size. Organisations were viewed as open systems interacting with contingencies. The survival of an organisation depended upon its exchanges with contingencies which may impose constraints upon the organisation thereby affecting its structure. The important contingencies to consider were: technological; legal; political; and economic conditions as well as the central value system of society. Organisations, as open systems, react to changes in contingencies by seeking the appropriate structures to achieve a fit with their environment. There is no one best structure for any given environment and any one of a number of alternative structures may be viable in a particular environmental setting. Changes in contingencies introduces uncertainty which causes the organisation to restructure. This causes even more uncertainty for individuals and groups within the organisation. It was suggested that contingencies are driving changes in Hungarian society and policy. Case studies such as the experience of British Telecom (as discussed in Chapter Five) offer little help since the contingencies in the case of British Telecom are very different to those facing HTC. The problem with existing management of change theories is that they only consider changes in organisations in response to particular contingencies, such as such as changes in market conditions. They were found to be inadequate for dealing with the complexity and magnitude of changes in contingencies facing HTC, i.e. where there is a decline in the political order leading to an unstable environment.

The existing literature on radical change was examined next. There was very little literature available on the subject of radical change. Most management of change texts preferred to discuss incremental changes, probably due to the fact that this was considered more relevant to the changes experienced by organisations in the USA, western Europe and Japan, where most of the management theories have been developed. However, the radical change referred to by Burrell and Morgan (1979), and Daft (1992) are inappropriate for the type of radical change facing HTC. In many ways, the type of change facing HTC stretches the definition of 'radical change' way beyond what Burrell and Morgan or Daft could possibly have envisaged when they attempted to describe radical change. Rapid change is occurring at all levels of Hungarian society, and simultaneously in many of the

contingencies facing Hungarian organisations. The ideas of Hardy (1990) on 'turnaround' could be relevant to some organisations in central and eastern Europe, such as the old 'smokestack' industries which must introduce radical change in a very short time or cease to exist. This usually leads to an understanding across the organisation that radical change is needed. Since Hungary must develop a modern telecommunications network, HTC will not be allowed to go out of business and has been protected from competition until the year 2000. Therefore, HTC employees may not be as committed to radical change as employees in an organisation facing the 'do or die' scenario presented by 'turnaround'. Burnes (1992) offers the most relevant concept of radical change which he considers as "a coordinated sequence of incremental changes covering an extended time period ..." Heller (1993) develops on this definition by adding, "... and also covering all (or more than one) levels of organisation and its contingencies."

At this point, the literature search turned to texts on organisational psychology in order to find out more about radical change. Authors such as Halperin (1974), Etzioni (1967), Cyert and March (1963), and Janis and Mann (1977) discuss the politics of opting for incremental rather than radical change, leading to an easier life for managers in the short term, but storing up problems for the longer term. A vital concept that needed to be considered during radical change was the idea of cultural lag. Ogburn (1922) believed that it was easier for managers to change structures than change the organisation's culture. Cultural change tended to lag behind structural change. This is partly due to the uncertainty of the change process which individuals find difficult to deal with. Finally, the notion of winners and losers is discussed. Radical change is more difficult to achieve if the majority of employees believe that they will lose from the change process. This may include managers who fear either a loss of autonomy or conversely an increase in responsibility. Individuals or groups that are viewed by others as winners may in fact view themselves as losers or vice-versa. Individuals and groups must be persuaded that they stand to gain from the change process. Individual and group perceptions matter more than reality.

At the end of Chapter Six, several concepts are highlighted for further consideration in constructing the analytical framework, including: contingencies; structures; culture; uncertainty; power; politics; individuals and groups; and winners and losers.

10.1.4 Construction of theoretical framework

In beginning this stage of the research, it was felt that one of the standard frameworks for change should be considered. The McKinsey's 7-S Framework has become familiar to managers, management students and consultants alike since its inception in 1980. The 7-S framework was shown in Figure 7.1 and discussed at the beginning of Chapter Seven. Its underlying philosophy is that organisations are much more than structure. According to Waterman, Peters and Phillips (1980),

> "[E]ffective organisational change is really the relationship between structure, strategy, systems, style skills, staff and ... superordinate goals."

Each of these components were explained briefly in Section 7.1. The main advantage of the 7-S framework was its simplicity making it easy to understand. Also, it stresses the importance of adopting a holistic view of all seven components and not considering them in a reductionist manner. However, the 7-S framework failed to address adequately the influences of power and culture during the change process. These may have been implied by one or more of the components, but culture and power were considered too important merely to be implied. The importance of structure and culture needs to be made explicit. For this reason, the 7-S framework was considered inadequate for analysing radical change, but the idea of adopting a holistic view needed to be elaborated upon. This led the research to systems thinking.

The roots of systems thinking and the basic conception of a system were discussed in Section 7.2. A general conception of a system was presented in figure 7.2. The

basic tenet of systems thinking is that the whole system is greater than the sum of its parts. Various systems methodologies were considered, but they were found to be either too orientated towards problem solving rather than analysis, or made assumptions about organisations that were clearly not true in the case of HTC. The only systems methodology that warranted further consideration was Total Systems Intervention (TSI) developed by Flood and Jackson (1991a). The first stage of TSI, the creativity phase, examined organisations using a variety of filters known as systems metaphors. The TSI approach believed that organisations could not be understood by the use of one particular metaphor. Instead, the use of a system of systems methodologies was proposed which involved viewing an organisation with the aid of different metaphors to examine various features of the organisation, such as structure, culture, power etc. The main metaphors considered were: machine (closed system); organic (open system); neurocybernetic (viable system view); culture; and political. The second stage, the choice phase, involved choosing a relevant systems based methodology for further analysis with the aid of systems metaphors employed in the creativity phase. However, this phase returned the research to the initial problem, since none of the methodologies offered were considered adequate to construct the analytical framework. Therefore, the third and final stage, the implementation phase, was never reached. This left the research with two options: Firstly, a framework of metaphors could be developed employing a combination of the metaphors presented in the creativity phase. This would probably result in a framework of 'weighted' metaphors where the relevance of the different metaphors would be considered in viewing a particular aspect of the change process. Unfortunately, anyone analysing the framework, other than the person who constructed it, would find it easy to disagree with the weightings afforded to each metaphor. Therefore, such a framework would be too subjective. The second option was to continue the search for a framework. This seemed to be the best way forward.

The next approach considered was chaos theory which rejected the idea, put forward by the open systems school, that an organisation should try to reach a state of equilibrium with its environment. Open systems are considered to use negative

feedback to dampen out the effects of deviations in contingencies in order to return to stability. Chaos theory develops on the idea that organisations as systems also exhibit positive feedback, which introduces instability. The negative feedback prevents the positive feedback from destroying the system. Therefore, stability and instability co-exist in a form of 'bounded instability'. In order to change organisational systems, they should be moved far from equilibrium to operate on the boundary of order and disorder. This is particularly relevant to organisations in central and eastern Europe, where the recent changes have forced organisations into a disequilibrium with contingencies. However, even though chaos theory offered a plausible explanation of events in Hungary at a conceptual level, it did not appear to offer much at a 'real world' level.

