The Foundations and Formation of Public Policies for the Deregulation of Telecommunications and the Effects upon Network Management Solutions

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Introduction

Economic considerations are and have been a part of Network Management solutions. The progressive application of deregulation to the Global and National Telecommunications industries have created a situation where the economic elements to be considered in the design of network management solutions, have become dominant. The reason for this, is that fully deregulated markets create a level of competition, which makes it necessary for participating companies to be fully aware of cost levels, fixed and variable, in choosing a solution to a Network Management problem.

To understand the growth and dominance of the economic elements in the design of network solutions the reasons for the emergence of deregulated telecommunication service markets should be understood.

The Foundations and Formation of Public Policies for Telecommunications

Part A. The Foundations of Public Policies

1. Public Policies: The Combination of Forces

Public policies for telecommunications were held in place from 1876 to1980 until pressure was put upon governments in power to change them. The are three combinations of forces that have changed public policies for telecommunications since 1980.

1.1. Social and Economic Forces

The first is a combination of social and economic forces in which the development of technology acts as a catalyst. It is this force, together with the use of micro-wave technology that enabled new entrants to offer competitive long distance telecommunications services. In this case technology was used as a catalyst to accelerate the interaction of socio-economic forces. As the market share of two telecommunications companies, MCI and Sprint, increased, they presented a serious challenge to the long distance incumbent AT&T. The challenge then developed from a technological challenge into a legal one.

1.2. Legal Forces

The process of litigation, starting with MCI v AT&T, led to the US Justice Department invoking the Sherman Act and opening an anti-trust case against Western Electric as representing the Bell group of companies. The case brought by the Justice Department ended in the 'Modified Final Judgement', a settlement by which AT&T was divested.[1] The divestiture split AT&T into a long distance service company which included the manufacturing and research arm of the Bell group and seven local service companies. The outcome of the litigation against Western Electric presented

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[1] The presiding Judge, Harold Greene, made the judgement in 1982. The case was US v Western Electric, Civil Action no 82-0192, US District Court, DC August 24th 1982

the US Administrations with a policy and legislative problem. It was apparent that the regulatory regime established by the US 1934 Communications Act had sustained the Bell group as a ‘natural monopoly’. It was also apparent that in local telecommunications services there were monopoly markets. In the end it was Congress who took the initiative and rewrote the 1934 Act in 1995/1996.

1.3. Political Forces: Ideology

The third force is primarily an intellectual force for change. It is the force of a strongly held political ideology. The application of a political ideology depends upon being given access to political power. The political party holding that ideology must win that power in order to turn an ideology into meaningful legislation.

If political power is obtained it becomes possible to form new and radically different public polices and then apply them. There are two examples of this process of policy formation.

1.3.(a) The Thatcher Administration 1979.

The first example is of the Thatcher Administration of 1979 forming and then initiating a policy of privatisation and deregulation of the UK telecommunications sector. The Thatcher Government came to power bent upon implementing a program of the liberalisation of industry. Telecommunications was an obvious target. In comparison with the cosmetic changes in telecommunications public policies formulated in the United States, the Thatcher Government obtained significant results in liberalising the telecommunication industry through deregulation using the 1984 Telecommunications Act.

The US telecommunications policy remains emasculated, even though a rewrite of the 1934 Communications Act was undertaken in 1996. The Regional Bell Companies are still operating as dominant players and are merging to consolidate their dominance in local services. From seven independent companies there are now four.

1.3. (b) The European Union

The second example of the influence of a political ideology lies in the origins of telecommunications policies in the European Union. The Treaty creating the European Community, beginning as the Treaty of Rome (1957), and added to by a series of Treaties and amendments consolidated in the Treaty of Amsterdam (1997), is primarily a political instrument. Its' purpose is to bring about a political-economic union of the European Community. It can be argued that as such, the Treaty is a constitutional document upon which public policies can be formed and implemented.

In the consolidated Treaty, a Community policy is laid out in Title VI. Chapter 1 of that Title is clear and specific in listing the Community rules on competition.

It is this chapter which is the basis for the formation of EC public policies on telecommunications liberalisation. The Chapter is specific in 'prohibiting' dominant players in industry, and the four articles which describe EC competitions policy furnish the power of the European Commission and Parliament to initiate and enact legislation to create competitive markets in telecommunications. The Treaty of Rome as amended, is of the same political genre as the ideology presented and applied by the first Thatcher Government. Perhaps the Chinese proverb 'Same bed, different thoughts' is apt to describe strange bedfellows.

The EC competitions policy is a political ideology written into a political instrument to forge a strong political union built upon irreversible economic ties. The Thatcher liberalisation policy was the raw use of political power, applied to public policies, to change the economic structure of the UK economy. The purpose of the policy change would be so radical that it would be difficult to reintroduce State and Trade Union controls over industrial operations.

The two ideologies described at first appear different in aim. They are not. Both aim to change the political and economic landscape so that all parts of the economy and the political scene are more tightly bound together. Both are based upon strong political and political ideologies and end up with the same purpose: to form policies to change the telecommunications service and equipment markets.

2. The Shaping of Policies

The argument put forward in the introduction to this text is that public policies for telecommunications are shaped by the interaction of legal, economic, political, social and technological forces. If this interaction is strengthened by the introduction and then implementation of legislation to deregulate an industry the result can be to challenge structure of the management of that industry.

The same analytical approach is used in this paper to examine the formation of public policies for telecommunications. A greater emphasis is put upon the political, social and economic components, for it is contended that it is the interaction of these particular forces that primarily influence and shape the formation of telecommunications policy.

2.1 An Examination of Policies

The formation of policies in a number of countries is examined. The countries chosen are on the basis that they are amongst the fastest developing telecommunication markets. The countries can be grouped into two regions in which they are the largest economies.

a. **North America : The United States and Canada**

b. **Europe : The United Kingdom, France, Germany.**

In examining the stated policies of each country several questions are posed.

i. Why in the period 1876 to 1982 and thereafter, were the operators of telecommunication services allowed to perform as de facto monopolists or dominant players?

ii. A secondary question is which forces caused the governments in the countries mentioned, to craft and enact legislation to establish regulatory regimes?.

iii. A third question posed is whether the purpose of the regulator was to sustain the incumbent industrial players, or to lower the level of regulation i.e. deregulate?

The power to deregulate as represented by the empowerment of regulators, is addressed in a following paper on the implementation of public policies. In this paper deregulation is seen as a subset of regulation. It is identified in a number of prominent pieces of regulatory legislation; the United States 1934 Communications Act and 1996 Act, United Kingdom Telecommunication Acts of 1981-84 and the telecommunications legislation of Canada, France, Germany, Italy and Brazil..

2.2 Policies and Regulatory Legislation

The implementation of public policies is accomplished by the enactment of legislation which seeks to translate the policies into a legal instrument. The instrument can be used to apply the powers embedded in that instrument. This task is difficult and sometimes the resultant statute is faulted. The United States 1934 Communications Act is a faulted statute when measured against a policy which was meant to 'promote competition'.

The US Act of 1934 cannot be seen as a powerful piece of regulatory legislation, in spite of articles which support the process of deregulation. Any powers given to the Federal Communications Commission as the federal regulator to deregulate, were neutralised by the fact that the Bell group of companies, under the umbrella of AT&T, were allowed the status of a 'natural monopoly'. Even after the divestiture of AT&T in 1982, the successor Regional Bell Operating Companies (RBOCs) continued to operate regional markets as de-facto monopolists or dominant players.

In comparison with the US 1934 Act, the United Kingdom Telecommunications Act of 1981-1984, is a well crafted piece of legislation in that as a legal instrument it clearly empowered OFTEL, as the regulator, to begin an effective process of deregulation.

It is the UK 1984 Telecommunications Act that one should regard as the harbinger of deregulation, for it created the Office of Fair Trading in Telecommunications (OFTEL), and allowed OFTEL to apply regulatory powers effectively. OFTEL has been able, through the powers given, to create competitive markets for telecommunication services in the UK. It has created competitive markets by a pro-active and accessible licensing system and thereby successively challenged the market power of BT as the dominant player. The stated purpose of the UK 1984 Act was to do just that.

3. The Components of Telecommunication Policies

3.1. The Political and Social Components

3.1.a Constitutional Powers and the Formation of Policies

The power of the legislature in the United States and France to enact laws for the regulation of commerce, lies embedded in the Constitutional powers in each country. The same Constitutional sources give Legislatures and Governments the power to implement public policies through the organs and agencies of government.