Positive and negative feedback in non-linear systems leads to a dialectic between order and disorder. That is, there is a unity and creative tension between opposites. Hegel referred to this as thesis-antithesis-synthesis. Many theories consider stability as the norm, and view the world as moving from stable state to stable state. For example, Kanter (1982) referred to the irony of change requiring stability. This is all very well for a management theorist viewing organisational change in North America, but managers of organisations in central and eastern Europe cannot afford the luxury of stability, however temporary. A more relevant contribution was offered by dialectic thought which considers the world to be in a constant state of flux. As Heraclitus said, "You cannot step into the same river twice for its waters are constantly flowing". A river may appear to be stable following a certain path, but its waters are in a constant state of flux. The changes in HTC may be viewed within the context of a dialectic framework, proposed by Benson (1977). Benson's dialectic approach is based on four tenets; social construction - the world is in a constant state of flux, contradictions - social construction introduces or reveals contradictions at all levels, totality - since contradictions occur at all levels a systems view of the organisation should be adopted, and praxis - contradictions and change affect existing practices and theories. A change in theory may affect existing practice and vice-versa. Benson's dialectic approach appeared to offer many ideas that could be employed in

constructing the analytical framework.

In Chapter Eight, the ideas accumulated in the research were reviewed with the aid of a mindmap. This was presented in figure 8.1. Next the actual framework was constructed using Benson's dialectic approach and the relevant concepts from the literature, identified in Chapter Six. The analytical framework for radical change was presented in the form of a soft systems diagram in figure 8.2, and applied to the changes in HTC between January 1990 and March 1994 using the material contained in Chapters Two, Three and Four and notes from interviews contained in Appendix C. The framework was found to provide a highly plausible explanation of the changes in HTC over the four years. The importance of issues such as contingencies, structures, culture, power, politics, people and uncertainty were emphasised by the application of the analytical framework.

Chapter Nine used the analytical framework constructed in Chapter Eight to discuss several issues of concern that were highlighted by HTC employees during interviews. Once again it was stressed that the aim of the framework was not to predict the future or offer prescriptions for solving problems, but to offer a toolkit of concepts for managers to consider during radical change. The analytical framework was able to suggest how issues of accountability, control, management, customer relations, network development, employee satisfaction and politics could be analysed in aiming to resolve the problems highlighted. Chapter Nine also offered a critique of the analytical framework. The main advantages were that it did not attempt to prescribe solutions, but offered a toolkit to managers during radical change. It appeared to offer a satisfactory explanation of events in HTC between January 1990 and March 1994, and was able to offer guidelines for tackling outstanding management problems. The main disadvantage of the framework was the time needed to understand it and the difficulty of committing it to memory. As a partial solution to this problem, an alternative view of the framework was presented in the form of the ESCAPE (Environment. Structures, Culture, Actors, Power and Equivocality) diagram presented in figure 9.1. The ESCAPE diagram was devised as an aid to memory for the analytical framework

in figure 8.2, and was intended to complement rather than replace the analytical framework.

At this stage of the research, it was considered that all the original objectives of the research, as laid out in Chapter One, had been met.

10.2 AREAS FOR FURTHER RESEARCH

The research was only able to consider a limited number of concepts in constructing the analytical framework. This was due to two reasons that were discussed earlier in the thesis. Firstly, it was impossible to obtain perfect knowledge of the subject of management of change. Secondly, the world is in a constant state of flux and new ideas and concepts are constantly generated. This section considers areas that could be considered for further research on the subject of radical change.

10.2.1 Business Process Re-engineering

Business Process Re-engineering (BPR) has become one of the latest buzzwords in management thinking. Managers from a variety of industries are attending courses on BPR in order to introduce change in their own organisation. Business Process Re-engineering was defined by Hammer (Jenkins, 1994) as:

> "The fundamental rethinking and radical redesign of an entire business system to achieve dramatic improvements in critical measures of performance (cost, quality, capital, service, speed)."

BPR draws on ideas from systems thinking in adopting a holistic view to rebuild (or re-engineer) the organisation and its business processes from scratch. BPR is meant to be implemented within a rigid schedule and in one large step. The concept of BPR has recently been used as a tool for introducing change by several

telecommunications organisations in North America and Europe. BPR appears to encompass many of the concepts considered necessary for radical change during the research contained in this thesis, in the same way that Total Quality Management (TQM) covers many of the ideas found in the literature on incremental change. In other words, BPR could do for radical change what TQM has done for incremental change. Further research could consider BPR in constructing the analytical framework, possibly by re-engineering the analytical framework! BPR is probably more useful for problem solving than as a tool for analysis. However, it could be a useful exercise to attempt to employ BPR as a tool for analysing radical change.

10.2.2 Development of chaos theory

Chaos theory was briefly considered in Chapter Seven. Parker and Stacey (1994) admitted that the full potential of applying chaos theory to management thinking was still not known. Chaos theory was not developed further in this research since it was felt to offer little of use to managers attempting to manage change in an organisation. Further research could attempt to link the conceptual insight to change offered by chaos theory to 'real world' concepts that need to be considered by managers during radical change, such as: contingencies, structures, power, politics, people and uncertainty.

10.2.3 Further application of analytical framework

The concepts that were considered in constructing the analytical framework could be applied to most organisations undergoing change. However, the analytical framework for radical change was only applied to one organisation, HTC, during the research. Also, the research for this thesis may have come to an end, but the changes in HTC and across the wider Hungarian society continue. Further research could consider the relevance of the framework as HTC undergoes yet more change. It might be found that the framework continues to act as a useful tool for analysing changes. Equally, further application of the framework to future

changes facing HTC may reveal fundamental flaws which render the framework irrelevant or in need of comprehensive refinement.

Further research could also attempt to apply the framework to other organisations facing radical change including other companies in central and eastern Europe, China or even post-Apartheid South Africa. The more the framework is tested, the more it could be refined to increase its worth to managers.

10.3 ORIGINALITY OF RESEARCH

The research contained in this thesis makes several original contributions to the field of management theory.

- The research presents probably the first real attempt to analyse the type of radical change that faces organisations across central and eastern Europe. Even though the framework was applied to only one organisation, HTC faces similar contingencies to those faced by other organisations in central and eastern Europe. However, this is not to say that the contingencies faced by HTC are exactly the same as those faced by other organisations across central and eastern Europe.

- The research also presents probably the first in-depth analysis of the privatisation of a public utility in a former communist eastern European country. Moreover, the privatisation of HTC was the largest privatisation in Hungary's history and symbolised a significant break from the Marxist ideology that had come to dominate the country over the forty to fifty years.

- The research analyses the management of technological change in a technology-based organisation attempting to bridge a gap of nearly half a century in terms of technology and technical knowledge. Such a large leap in technology has probably never been attempted, let alone analysed before.

- The research applies the ideas of contingency theory to a situation where many contingencies are changing, some far more rapidly than others, thereby affecting and also effecting change in a large organisation. Contingency theory has probably never been applied to such a complex situation.

- The research develops Benson's ideas on dialectics in the context of organisational theory and applies them to a real organisation. Benson (1994) has admitted that little progress has been made in actually applying dialectics to organisations in the real world. In applying Benson's ideas to HTC, over a four year period, dialectical thought has finally progressed from the disciplines of philosophy and sociology to becoming a tool for managers in the real world.

- The research developed a framework to analyse radical change. Other management of change frameworks have been developed, but only for the purpose of analysing incremental changes. The framework offers the first steps in developing a conceptual toolkit to aid managers of organisations facing radical change.

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APPENDICES

APPENDIX A

European Union decisions on telecommunications

APPENDIX A

EUROPEAN UNION DECISIONS ON TELECOMMUNICATIONS

November 1984	[European] Council Recommendation concerning the implementation of harmonisation in the field of telecommunications.
	Council Recommendation concerning the first phase of opening up access to public telecommunications contracts.
July 1986	Council Directive on the initial stage of the mutual recognition of type approval for telecommunications terminal equipment.
December 1986	EEC Council Decision on standardisation in the field of information technology and telecommunications.
	Council Recommendation on the coordinated introduction of the Integrated Services Digital Network (ISDN).
June 1987	Green Paper on the Development of the Common Market for Telecommunications Services and Equipment.
	Council Directive on the frequency bands to be reserved for the coordinated introduction of public pan-European cellular digital land-based mobile communications in the European Community.
July 1987	Single European Act. Amendment of Treaty of Rome with a view to the completion of the internal market.

April 1988	Establishment of the European Telecommunications Standards Institute (ETSI).
May 1988	[European] Commission Directive on competition in the markets in telecommunications terminal equipment.
December 1989	Identification of the main guidelines for the European Community's telecommunications policy at a Council meeting.
June 1990	Adoption of the framework Council Directive relating to open network provision.
	Commission Directive on competition in the markets for telecommunications services.
September 1990	Proposal for a Council Directive concerning the protection of personal data and privacy in the context of public digital telecommunications networks, in particular the ISDN and public digital mobile networks.
October 1990	Council Directive on the frequency bands designated for the coordinated introduction of pan-European land-based public radio paging in the Community.
November 1990	Green Paper on a common approach in the field of satellite communications in the European Community.
April 1991	Council Directive on the approximation of the laws of the member states concerning telecommunications terminal equipment, including the mutual recognition of their conformity.

March 1991	Judgement of the European Court of Justice concerning competition in the markets in telecommunications terminals equipment.
June 1991	Council Directive on the frequency band to be designated for the coordinated introduction of digital cordless telecommunications (DECT) into the EC.
	Council Decision adopting a specific research and technological development programme in the field of communications technologies.
September 1991	Guidelines on the application of EEC competition rules in the telecommunications sector.
January 1992	Council Resolution on the development of the common market for satellite communications services and equipment.
February 1992	Treaty on European Union signed at Masstricht.
	Proposal for a Council Regulation introducing a declaration of European interest to facilitate the establishment of trans-European networks in the telecommunications domain.
May 1992	Council Decision on the introduction of a standard international telephone access code in the EC.
June 1992	Council Directive on the application of open network provision to leased lines.

Council Resolution on the development of the ISDN in the EC as a European-wide telecommunications infrastructure for 1993 and beyond.

Council Recommendation on the application of open network provision to public packet-switched data services.

Council Recommendation on the application of open network provision to ISDN.

July 1992

Communication from the Commission: The European telecommunications equipment industry. The state of play, issues at stake and proposals for action.

Communication from the Commission: Towards cost orientation and the adjustment of pricing structures. Telecommunications tariffs in the Community.

Proposal for a Council Directive on the mutual recognition of licences and other national authorisations to operate telecommunications services, including the establishment of a Single Community Telecommunications Licence and the establishment of a Community Telecommunications Committee (CTC).

Communication from the Commission: 1992 review of the situation in the telecommunications services sector

Proposal for a Council Resolution on the promotion of Europe-wide cooperation on numbering of telecommunications services including the introduction of a European area code for telephony services with Europe-wide

applications.

August 1992	Proposal for a Council Directive on the application of open network provision (ONP) to voice telephony.
November 1992	Judgement of the European Court of Justice relating to competition in markets for telecommunications services.
March 1993	Proposal for a Council Directive on the mutual recognition of licences and other national authorisations for the provision of satellite network services and/or satellite communications services.
June 1993	Council Resolution on the review of the situation in the telecommunications sector and the need for further development.

Source: **Directorate-General for Telecommunications, Information Market and Exploitation of Research (DGXIII) Commission of the European Communities.**

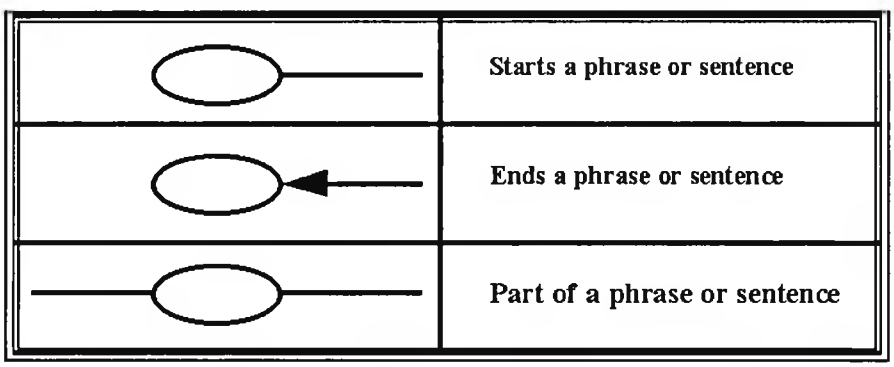
APPENDIX B

Explanation of soft systems diagrams

APPENDIX B

SOFT SYSTEMS DIAGRAMS

Soft systems diagrams were first proposed by Checkland (1979). They consist of sentences broken down into phrases. The phrases constitute either the beginning, middle or end of one or more sentences. The conventions for soft systems diagrams are shown below:



An important point to bear in mind is that any soft systems diagram represents only one of many possible interpretations of the relationships between the elements of the system. Ideally, different soft systems diagrams should be constructed to represent different views of the system. Unfortunately, this was not possible during the research since HTC employees did not have the time to spare drawing diagrams.

APPENDIX C

Interviews with
HTC employees

INTERVIEW ONE:

Structural changes: In about six months time it is expected that foreign shareholders (Deutsch Bundepost Telekom (DBT) and Ameritech) will have completed their initial investigation into the organisation of HTC, and will preside over a re-organisation.

Recent changes in the organisation's structure have seen the setting up of an operating committee (OC) that sits between the board of directors and the General Manager. This consists of 2 HTC employees, 1 Ameritech appointee and 1 DBT appointee. The 2 HTC employees are not appointed by position, but by name. Also, the position of Chief Technical Officer is now held by a DBT employee and the Chief Finance Officer is an Ameritech employee.

The Marketing Department has been split into Service Management and Customer Management. Two new departments have been added: Key Customers and Large Customers.

The future of regional directors and their directorates is uncertain. [Obviously, those regions which lost a substantial area to local competitors will need to re-organise, and staff will face changes]. The general directorate and the HQ is preparing itself for a time of re-positioning [of strategy and personnel].

Cultural change: HTC's efforts to inject a more market-oriented culture into the organisation have not met initial expectations [cultural lag]. People are being trained in marketing and to cope with change, but it also needs senior managers to talk to staff and convince them of the merits of change. Managers attempted to do this during 1990-92 and with some success. However, during the last year managers have been busy preparing for privatisation, and have neglected lower level staff spending less time informing them about the changes.

Politics: AvRt forced out Mr Horvath from his position as General Manager. Mr Janos Lang is currently the Acting General Manager. It is unlikely that he will be fully appointed to the job of General Manager for political reasons (AvRt political interference). The AvRt is the State Holding Company responsible for the government's shares in stock-holding companies. AvRt owns about 70% of HTC.

Winners/Losers: High ranking engineers will do well (win), other engineers may well lose out. However, jobs with HTC are guaranteed, but not positions.

Mr Krupanics (the ex-Executive Vice President) realised that the organisation required the right people in the right position. [The interviewee implied that this was somewhat lost since his departure & due to opposition from potential losers]

Restructuring: The responsibility for tariffs was moved from Engineering to Marketing as the organisation sought to become more market-oriented. They soon realised that marketing staff were unable to understand the regulation, so tariffs was moved to Finance. This is not the end of the story and it will probably be moved again. Also, development planning moved from the Capital Expenditure department to the PKI research institute.