In the Constitution of the United States it is Section 8 of Article 1, which states:

'The Congress shall have the Power To lay and collect Taxes, Duties, Imposts and Excises…………………To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes……….'

Section 8 is the basis of the regulation of all inter-state commerce. Inter-state telecommunication services are covered by this Constitutional power. It is a broad power to regulate commerce but Article One (8) has been interpreted by successive Congresses to legislate for the regulation of a wide band of industries and services. The United States from 1776 onwards has been a highly regulated State. Deregulation as regulatory concept has been applied relatively recently.

In France, the power to regulate industry and commerce is embedded in the constitutional powers given to the Assembly and the Presidency to enact legislation. As with the United States, France has been a highly regulated economy. From Colbert[2] onwards, it has been described as a Mercantilist Economy[3]. Deregulation has been a hard pill to swallow for an industrial and commercial structure used to the ghost of Colbert as a State patron of the regulation of industry and commerce.

In the amended French Constitution of 26th July 1995, Article 34 (Legislative Power), Article 37 (Regulation) and Article 46 (Legislative Procedures), contain the power of the Assembly and Presidency to legislate and enact regulatory legislation. The

[2] Colbert Jean Baptiste 1619-83

[3] The theory of a political economy based on the accumulation of bullion by developing a national policy to use industry, services and commerce to attain a favourable balance of trade. The theory envisages a State regulatory system for trade.

constitutional basis for powers to legislate for the establishment of regulatory regimes are found in most of the other countries examined in this chapter.

An exception is the United Kingdom. In the United Kingdom with no written Constitution, the general powers to legislate lie in the sovereignty of Parliament. Whatever the source of the power, Constitutional or Sovereign, to implement public policies, it is these same powers which set the boundaries of the formation of policies. In the French and US Constitutions the power to regulate is ambiguous in comparison with the Treaty to establish the European Community. It is contended that the clarity of the articles in the EC Treaty to regulate and deter anti-competitive practises, are the basis of a public policy for EEC/EU telecommunications. It is far more explicit and far less ambiguous than articles contained in other policy statements.

In comparison, the US 1934 Communications Act and its rewrite, the 1996 Telecommunications Act, can be described as two-handed. What is given with one hand is taken away by the other. Whereas the Act begins with:

An Act

'To promote competition and reduce regulation to secure lower prices and higher quality services for American telecommunications customers………'

and supports that purpose with Sections 251 and 253, other sections such as 252, 256,257 and 261, have a neutralising effect on 251 and 253.

3.1.b. The Social Component and the Formation of Policies

Policy statements of various national governments are examined in this chapter but the statements, though varied, lack the strong content of the European Union Telecommunications Policy. There is a possible explanation for this. The public policies of the EU are based on the application of the articles in the Treaty establishing the European Community.

Specifically these articles are Articles 81-86. The articles are contained in Title VI, Chapter 1 (Rules on competition). In contrast the public policies of individual countries are, it is contended, based upon shifts in social forces which act upon the body politic, a significant shift in political ideologies or a reliance on revised interpretation of constitutional or sovereign powers to establish regulatory regimes.

There is evidence for these contentions in a study of post World War II political, social and economic changes. In the 1980s political administrations came to power espousing the ideology that governments should minimise their involvement in industry, and that governments in general should be down-sized. Between 1945 and the 1980s, the western world and parts of Asia, saw significant increases in the gross domestic product of sovereign states, with a subsequent increase in average disposable incomes. With greater disposable incomes luxuries such as automobiles and telecommunications services in the home were bought. The next stage was that the luxuries became necessities. The two methods of transportation and communication became necessary items in everyday use.

Concurrent with political and economic changes, social structures and attitudes changed. After 1945 there were large-scale movements of populations. The disruption of a long and destructive war was a force behind these movements but in the 1950s specific economic forces came into play. The attraction of rapidly expanding economies led to an era of migration from poor areas to richer urban areas within countries. It was followed by large scale emigration from developing economies to the more advanced countries of the western world..

It can be argued that in some cases the movement of people was a result of the interaction between the social forces described and the fundamental changes in political ideologies. Political regimes of pre-1945 had in most cases failed to provide acceptable social and economic conditions for their citizens. There was a desire to move to areas such as North America in order to improve those conditions.