[Good: HTC is re-structuring as it becomes a more open system and learns more about its environment]

Areas for improvement: HTC should:

- become more marketing oriented
- look at its development policy (and try to accurately calculate its profitability)
- improve control of the organisation which should change as development increases and subscribers increase

INTERVIEW TWO:

Politics: The Privatisation Secretariat played a sort of power game by ensuring that the interests of HTC's managers were maintained after privatisation, by asking what-if questions [AvRt vs. HTC] The PS helps management to develop a strategy representing the interests of the owners (AvRt). The tender was developed by the AvRt. The constraints of HTC was communicated to potential investors during their visits of information gathering. They were indirectly informed of existing plans and constraints e.g. documents on HTC's plans. However, the Privatisation Secretariat had little impact on the culture due to the politics. The privatisation process was very time-consuming. It started two years ago and ended in December 1993. During this time, the Privatisation Secretariat aimed to ensure that HTC's development programs were compatible with the privatisation process.

Cultural change: It was difficult to make the company understand that it should adapt and become more marketing oriented. The interviewee tried, but this involved too many conflicts partly because he was an outsider. However, he has now fulfilled his main objectives and may well leave HTC soon. Cultural change should involve renewing staff. There has not been enough of this (the interviewee is one of the few new members of staff). The changes in the political and social environment has introduced uncertainty about HTC. However, the environment is not organised enough to influence HTC. Staff also need to be re-educated by training. In practice not everyone who is re-trained has the ability to use their new skills. HTC staff were re-trained, but the skills they were taught were not necessarily relevant to their existing or future job. There should have been better coordination between training and the job structures. He is in favour of more 'learning by doing'. It is better to have the new and old cultures co-existing during a transition, than trying to impose a new culture [and ignore the old]. He felt that internal trainers are better than external trainers. Also, change agents are preferable to trainers.

The main problem with cultural change in HTC is that everyone knows the theory, but few know how to apply it to the situation in hand. Managers can read books, but this is not enough. Managers have to learn the art of management by 'doing'.

Structural change: The changes have begun, but are proceeding on a functional basis. They are being implemented by middle-level managers and are not well coordinated. Managers have also failed to realise that there must be a move to multi-functional groups or departments. Some functions will only be carried out effectively if they are split across departments.

Winners/Losers: The interviewee is not in favour of this strand of thinking. He believes that it is too much like Marxism and class theory. There are win-win situations. Change takes a long time and winners are those prepared to take risks, who then provide an incentive for others to try to become winners by also taking risks. [The interviewee is a winner and has little sympathy for losers. He does not see why everyone cannot be winners]. To provide an incentive for others, winners must win in a transparent way. Therefore, clear structures and legislation is needed.

He agreed that perceptions about winning/losing were more important than reality. He did not agree that during uncertainty individuals were more likely to adopt a pessimistic outlook. They were more likely to fluctuate between optimism and pessimism. The Hungarians have a built in pessimism due to years of foreign occupation.

Engineers will not necessarily become losers, since some of them could be better marketing staff than economists, since they understand the product. It is not difficult for them to learn marketing theory.

Areas for improvement: HTC should:

- develop a more comprehensive response to environmental change. Better control and coordination internally and horizontally is needed.
- not necessarily seek more change, but change in a consolidated fashion.

INTERVIEW THREE:

Structural changes: The financial and operational control functions will become more separated when a new structure is introduced in 6 to 12 months time. The structure will be more centralised than at present, especially the financial functions. HTC has probably not developed the best structure to cope with its environment, but it tried. It has restructured about 5 times in the last 3 years [but could it really have done any better given the uncertainty of the environment. The interviewee thinks so, but HTC was constrained by politics]. There will be more change as the banks (including the World Bank, European Investment Bank and European Bank for Reconstruction and Development) and the new owners push for it.

The interviewee agrees with more changes since HTC will become more commercial and marketing-oriented. The privatisation allows HTC to maintain growth of the network at about 15 per cent per annum.

The three year plan: This was very successful:

1. Before 1990 there were 20,000 lines being connected a year. By 1992 150,000 lines approx. were connected.
2. Quality has improved as analogue switches have been replaced by digital ones.
3. Finance is playing a more important role in the organisation. The old Hungarian PTT only used internal resources or state subsidies to finance the network. During 1991-93 HTC used other sources such as loans (WB, EIB, EBRD) and money from the capital markets.
4. The telecoms function is no longer state-controlled, but a holding company. Some subsidiaries have become more independent of HTC and the state.
5. In the past there was no strategic planning. There were 5 year plans, but these were [Communist] party programmes and not strategic.

Cultural change: The attitudes of management can be changed by contingencies. Hungarians tend to think about people and not structures. One problem is that only 1 manager has been sacked while the overall number in the General Directorate has risen from 30 to about 60. The interviewee believes that it is easy to change the culture and values. Hungarians are exposed to English and American television. WB experts believe that the culture in Hungary is easy to change due to its proximity to the EU, leading to more change across Hungarian organisations.

Winners/Losers: Some blue collar workers are afraid of change, their inability to speak English or German and of losing their jobs. However, their skill levels are good enough for the new owners e.g. they can handle digital switches and other new technology. Similarly, non-English and non-German speaking white collar workers fear for their future.

Recently, HTC lost 20 per cent of the local area concessions. Workers in these areas are uncertain of their future. HTC's regional directorates will have to re-organise (affecting HTC's structure). The contracts state that new owners must take on existing staff, but they only have to keep them for a year. To make a profit local companies may reduce social benefits.

Privatisation: The interviewee believes that it could be argued that the privatisation was not totally successful from the government's point of view. The 30% stake was sold for $875 million, which represents an approx. $400 million increase in the value of HTC. The balance going to the government. However, HTC earns revenue of $700 million a year and pays VAT of 10%. The usual value of VAT is 25%. The government could increase revenue by $100 million p.a. approx. if it brought HTC's VAT liability in line with the standard rate. The government had no idea about the value of HTC. [With less government control, the government's 75% stake in HTC will bring in more revenue than if it had kept its stake. Therefore, it was not necessarily a bad deal]

HTC was happy since it has the funds to increase development without raising tariffs (which have been carefully controlled by the regulators).

Areas for improvement: Hungary could become a commercial centre in the region by providing good telecoms services especially for banking. HTC should focus more on data communications since this will become increasingly important in coming years. HTC only speaks of basic telephony at the moment. Companies need more than basic voice services. If HTC do not provide this service other companies such as computer network companies will take this valuable market, or companies may move to other countries where decent data communications are provided.

INTERVIEW FOUR:

Structural change: Training in HTC used to be organised at three levels: management training, telecommunications training and regional training. In April 1993, training was consolidated into one organisation, divided along functional lines and including many new courses to meet the demands of the environment. A joint venture training company, CITCOM, was set up with FRANCE TELECOM.

The training programme has adapted to continual changes in contingencies. Emphasis has been placed on subjects such as marketing, financial management and cost control in response to the new commercial environment. Training has also adapted to feedback from participants in order to make it as relevant as possible. Training needs are discussed with senior managers and staff are questioned on the effectiveness of the training they receive when they return to their jobs.

Trainers were recruited from outside the organisation including university lecturers and freelance teachers. Trainers were recruited and trained (under a train the trainer programme) in order to provide management training. Courses contain about 40% theory and 60% practical content. The need for training has been recognised by managers and it is provided for all levels of management. However, managers have a limited time to attend training courses since they have to cope with and manage constant change. Therefore, training was made more effective through initiatives such as distance learning and self learning.

Training has been geared towards targeted groups and high flyers. About 1,500 managers and high flyers are undergoing a management training program developed to fit HTC's corporate strategy. It is intended to:

- make staff at all levels identify with the HTC's objectives
- manage and develop human resources
- contribute towards the dissemination of corporate culture

- make the organisation more customer-oriented
- allow management to adapt to quick changes
- provide 'modern' managers

Training in HTC has very close links with universities and schools. HTC is legally bound to contribute towards curricula and to provide financial support. The re-organisation of training was part of the overall changes in HTC. Managers tried to create a structure according to organisational processes. Consultants involved in the overall reorganisation looked at the training function and asked for the input of trainers in their assessment.

Cultural change: The interviewee believes that it takes time to change an organisation's culture. HTC's managers are willing to change since everything in the environment and within the organisation is changing. However, it is very difficult to know exactly what to change in the organisation [in response to environmental change].

Areas for improvement: In the past training has been reactive to the needs of staff and the environment. It needs to be more proactive.

INTERVIEW FIVE:

Structural change: The first major act in the process of change was to replace the former management with younger personnel. In other words, management in the General Directorate was renewed. With hindsight it would have been better to build the new organisation (HTC) from scratch, and they had the power to do so. However, in practice they were unable to do so because of the regional directorates. The heads of directorates posts were advertised publicly, but since the former PTT had a bad reputation few people applied for these posts. New directors were appointed in only two cases, and even they were badly chosen. The majority of directors retained their posts. It would have been better to headhunt for heads of directorates. As a result change in the general directorate progressed much faster. HTC used to have a four level organisation consisting of the HQ, regional directorates, county offices and 56 primary regions. There was no real need for county offices and this level of the organisation has been removed, thereby improving administration.

Structural change in the face of uncertainty led to a loss of control. In a Budapest region, managers were found selling lines on the black market. Lack of force and time and hence intelligence gathering allowed this practice to continue until it was discovered. However, HTC has managed to maintain discipline on the whole.

More people want telephones than can actually afford them. Hungary has been getting poorer in recent years (according to figures for its GDP). It is difficult to select particular customers. Therefore, HTC has selected regions to develop. Marketing is part of Investment Planning. It is easy to make more costly mistakes since it controls more money. There could have been more professional control in the regions where a lot of money has been invested.

Cultural change: HTC has tackled this in the following ways:

1. Measuring the level of customer satisfaction. Directors' bonuses are now linked to customer satisfaction, which should drive changes in the organisation. Before, HTC used to decide upon which parameters it should measure. It has now started to ask customers.
2. Training
3. Re-organising where necessary. HTC established the Commercial Directorate in 1990 since it realised a need for marketing and sales functions. This became obsolete as it learned more about its environment and became more responsive to customers' needs. Now it has a services division which targets services to groups of customers: key business users and mass telephone users.

In order to improve customer service HTC has set up 100 customer offices where customers can actually meet HTC staff, who have been trained to be polite to customers, in civilised conditions. Unfortunately, it doesn't matter how well trained the staff are at the end of the day they usually have to say no to customers since HTC is as yet unable to deliver the service they require. This should disappear with increased development of the network. Some customers understand this and would like to know when they can have a phone installed. A major achievement of HTC has been the reduction of the waiting time from 12-13 years in 1990 to 3 years today. In about three years time this should come down to 6 months. In contrast, Budapest business customers only wait 1 week to be connected to the wireless services.

Soon after liberalisation of equipment many products appeared on the market. HTC hopes to mount an aggressive campaign to sell HTC approved handsets. Directorates allowed too many types of handset to be sold. HTC will issue a tender to standardise equipment in order to reduce the large number of complaints that HTC receive from customers who have bought cheap far-eastern imports.

Power: During the separation of the old PTT and the split between regulation and operation, HTC was able to gain power from the state administration due to the ability of new younger managers. HTC's management was too good for the weak state administrators. The Minister allowed HTC's managers to do as they pleased. This autonomy lasted for about two to three years. The new Minister wants to exert his authority in the run up to elections in May. The AvRt which took over ownership of HTC's shares from the SPA is locked in conflict with the Minister. He has pledged to reduce the salaries and severance pay for top managers. However, the interviewee feels that if the welfare of managers and their families is dependent on the government, then they will refrain from making difficult decisions. Therefore, HTC needs the independence to set its own financial terms. [Perhaps more bad decisions may be made if managers realise they will receive a handsome payoff for bad decisions]. The new owners were shocked by the political turmoil surrounding HTC. Managers and owners interests coincide, but the new owners will try to sell advice not all of which will be needed by HTC.

In some cases the customer has gained more power over the organisation. For example, some customers refuse to pay their bills since they feel they are too high due to a billing mistake. Under the new telecommunications law, the burden of proof is on HTC. However, HTC does not have the technology to prove that these calls originated from the customer's phone. This makes HTC more reactive.

Areas for improvement:

General:

The state bodies (AvRt and Ministry) needs to get its house in order and replace or retrain bad officials. This is vital as a majority of GDP is still produced in the state sector.

HTC should:

- increase efficiency
- introduce cost control

- improve accountability
- continue to reduce staffing levels to encourage remaining staff to change
- assess staff

With these the new owners will be looking to increase profit. This could lead to a conflict with re-investment

INTERVIEW SIX:

Investment: Since there was a lot of pressure on HTC's management to develop the network, there was not enough time to set out a comprehensive plan for gaining additional capital. In looking to finance regional development the following points had to be considered:

- The amount of money available
- The effectiveness and efficiency of spending the money
- The need to assess the rate of return

Last year [1993] 30-40 billion HUF were spent on development. This year [1994] 50 billion HUF will be spent.

Conflict: Conflict with the regional directorates was avoided by bringing issues out into the open and discussing them. The final responsibility rested with the regional directorate.

Cultural Change: HTC has encountered lots of resistance from staff at all levels in trying to achieve a new way of thinking. This has sometimes involved giving in to compromises. This affected decision-making when earlier decisions had to be revisited and signed off before progressing to where discussions had begun. However, there has been some success in changing peoples' views.

HTC cannot be totally customer oriented until the network is developed [up to the point where supply meets demand]. There are still 700,000 people on the waiting list for a telephone.

Structural change: There have been problems due to changing structure, management and staff at all levels. Overall, the results have not been bad in that HTC has almost achieved what was possible. There was more potential for further structural changes, but these were held back by culture and values. The new

owners have introduced uncertainty by delaying further changes while they take time to learn about HTC.

Winners/Losers: In theory the [old style] technocrats should become losers at the management level. [Technocrats are amazingly resilient - look at European Commission]. There will also be losers in those regional directorates where HTC lost most of its local areas to competitors.

Areas for improvement:

- better cost information (what costs what?)
- better cost control
- need to become a more service-friendly organisation

INTERVIEW SEVEN:

Perceptions: In August 1993 HTC and Gallup carried out an opinion poll about staff's perceptions of HTC.

- younger people were more optimistic and felt more secure.
- Women were more pessimistic perhaps since they carry out more administrative and unskilled jobs.
- 80 per cent of staff would like to stay with the company [due to higher wages and high unemployment rate].

Staff receive a three page weekly to keep them informed of changes.

Surveys on customer opinion have also been conducted. Since 1990, a sample of (about 5000) subscribers have been surveyed every quarter:

- most complaints about quality of lines and downtime
- however, 45 per cent say that the service has improved

Street surveys are carried out to garner opinion on public payphones.

The most common complaint from the public concerns the waiting time to have a telephone installed.

The new owners have shown an interest in the results of the polls.

INTERVIEW EIGHT:

Changes in society: The interviewee welcomed the recent political changes . However, the new government was full of amateurs. This was because the old guard had kept people from positions of leadership. Suddenly, they were removed and the younger generation who lacked experience gained power.

Politics: The former General Manager, Pal Horvath, was removed for political reasons. He was a good General Manager since he had gained an experience of leadership in the old telegraph office. Lower level staff were not as successful in coping with the changes. The Minister read in the press that people were not happy and this gave him an excuse to exert his influence. The vacancy will probably remain open until after the election [which the MDF will lose] when the current minister can put in a claim for the position.