3.2. The Economic Component

Economics is the third force or component. It is inter-connected with politics and political ideologies, for it relies on its acceptance by political bodies for the inclusion of economic concepts into regulatory legislation. Specifically it is the concept that the main purpose of new telecommunications policies is to create open and competitive markets. If open and competitive markets are created and do function effectively, then the allocation of economic resources should be more efficiently accomplished. If markets are efficient then the GDP[4] should rise and make it possible for average incomes to rise.

The application of this theory depends upon the political acceptance that there should be a reduction of market and industrial regulation, together with the diminution of governmental, social[5] and industrial controls of the economy. It is supposed that deregulation should result in achieving a higher level of market efficiency, through a significant reduction of theses controls.

4. The Social, Economic, Legal and Political Foundations of Public Policy

The forces causing changes in public policy in telecommunications interact to build the foundations of policy.

Firstly a change is caused by the restructuring of social forces. Secondly a change through a fundamental shift in political agendas, reacting to the restructuring of social forces. Thirdly political agendas shift towards the idea that the acceptance of the economy theory that market forces should determine the allocation of resources, and thereby satisfy the social demand for change. The interaction of social, political and economic forces impinges upon the existing legal structure created by previous public policies, but the legal structure acts to confine the forces unless policies are changed.

There is an instance of this sequence of interaction in the development of a public policy for telecommunications in Canada, prior to the enactment of the Canadian 1996 Telecommunications Act. Social, Political and Economic forces interacted to cause a fundamental change in telecommunications public policy. The formation of these particular changes in Canadian public policies is addressed below.

In the case of the United Kingdom with a minor change in telecommunications policy in 1969, it can be argued that the Labour Government of that day was influenced by both social and political factors. However the change in policy was not fundamental and government and industrial controls remained in place. The social demand for change was either weak or not well articulated at that stage.

In 1979 however, with the first Thatcher Government coming to power, it can be argued that that as a result of the implementation of a strongly held political ideology to reduce the power of government, public policies in telecommunications were radically changed.

4.1 The Political Foundations of Public Policies.

From the invention of the telephone in 1876 and through the development of telecommunications up to 1982 and beyond, governments allowed telecommunication

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[4] The total market value for goods and services produced within a country in any given period, usually a year. The GDP figure excludes income derived from overseas investments

[5] Social and Industrial control refers to the power of social interest groups and trade and professional unions to influence industrial policies.

operators to operate in monopolistic markets[6]. In the United States, although there were up to 1700 competing firms in the telecommunications industry, the Bell group of companies were the dominant industrial players. The regional Bell companies are still dominant players. Probably a more accurate description is that the Regional Bell Operating Companies, that merge with other Bell companies, maintain and sustain monopolies in local service telecommunications markets.

From 1876-1980, it has to be assumed that the concept of monopoly markets in telecommunication and telecommunication equipment was accepted politically for whatever reason. Th reasons for the political acceptance may have varied from country to country but there is one possible common denominator; that of political inertia. Why change policy when there is no obvious demand for change?.

4.1.a. The United States

In the United States there was an obvious public acceptance of 'Ma Bell'. AT&T and the regional Bell companies provided a service that was seen as efficient. Moreover the rural communities in the US benefited from a policy of Universal Service, in which the rural subscribers were subsidised by the urban telecommunication service subscribers. In the US the average subscriber had to be made aware that telephone rates could be lower for the same quality of service, if competitors entered AT&T and Bell markets. The awareness came through the entry of two companies into the long distance service markets, MCI and Sprint.

4.1.b. Europe

In Europe the demand for telephone hook-ups in the home was weak up until 1945 and in the immediate post-war period. There were social and economic reasons for this.

In the United Kingdom, the State controlled telegraph communications, through the promulgation of a series of Telegraph Acts from 1863 to 1916, and Wireless Telegraphy Acts from 1949 to 1967. Between 1876 and the 1969 Post Office Act, telecommunication services were directly controlled by the State through a Government Minister.

There was a relatively short period prior to World War I, when a degree of privatisation was allowed. The town of Hull was allowed to operate outside the General Post Office telegraph and telecommunications system. However Hull was the exception. That exception continued after privatisation.