Power: Since HTC appointees are in a position of relative weakness on the OC [Ameritech/DBT have the casting vote], HTC needs a strong General Manager. In the future, the OC will leave the relatively minor decisions to the General Manager. Therefore, he should also be able to stand up to the German CTO and American CFO.

Winners/Losers: Poorer and less educated people lost out from the changes. The living standard for the poorest 2 to 3 million dropped by 40-50 per cent. To be a winner it helps to be a friend/relative/contact of the Prime Minister or other politicians.

Staff working for the regions where local areas were lost to competitors will probably lose out [Szeged and Sopron]. The good managers from these regional directorates should avoid losing out. The interviewee believes that HTC is reasonably successful in converting losers to winners.

Local Areas: The interviewee sees three scenarios for the companies that have been awarded local area licences. They will:

- o be unable to afford investment for development and will invite HTC to take part
- o try to sell out to HTC after 2 years of losses
- o invest heavily to position themselves as major rivals to HTC once the markets for long distance and international traffic are liberalised

Future: The priority for HTC must be the development of the infrastructure. Until this is achieved the company will not necessarily become market/customer-oriented. Better customer service will not hide the fact that customers have to wait years for a telephone.

Areas for improvement: HTC should:

- o continue to maintain its old cables until they are replaced by modern links and supply meets demand
- o make the public more aware of the services it could provide to generate more revenue. For example, the overlay digital network could provide many values added services that businesses are not aware of. If HTC does not advertise it will lose market share to rivals
- o avoid overlap with the railways (MAV) network. They should work together

INTERVIEW NINE:

Investel: Investel is the independent subsidiary of HTC responsible for providing treasury services (financing) to HTC and other companies. It is 75 per cent owned by HTC, 20 per cent by Telecom Eirean's Investment subsidiary and 5 per cent by Hungarian banks. Investel consists of three divisions: foreign funding, domestic funding and financial control. It is also responsible for project evaluation.

The position of Investel is subject to future organisational changes. Even if there are no changes the function of Investel will change. The new owners and management will take a more commercial and financial-oriented approach. The value of Irish knowhow will decline. Investel will still have a role in evaluating major projects, which is a complex task looking at financial, technical and commercial aspects. There will also be a need for investment functions in the regions. A region in southern Hungary has already sent staff to with Investel on projects.

An example: This example gives an idea of the type of investment that Investel has to finance. In one underdeveloped region of 67,000 people, the number of lines must be increased from the current number, 3,500, to 25,000 in 18 months time. Digital exchanges will replace manual exchanges. The current copper wire network will be negated by installation of optical fibre. There are very few microwave units. Staff efficiency will be increased from 8 to 10 employees per line to 3 per 1000 lines.

To achieve these changes staff must be either replaced or retrained. The digital network will require a higher skill level. Investment in the network will change the region in commercial terms [more attractive to companies, skilled staff, secondary development, information for market economy etc.]

Structural change: The Sopron regional directorate used to be responsible for 9 areas, but it lost 6 licences in March 1994. Staff will be transferred to new local

telephone companies, which must employ them for at least one year. This has led to two 'pressure points' [points of contention]: the regional directors will expect new positions within HTC and the new local operator must maintain the existing staff. Only those areas where subscribers had complained about the service were put out to tender. Therefore, the licence was put out to tender in 25 out of the 54 local areas.

The first changes announced were the establishment of marketing and customer relations. They considered themselves as independent from the rest of HTC (companies within a company), partly because their tasks were not clarified. This was the so-called modern organisation. [the interviewee is a bit of a sceptic]. No real objectives were set [maybe the objective was to not be like the old organisation!]. Further changes will not be along classical German lines [dictatorial and efficient?].

Privatisation was a long process which lasted 2 years. Privatisation will lead to objectives being set. The interviewee believed that performance improves if structures are set [and not flexible]. The commercial side of HTC should change while the technical side is alright as it is. After privatisation everything should fall into place.

The DBT has 20 books of technical standards and procedures which all engineers and network managers have in their office. Every changes leads to updates being added to these books. In HTC, the engineers wanted to establish a similar system, but only got as far as producing the book covers [metaphorically speaking]. Hungary is a small country where the regions feel more independent and discipline may be lacking. HTC's managers must think over the logic of the changes. The organisation cannot change without structural changes. HTC must also take account of major political changes.

Cultural change: After 1992, the organisation changed a lot. In the past people were happy with the status quo. All decision making occurred at the top of the

organisation. Since 1990, the organisation has undergone change every year. This coincided with the older elite handing power over to the younger generation (35-40 years old). The younger people at all levels of the organisation were happy to see changes, but by the second year results were not always positive. For example, the number of lines had not increased. It is normal for people to be wary of transition. The interviewee admitted that he did not like changes himself.

Areas for improvement:

- better corporate planning (business planning has already been strengthened)
- better marketing for which expert staff are required (where do HTC get experts from?)
- better financial management

INTERVIEW TEN:

Cultural change: In 1990/91 there was a 'generation' change in the management at the top of the organisation. None of the 3 senior managers at the time are still in place. The interviewee felt that the structure was still geared to the old system. People are inexperienced in formulating plans. The interviewee felt that HTC has a problem in that management were hired from the technical sphere. Engineers were given control of spending while being accountable to no-one. He felt that this is part of the engineering mindset [a little harsh I feel!]. People are individuals with private interests which may be in conflict with the organisation's interests.

Lots of money has been spent on training, but hardened values cannot be changed easily. The interviewee believed in four steps for change:

1. Do things differently
2. Learn to survive
3. Replace staff (more attuned to new culture/values)
4. Understand the environment (current 'soft' market)

The majority of managers are open to change. Technical managers are open to technical change following the relaxing of CoCom restrictions. On the whole, lower level staff do not have faith in changes.

Winners/Losers: People believe in the new regime, but they must realise that they cannot behave in the same way as before. The interviewee wondered what the organisation can do about the older individuals in the organisation who were responsible for the mess. In the short term potential residential customers will lose out to businesses.

Environment: HTC faces a political challenge and not necessarily an economic challenge. The regulators attempted to set a price capping mechanism by following BT's example. This was a bad decision since HTC in the 1990s is at a completely

different stage of development than BT in the 1980s. The Hungarian network is still underdeveloped while BT's was relatively developed. Also, the price cap in the UK was set at RPI-x formula. In Hungary, the industrial price index and not the retail price index was used. The IPI is 10 per cent lower than the RPI. This is an example of a political decision being substituted for an economic decision. Also, Hungary is developing its network during a depression. UK and France, for example, developed their networks during a boom.

Structural Change: Five years ago the Hungarian PTT was the regulator as well as the service provider. Before 1990, only 0.3 per cent of GDP was invested in telecommunications over a 30 year period. This figure increased to 0.8 per cent in 1990/91.

The people in HTC are trying to do their best, but they have missed an opportunity for some good decisions. For example, HTC had a very talented General Manager [who trained as an engineer] who was willing to make decisions. Since his departure it would appear that managers are no longer willing or able to make decisions. If the interviewee asks for a decision from his bosses it takes a long time. Also, feedback is missing from the organisation. People often think that the General Directorate and the organisation are synonymous, but service provision occurs in the regions. The organisation usually makes decisions without taking account of information [from regional directorates]. The formal communication channels are not working. Informal channels are being used, based on personal contact. Managers' power depends on being in contact with the informal information channels. This is no different to the situation under communism where personal contact was very important. However, things are better now.