In all of the countries considered there was a political acceptance of either state control of the telecommunications industry, or a political acceptance of ‘natural monopolies’. In the United Kingdom, in contrast to the State control of telegraph and telecommunications, the railways were run as private companies until 1947, with less regulation and control than in telecommunications. The railways were allowed to concentrate ownership in regions, but there was no great degree of State control as in telecommunications.

The United Kingdom was therefore not committed to the complete control of all enterprise between 1876 and 1945. Why exercise control over posts, telegraph and telecommunications? The answer could be that the GPO services were regarded as a strategic industry as well as being a public service. This is not acceptable for the railways were surely a strategic asset. The answer is probably more simple. State

[6] It is argued that de facto monopolistic markets can exist where the dominant player has a market power large enough to set rates and tariffs, or that rates and tariffs are set by a regulator favourable to the dominant player. After 1934, the US Administration tacitly accepted the setting of rates which appeared favourable to the Bell group of companies, notably the local service companies.

control was an accident in that firstly the posts and then the telegraph was put under the post office and viewed as a public service. In wondering where to put the telephone and not knowing how important it would be, the government of the day may have concluded the General Post Office could take care of the new communications system. The absence of a wide and strong demand for telegraph and telephone services up to 1945 may have fortified bureaucratic inertia to leave well alone, especially if no-one complained about the price or quality of service.

For monopolies and dominant players to be accepted by governments for an extended period such as 1876 to 1980, may be explained by a lack of both political, social and economic pressures to change the status quo. Until there were significant political developments there was no pressure to cause public polices to be changed. Although there had been increases in the Gross Domestic Products of many western countries between 1876 and 1914, the period 1929 to 1939, had seen a global economic depression. With no obvious strong social demand and weak economic forces which could have underpinned the demand for telecommunications services outside North America, the demand for services in Europe remained weak.

Public policies in telecommunications remained favourable to monopolistic markets and dominant industrial players for a long period for there were no pressures, social or economic, to change those policies. The policies would change only when the political, social and economic foundations underlying those policies changed. Up to 1945 and in the next two decades in Europe there was no determination to introduce open and competitive markets to increase industrial efficiency and lower the costs of telecommunication services. It was accepted in Europe that a subscriber had to wait up to six months or more for an residential telephone service installation. In other parts of the world it could be five years unless one was on some form of a privilege list.

The shock to the would be subscriber came when it was realised that in the United States, one could walk into a Bell 'Shop', use a credit card and walk home with a telephone in a paper carrier, being told to 'plug in at the telephone jack'. For a non-American to be told 'to do it yourself' without the aid of two engineers and cups of coffee was a revelation. It may have been the comparative efficiency of 'Ma Bell', a 'natural monopoly', that ironically sowed the seeds of social change for telecommunications in Europe.

4.1.c The Global Perspective

The political foundations of telecommunications policies changed in the United Kingdom between 1969 and 1979, with a change in government bringing a different ideology. The reason for a change in the political foundations of a public policy to diminish the role of government in industry was ideological not social. This change in the foundations of policy would lead to the United Kingdom to be positioned at the forefront of the deregulation of telecommunications.

At the same time that the UK became concerned with the creation of competitive markets in telecommunications, the United States saw the inauguration of a President[7] committed to the minimisation of government and the deregulation of industry and services.

These changes in telecommunication policies, especially the UK policy, influenced EC policy and then the GATS initiative in 1994, at the last ministerial meeting the General Agreement on Trade and Tariffs. The UK initiative led therefore to first European and then Global initiatives.

[7] Ronald Wilson Reagan 1981-1999 (1911-

In the European Community, the chapter on the rules for competition in the EC Treaty began to be incorporated into EC Green-Papers and Directives. The 1980s, in Western Europe and North America, saw a period of change in the formation of public policies for the creation of competitive markets, and thereby a change in telecommunication policies.

This primary change in public policies brought about a global initiative in the form of the World Trade Organisation (WTO), General Agreement on Trade in Services (GATS) which includes telecommunications. The success of the GATT Accords on the deregulation of global trade between 1950 and 1994, proved to be a sound policy foundation for the initial negotiations for the General Agreement on Services agreed at the 1994 Marrakesh Ministerial Meeting of GATT.

4.2. The Social Foundations of Policy

4.2.a The Social Consequences of Immigration

In Canada, as previously stated, there were strong social forces to cause a change in public policies. After 1945 immigrants moved to Canada on a fairly large scale. A number of immigrants came from both western and eastern Europe. The new Canadians entered a society which was more affluent than the countries the immigrants had left.