Areas for improvement:

- organisation needs better coordination
- get rid of politics in organisation

INTERVIEW ELEVEN:

Structural change: Before privatisation regional directorates would have had more autonomy with the general directorate assuming a supervisory role. The new owners are still in the process of understanding the organisation after privatisation. It is hard to see how the structure will develop. Even though the new owners only hold a 30 per cent stake they exercise effective control. About a year ago, operations, maintenance and development have been transferred to operations & maintenance and to the PKI research institute. Before the changes procurement was decentralised, but it has become more centralised in order to standardise purchasing and to gain discounts through bulk orders.

Three Year Plan: There were several changes to the implementation of the three year development plan. The programme of digitalisation rested on the assumption that it would be funded by a higher tariffs, privatisation proceeds and internal revenue. However, tariffs were capped for political reasons, privatisation was delayed and internal revenue was less than assumed. The plan still had to be implemented, due to the high demand, but the programme has to change due to lack of resources.

The technical content of the plan was reduced and the timescale was loosened. Money from the World Bank and the EBRD for specific projects for purchasing imports, but this money was re-assigned. This is partly because HTC faced a problem in paying for labour. Between 1991-93 the number of lines increased from 1 million to 1.5 million.

Some organisational programmes lost 2,000 employees in 2 years. The number of staff fell from 22,000 to 20,000. By 1996, there should be 1 million more lines and even less staff. More software is needed and better project management. HTC is now testing 3 different systems to support investment projects. The interviewee would like to test all developments. A computer is no longer seen as a toy by managers, but as a tool.

Cultural change: In order to make the company more customer-oriented, a new services directorate was set up. HTC tried to develop the company's image and tried to train people to respect customers, but it is difficult to change the mindsets of individuals. HTC has now set up major accounts with large companies. It has developed its relations with local government in order to develop the network. This helped during the delay to privatisation which reduced the resources available (there are very few internal resources in Hungary). HTC worked closely with local government to raise finances. In return local government had a role in network development. Small investment companies were set up concentrating on small villages. The investment companies collected resources and lent it to HTC. This prevented HTC from building up high debts, and helped to maintain HTC's credit rating. After a while, they had to reject local government offers.

Changes could have been better managed. Up to now, HTC has been mostly fire fighting. Human factors are not necessarily the most important at the moment, but finance and the ability to provide phones. Maybe after 1996, human factors will become more important as supply meets demand. By then HTC will have to meet 90 per cent of requests within 6 months and 98 per cent of requests within a year, under the terms of the contract with Ameritech/DBT. In autumn 1993, local area concessions were put out to tender. The interviewee does not know how this will affect HTC, but it is not going to be a pleasant experience. Perversely, since HTC lost 14 primary areas it should be easier to meet network development and service objectives.

Power: People have an instinct to resolve problems as well as they can. The interviewee admitted that he is no exception. He realises that it is not important to be responsible for as many problems as possible (a source of power), but to tackle fewer problems and be able to solve them. Privatisation brought real changes. Investors are trying to slow down major decision in order to understand the organisation. This is natural. There are not adequate enough people to fill the important positions which slows down development.

Local and national government tried to take advantage of HTC. The best change that could possibly occur would be for the power games to disappear so HTC could get on with providing a service. The interviewee would not be in favour of a General Manager being appointed by the state, since this he/she would be unable to resist government intervention.

In 1993, 37 billion HUF were invested in the network. At the time of privatisation 18 billion HUF had already been spent with 60 billion HUF planned for 1994. Investors were startled by the amount that had been spent. Now all contract must be approved by the OC.

Winners/Losers: There will be no losers in terms of layoffs. Restructuring has led to a loss of position for many people. The company has many good management experts and the losers will be people who cannot keep up with the skills base.

Areas for improvement:

- operations of HTC should be based on the primary network system coordination
- need to develop knowhow to use different technical systems and new services

INTERVIEW TWELVE:

Environment: On the surface there would appear to have been many changes. Below the surface there have been changes in personal interest. In the past it was in one's interest to be in the network of power. Distribution was in administrative way. Under the surface there were second and third (unofficial) economies. During 1970-90 this power made people richer. Anyone who was content with the status quo was reasonably well off. There was no need [or incentives] to take risks, modest welfare for the unemployed and not much homelessness. The GDP/capita was $3,000 p.a. and was evenly distributed. To become richer required extra activities. The country started to change between 1984-90, but progress was slow. Political changes came as a consequence of economic discontent. Changes did not occur overnight, but took about two years (1989-91). Social security was neglected, and there was a dramatic increase in homelessness and unemployment. The economic downturn destroyed many jobs in heavy industries. Unskilled workers lost their jobs and hence their accommodation in workers hostels. Some minorities lost out more e.g. Gypsies. The new system cannot handle this problem.

HTC's market is assured since people need telephones. The only negotiation is about the rate of pay etc. This assurance gives HTC staff a certain confidence. It is difficult to handle human resources and to improve efficiency within the company.

Cultural change: There has been some success in the last three years. The theory and information suggested that the structure of the market would change, but it took three years for HTC to begin to adapt.

Cultural change is happening, but much too slowly. The interviewee believes that it could have gone much quicker. Managers are poor at time management and they spend too much time at meetings which are unstructured and produce no decisions. There is too much paper within the organisation and Email should be used more.

Structural change: There has been a dramatic change this year with the loss of 14 out of the 54 primary areas. HTC lost a large chunk of the local concessions in the south east of the country. Therefore, the Szeged directorate will disappear. This will be economically disastrous for the region since it is a poor area and borders poor countries (Serbia and Rumania). HTC also lost local concessions around Budapest which will lead to the reorganisation of profit centres. Next year the cost centres will be reorganised. The boundaries of the Sopron and Pecs directorates (where some local areas were lost) will be redrawn.

These changes affect about 2,000 staff (10 per cent of the organisation). Staff must be transferred to the new local operators who must keep them for at least one year. The new local operators will probably not offer the same social benefits as HTC. Probably a third of employees will lose their job after a year and the local operator is under no obligation to offer compensation if they are released after a year. If they lost their job with HTC they would receive between 50 and 100 per cent of pay (HTC would recoup this from the gains in efficiency). The interviewee believed that most local operators are heavily influenced [backed] by particular suppliers who are looking for a market for their equipment [Alcatel]. They will put their own people in key positions to purchase equipment from the favoured supplier. [Also, non-telecommunications companies have won contracts in order to establish a presence for when the sector, that they are really interested in, is liberalised, i.e CGE]. There will need to be some negotiation over the leasing of the current networks in these regions to the new operators. Any disputes will be resolved by the courts and not the MTTW.

There will be a big change in personnel in Budapest with the influx of staff from the outer Budapest directorate. The company will find this difficult to handle.

As supply meets demand (beyond 1996) HTC will be able to split its customers into two main groups: basic telephony serving many people as a cheap service where cost-efficiency will be important, and other high quality differentiated (value added) services for richer customers. This will lead to a split in HTC's way of thinking.

There is a new department that has been set up to serve key customers which is looking for a role in company. There is a large technical capacity in the backbone network, so HTC will be able to lease its lines. However, it will be very difficult for the key customer department to get resources from the company since there is a lot of competition between it and basic telephony. It would make sense to focus on selling value-added services to generate higher revenue to invest in further development, but the new owners need to satisfy the government that they are fulfilling the terms of their contract. HTC had too many foreign advisors in the last three years. One-third of people in the HQ can speak English. There will be competition between former advisors and new owners.

The restructuring between 1990-93 was as good as could have been expected. The structure of the general directorate is split along functional lines, and is not the ideal organisational structure. The restructure in non-voice telephony has left non-voice services in subsidiaries.