Telephone service points were more frequent and telephones in private residencies were more usual and affordable. As the immigrants were absorbed into Canadian society they adopted all the trappings of affluence. The North American custom of making frequent telephonic communications, both long distance and local, was quickly accepted. It became usual for the immigrants to ring their relatives left behind. It was an affordable custom.

In the first years of settling in Canada the immigrants did not challenge the concept of affordability. Gradually it was realised that local calls were subsidised by those subscribers making long distance calls. If the newcomers into Canada made long distance calls more often than local calls, it meant that the newcomers were subsidising the local subscribers.

The immigrant communities were not the only ones affected by the cross-subsidisation of call rates. Businesses making long distance calls were also subsidising local service subscribers. Eventually the two disparate groups would influence the political process and thereby force a change in public policies for Canadian telecommunications. This was done through the ballot box as political opposition parties converted the social and business concerns of the two groups into a political advantage i.e. to garner votes.

4.2.b. The Social Consequences of Migration

In Europe until 1945, there was a tendency for family groups to stay in the immediate geographical area where they were born. It was usual for three generations to be within walking, cycle or bus range of each other. There was no need to telephone Grandparents. A walk or a cycle ride would suffice for they were probably no more than a few miles away.

The proximity of the members of families of three generations did not create any latent demand for telecommunications. The telephone was seen as a commercial tool or as an apparatus to be used in emergencies. Social classes with high disposable incomes installed telephones, but the general public did not generate a demand for

residential telephone services. In the rank of desirable services it is probable that access to a television and then an automobile were at the top of the list.
In market growth there is evidence to show that the automobile, when ownership became affordable and general, led the way to the growth of the demand for residential telecommunication service points. The automobile enabled families to move out of their places of birth and travel to places of work instead of cycling or walking. Families became dispersed. No longer was it possible to keep in immediate physical contact with other family members. The residential telephone service point at first a luxury became a necessity. It made contact easy and enabled the family and extended family to have an efficient means of communication.

4.2.c. The Consequences of Broader Social Factors

The demographic changes alluded to, occurred in Scandinavia and in Switzerland after 1945, yet the usage telecommunication services in those countries exhibited a similar pattern to North America before the period of large population movements. The explanation for this anomaly may lie in a number of social factors such as the level of education found in these countries or the degree of economic affluence. It is possible that social divisions in these countries were less pronounced and a social culture existed that saw telecommunications as a necessary part of Society.
It is also possible that Governmental attitudes in Scandinavia and Switzerland were pro-active in viewing telecommunication services as a necessary part of an efficient society, rather than a tool for business and the security of the State.
Whatever the reason for the acceptance of telecommunications services in such countries it is evident that changes in public polices for telecommunications can be brought about by broader social factors other than demographic.

4.2.d. The Social Consequences of Affluence

The increase in the GDPs of the western world[8] was led by the United States after 1945. The affluence of the US allowed that country to allocate resources to the re-building of Europe and then absorb the products of economies reliant on export led expansion. The increase in GDP levels was rapid by pre-war standards. Most members of society benefited from this rise by higher net incomes. At the same time manufactured goods became more affordable as factories and marketing organisations increased in efficiency.
In the United States and Canada, relatively unaffected by World War II except for being left in a more affluent than European countries, the average standard of living remained far higher than in Europe. The income levels between the two continents would not narrow until the 1980s. However the North American Continent would largely determine the broad social life Europeans would aspire to.
The export of films and then television programmes would describe to the average European a social life style which was affluent in all respects. Automobiles, large homes, white goods in large kitchens and the ubiquitous telephone was a part of this scene. The scene may have been grossly exaggerated but even in depictions of less affluent America the telephone was there in the poorest home.
The access to a more affluent society, albeit through the content of media technology, may have set the social seeds of a demand for the material trappings of affluence. If

[8] Defined as Western Europe and North America.

the seeds of social change were sowed from this media access, then it is possible that a latent demand for material goods and services, telephones amongst them, was created.

There is certainly evidence for this observation in the demand for social change seen in Eastern Germany prior to 1991. The access of Eastern Germans to the television transmissions from West Germany exposed them to the 'trappings of affluence' in the same manner as US films and television programmes exposed West Europeans to a different life style.

It is possible that in the immediate post war years of 1945 onwards, the social component was the most powerful of all components in being the initial cause of a change in public polices, through the pressure applied to government to effect both political and economic changes.

4.3. The Economic Foundations of Policy

4.3.a. The Economic Power of the Dominant Player

There are two main economic factors identified in an historical analysis of the development of the telephone and telecommunications. The first is the maintenance of dominant positions by the major players in the industry. British Telecom, France Telecom, Deutsche Telekom and AT&T have been able to retain dominant positions, whilst the Regional Bells have been able to prevent the entry of large competitors into their regional markets.

MCI as a player in long distance services, has been unable to gain direct entry into the Bell telecommunication service areas, even by investing large capital sums in the technological infrastructure for the provision of local and regional services. Although AT&T holds a large share in the long distance service market and can be said to be dominant, it failed to enter local markets in spite of large capital investments.

Both companies, MCI and AT&T, withdrew in 1998 after losses estimated at around 1 billion US dollars for AT&T and 800 million US dollars for MCI. The difficulties faced by the companies were two fold. They had to overcome economic and technological barriers. The local service companies had the advantage to operate behind these barriers. The land lines used and ancillary equipment needed to provide services were in place, positive cash flows to the incumbents existed and a solid customer base was accessible by all the Bell Regional Operating Companies.

4.3.b. The Open and Competitive Market Factor

The second economic factor contrasts with the first. It is the factor of competitive markets. Competitive markets are defined as open to new entrants and present few economic and technological obstacles to entry and exit. The creation of open and competitive markets rests upon a government prepared to lower the level of regulation and endow a regulator with sufficient legal power to reduce barriers to market entry for new competitors.

The European Commission (EC), through the presentation of Green Papers and Directives has written and presented polices that enshrine the principles of open and competitive markets. The power to create competitive markets is enshrined in the treaty establishing the European Community. Whereas the US Constitution in Article 1, Section 8, states simply that Congress has the power to regulate interstate commerce, the European Union Treaty is clear and unambiguous. It empowers the EC together with the European Parliament to pass directives and decisions. In article 82 of the Treaty, it is stated clearly that dominant players in industry will be prohibited.

The French Constitution is less ambiguous than the US, but it is not as clear and precise as the EU Treaty when dealing with the concepts of market competition. In the EU Treaty establishing the European Community, common rules on competition were written into the Treaty. Article 82 of Chapter One listing the rules of competition is clear on the position of the dominant player.

EC Treaty Title VI Chapter One Article 82.
….Any abuse by one or more undertakings of a dominant position within the common market or in
a substantial part of it shall be prohibited as incompatible with the common market insofar as it
may affect trade between Member States…………..

The remaining articles in Chapter One are equally clear and unambiguous. They serve as the basis for EC Policies which support open and competitive markets within the European Union. If the articles of the Treaty are to be absorbed into the legal structure and legislation of the member states, then it follows that public policies and the legislation enacted by the members must act to support competition in market operations.

4.3.c. The Economic Case for Deregulation

If social factors apply pressure to the body politic in order to raise the standard of living in real terms, there is evidence to support an argument that the objective can be realised through the deregulation of markets.

The evidence is drawn from for the positive results of deregulation when applied to the world trade in goods from 1950 onwards. World trade grew at a rate double that of the growth of average global GDP rates over a long term 1950-1996. Asian countries saw rapid GDP growth rates up to 8% annual growth. As with the Peoples Republic of China now, Japan and the smaller countries of East Asia had high growth rates until the 1990s.

In a period of 50 years however the growth in world trade was more sustained and constant. The reason for this sustained and high growth rate is very clear. The success lies in the ability of the General Agreement on Trade and Tariffs (GATT) to achieve accords between a large number of trading countries to reduce trade regulations. This has been no mean achievement. It has been a very substantial and meaningful success. Beginning with the Torquay Round of discussions in 1950 which ended in the first accord to begin the reduction of tariffs and non-tariffs, GATT in the Uruguay Round, which ended in 1994, had completed a most effective programme of deregulation. When GATT had a Ministerial meeting in Marrakesh in April 1994, the General Agreement on Trade and Tariffs in Goods came to an end.

The World Trade Organisation took the place of GATT, and the General Agreement on Trade in Services (GATS) negotiations continued.