The Three Year Plan (1991-93): There are three views of the results of the plan:

1. HTC achieved its goal of winning the monopoly for long distance traffic. This was achieved with its stated goal - the building of the overlay digital network.
2. The overlay network is wasted since there is huge unused capacity due to the lack of resources needed to build local networks at the end points of the overlay network.
3. HTC overinvested in the network. The debt/equity ratio is 1:2 which HTC considered to be a viable financial limit. (In theory HTC could have a ratio of 1:1 due to the current value of its assets, but this is not advisable in the uncertain economic environment. If Hungary joined the EU, then HTC could move to a 1:1 ratio.

Power: Contrary to the publicity at the time, 1990-93 were not years for the organisation to be more customer-oriented. The most powerful stakeholders were

the regulators and politicians. HTC spent its energy on lobbying for a monopoly market structure.

Between 1994-96, the DBT/Ameritech consortium will become the most powerful stakeholders. The main goals will be efficiency and profit, for which the Germans and Americans have the expertise. HTC will not need to concentrate on customer satisfaction since prices will be regulated and demand will still be high.

Between 1996-98, supply and demand of basic voice services will reach equilibrium. Only then will HTC become truly customer-oriented. This will be a very difficult change for the organisation. The revenue from basic telephony will drop from 90 per cent to about 70 per cent as value added services are offered more.

Line density:

1989: 8 lines per 100
1993: 15 lines per 100
1994: 17 lines per 100
1996: 25 lines per 100
2000: 30-35 lines per 100

20-25 lines per 100 is breakthrough point for economic development? At this point, one third of businesses and two-thirds of residents will have a phone.

Areas for improvement:

- prepare to be customer-oriented
- improve cost efficiency

INTERVIEW THIRTEEN:

Cultural change: HTC needs to involve outsiders in order to change the culture. However, the organisation cannot put up with too many people who do not know about telecommunications. In order to restructure HTC needs people who know details of organisational systems and understand the technology. New people must be brought in for the new tasks that HTC is undertaking [e.g. marketing, public relations]. Some foreigners [advisors and staff of new owners] have worked in other telecommunications organisations. HTC has involved some manufacturers in the changes with satisfactory results. Also, people who used to work for the old PTT and left for other organisations have now returned to HTC with valuable experience.

Culture belongs to people. Making the organisation more customer-oriented takes more than setting up new departments. Structural change can only be effective if people are happy. For example, HTC has set up customers shops. Staff sit in them giving the appearance that HTC is customer-oriented, but they have no idea about customers' rights or when a customer will be able to get a phone. Furthermore, they have no products to offer, i.e. telephones. Training is a vital component of cultural change. Staff must understand the requirements of the organisation and its contingencies.

Winners/Losers: There has been no significant decrease in the number of employees. Finance and marketing functions will become more powerful. Engineers must learn marketing in order to avoid losing. The organisation must help staff to handle losses by training and giving more information.

Regulation is supplier-oriented since it was written with the needs of HTC, MTTW and potential investors in mind.

National character: HTC have no need to be afraid of failure. After 1990, there was much optimism in Hungary. Foreigners paid a lot of attention to Hungary.

A Hungarian sociologist has observed the attitude of Hungarians living abroad in the last ten years. They characterised Hungarians as visionary and self-confident. Hungarians have learned to confront power. For example, Hungary was the only catholic country not to undergo a Spanish-type inquisition. This has been helped by Hungarians striving for a open systems society, even while under occupation.

Change agents: Change agents may be either people or functions (departments). The human resources and privatisation departments were change agents. The former Executive Vice-President invited change agents who were people with ideas to meetings to discuss the changes. Only those who he believed had ideas to contribute were invited. This led to jealousy from managers who were not invited especially if their subordinates were.

INTERVIEW FOURTEEN:

Structural change: The OD department in HTC is responsible for organisational planning, the development of processes and the development of the organisational structure. It follows many of the concepts laid out in the 1991 blue book [of which I have a copy]. The OD department is not responsible for the development of people, unlike the western text book definition of OD, or with methods for changing the organisation's culture. Changing the culture is the responsibility of the personnel department.

In the near future, the new owners will supply services to HTC under the terms of a service contract. Ameritech/DBT are currently surveying the organisation and will decide which services to supply once it is complete. They have said that there will be no change in the organisation's structure for six months.

At present regional directorates operate at three levels, regional office, county office and district offices. OD has proposed the elimination of the county offices with telecom centres in the regions reporting directly to the regional directorate. This will coincide with the network structure and make the organisation more customer-oriented. The regional directorate will coincide with the secondary switches (backbone network) and the telecom centres will be based on primary areas (and switches).

This change will help to overcome the weakness of the county offices in their dealings with municipalities. It will also improve efficiency. In the past business administration was carried out at county level. Applications were sent to the county office even though data came from local areas. There was a lot of duplication at county and local (primary) level. Therefore, the county level has become irrelevant.

This change is being tried out as a pilot project in the Miskolc region (partly to overcome some of the hostility that OD has experienced). Miskolc now has 6

primary areas reporting directly to the regional office. This area was chosen since HTC holds all the local concessions in this area. Where HTC has won a concession it has had to set up a local company. Privatisation held up the full implementation of this change, i.e. the elimination of county offices.

Since 1990, HTC has not had a major restructuring aimed at changing the company. There have been many changes in the general directorate, which have not had much effect in the regions or the rest of the company, but these changes were for political reasons.

Human Resources, Finance and Corporate Planning departments have been set up. HTC now has serious support services, such as Research, Operation & Maintenance (organised centrally, but offered to the whole of the company), Training and Informatics. These were set up for experts to offer professional support to strategic managers. Computer resources are organised in regional directorates, but directed by the Informatics department.

Changes have been due to functions, power and personalities. Support activities are necessary. Despite the rhetoric, HTC is only now starting to become customer-oriented. The regional directorates still need to become service-oriented, but the structural changes needed to achieve this (along the lines of the Miskolc pilot project) must wait upon the decision of the new owners. The pilot project will probably get the go-ahead, but there is some doubt whether this will be extended to other regions.

In the run up to privatisation staff worked hard believing that they could 'breathe' again once privatisation was over. However, staff are having to work as hard as ever. They feel that their work is not producing many results. There is still a lot of bureaucracy, but many of the old rules no longer exist and have yet to be replaced by new rules. Therefore, the organisation is in a sort of limbo.

Cultural change: Service and technical training is rapidly developing. However, the modular training is perhaps not that well developed. Changes in the country (Hungarian society) have helped to change the culture. The changes are being driven by contingencies. Since unemployment is high HTC has power to persuade staff to change, since staff who do not measure up or resist can easily be replaced. It is an employers' market. A major task facing HTC is how to introduce a real marketing function. They will rely heavily on the new owners for this.

The training in Hungary is so good that Siemens are considering providing all their training on switching technology in Hungary instead of Germany. Hungary could become a regional training centre for Central Europe.

Power: Since HTC is unable to provide a service (since demand exceeds supply) it has power over its customers. Shortages in the supply of lines can leave staff open to bribery. If there was no shortage then customers would exercise power over HTC.

Winners/losers: The changes in the regions will produce bot winners and losers. For example, in Miskolc 60 staff will be transferred to 6 regional centres. Staff have no choice in the matter. Losers may be people who held power, but not necessarily authority, at county level. There may be losers where other companies have won local concessions from HTC. Staff transferred to these companies may see a drop in social benefits. Some Hungarians are under the impression that private companies pay higher salaries, but local operators work with tighter margins, so the new companies may be less flexible.

Areas for improvement: HTC needs:

- a new General Manager who is able to make decisions
- a better style of management
- better control and reporting systems in the General Directorate

- to change the boxes in the organisational chart less and ensure that staff assume and report on their assigned roles
- better management accountability

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