!994 had seen the end of a long period (7 years) of negotiation called the Uruguay Round which was the culmination of the process of increasing the level of world trade. The 'Rounds' between 1950 and 1994 had been in essence, negotiations for the formation of global 'public' policies for world trade. GATT had been the Secretariat to form the policies and draw up the legislation 'The Accords'. GATT was also the Executive Branch charged with implementing the 'The Accords' and then becoming the regulator of the new trade rules.

The lesson of this successful deregulation procedure in world trade is that the public policies must have clarity. The legislation must be clear in its legal objectives and the regulator must have specific and well defined powers to apply the rules embodied in this articles of the Statutes enacted. The lesson is that the deregulatory process can be effective and successful, reducing the barriers to an increase in economic activity and meet the political and social objectives of public policies, if those policies are clear and unambiguous.

5. Deregulation and Network Management

It is suggested that the deregulation policies initiated in the United Kingdom had a 'domino effect' on first the United States by 1982-84 and then the European Community and individual Community members in the late eighties and nineties. When the deregulatory process extended to Latin America, it was radical in aspect.

5.1 The surprise in the process of deregulation has been in Latin America where countries such have Brazil, Argentina, Mexico and others have adopted an approach which in some respects is more radical than the European Community or the United States and Japan. Whereas the incumbents in those markets, British Telecom, France Telecom, Deutsche Telekom, the US Regional Bell Companies and Japanese NTT, have retained market dominance, Brazil for example has opened its telecoms markets on a much wider basis. This is the case with other Latin American Economies. It is difficult to imagine at the present time, a Latin American telecommunications company acquiring a State controlled telecoms company in any of the countries mentioned, without some resistance, political and economic. Yet this is precisely what has occurred in Latin America. International companies have been able to buy controlling interests in national telecommunication companies.

5.2 The Brazilian and Latin American Experiment and the Effect on Network Management.

The word experiment is used in this context for it is contended that Latin America is a step ahead of the rest of the world in the deregulation of the State controlled telecommunications industries. It is suggested that this is a more radical approach in that it may lead to a higher level of competition in Latin American telecommunication service markets. If this occurs then the effect upon Network Management in Latin America will be significant. It will be significant for enhanced market competition will lead to greater pressure to reduce the fixed and variable costs of market operations in order not only to remain competitive, but to survive as a company.

6 Changes in Network Management Design

Papers are being presented at this Symposium, LANOMS99, which anticipate the need for a radical change in the approach in the design of Network Management solutions to network problems. From being a predominantly technological methodology there is the realisation that Network Management must become a Techno-Economic discipline where the solutions provide are a 'best fit' from a range of possible solutions which address both economic and technical considerations, rather than the most sophisticated technological solution.

Does this mean that decisions in the choice of network solutions will be left to managers who are primarily business oriented? It is hoped that this will not become the case. It is possible that a lack of technical knowledge in management may result in the choice of a solution that is based primarily on cost parameters, in which scant attention is paid to the ultimate gains from technological progress.

This situation may not occur for there is a new and powerful element in the equation, namely strong and articulate consumer preferences. The demand for telecommunications services, fixed and wireless, is growing at a such a rate that by 2005 the global market should have passed the one trillion US dollar threshold. The customer will not be content to wait for technological advances to be delayed because of management decisions based solely on cost. It appears that within reason the customer is prepared to pay for technological progress. The first mobile phones, large in bulk and operational costs, were in demand to such an extent that manufacturers were given time to make technological breakthroughs which eventually lowered ownership costs. Network Management solutions tailored to the pace of technological progress enabled this situation to occur. The new and sophisticated consumer base may demand a balanced combination of high quality service with the latest technology but the lowest possible ownership costs. If this observation is correct then the demand on Network Management is for mangers who are both skilled in technology and business economics. What can be concluded from this is that the demand for Network Management practitioners will grow as the deregulatory process accelerates. What can be suggested is that this advanced development of techno-economic Network Management may first occur in Latin America by reason of the creation of highly competitive markets for telecommunication services. However wherever the development takes place, a new management methodology will be demanded to offer solutions which satisfy network problems in which economic elements vie with those that are technological. The demand will be for carefully balanced solutions. A balance of the best in technology and the best in economic appraisal. It will be a call for a high professional skills in Network Management.

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