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DYNAMIC INTERLINKAGE BETWEEN THE REPUBLIC OF KOREA & THE INTERNATIONAL TELECOMMUNICATION UNION THROUGH EVOLVING TELECOMMUNICATIONS ISSUE-STRUCTURES

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Department of Social Science

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To My Father and Mother

C O N T E N T S

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Eun Ju, KIM

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ABSTRACT

This thesis examines dynamic interlinkages between R.O.Korea and the ITU, through looking at Korea's actions within/concerning the ITU - both its organizational system and functions - in what are now complex global telecommunications environments. It attempts to investigate the possibility of the ITU as an alternative to bi-lateral or other multi-lateral arrangements, where R.O.Korea faces vulnerability or insufficient solutions.

The theoretical framework is mainly based on neo-realism which emphasises the significance of 'internal-external interactions' to bridge the gap between the internal and external structures in a given 'issue-area' (Ch.II). On the basis of these theoretical arguments and empirical field surveys (both observation and interviews), this research approaches the interlinkages in two-ways: (a) a 'structure-centred approach' involving analysis of both R.O.Korea's telecommunications infrastructure and the ITU's organizational system, where state and non-state members distribute their capabilities; (b) an 'issue-structural approach' integrating internal and external structures focussing on ITU's four major functions - as issue-areas.

The ›structural approach‹ (Chs. III & IV) demonstrates alterations in R.O.Korea's behaviour within the ITU over time. Influenced by internal and external variables, its behaviour has changed starting from the mere use of the ITU as a political arena for 'legitimisation' of its independence in the international community in the 1950s, to the increase of contributions and numbers of delegation composed of *corporatist* infra-entities in the 1980s. Further, its policy towards the ITU such as 'active participation' won a diplomatic prize by achieving Administrative Council membership in 1989. Overall, the ITU as a UN family system has offered R.O.Korea both an 'alternative' to the UN in which it has not yet gained membership and a 'victory' over competition with its counterpart - N.Korea.

Whereas the structural approach demonstrated R.O.Korea's actions intended to achieve rather 'political' goals, the ›issue-structural approach‹ (Chs. V to VIII) demonstrates its actions attempted to gain access to 'functional' goals such as information for telecommunications technologies, regulations, and policies. Being a 'middle power' Member ranking the 10th in the world telecommunications market economy, R.O.Korea has not involved itself in structural conflicts (e.g., North and South) on each issue, but has attempted to narrow the widening gap. However, it has not yet demonstrated use of the ITU in order to 'solve' its vulnerability derived from bilateral agreements. Nor did it use power-resources from the ITU to affect results in another multilateral organization such as GATT, and *vice versa*. Thus, despite the improvement of Korea's utilization of the ITU, its behaviour still seems to be less efficient than it might be. .

The thesis concludes (Ch.IX) that, in the changing internal and external telecommunications environments, R.O.Korea needs to improve its overall management for unilateral, bilateral, and multilateral arrangements such as the ITU. The methods and reasons for its interlinkages in both structural and issue-structural analyses suggest several *lessons* which could be learned from past mistakes or experiences in promoting more efficient management of its relations with the ITU.

LIST OF ABBREVIATIONS

AIC	Asian ISDN Council
APT	Asia Pacific Telecommunity
ASEAN	Association of South East Asian Nation
AT&T	American Telephone & Telegraph
CCIR	International Consultative Committee for Radio (ITU)
CCITT	International Consultative Committee for Telephone & Telegraph (ITU)
CEPT	Conference of European Postal & Telecommunications Administrations
DACOM	Data Communications Co. (R.O.Korea)
EIAK	Electronics Industry Association of Korea
EPB	Economic Planning Board (R.O.Korea)
ETRI	Electronics & Telecommunications Research Institute (R.O.Korea)
FAO	Food and Agriculture Organization of the United Nations
FCC	Federal Communications Commission (US)
GATT	General Agreement on Tariffs and Trade
IAEA	International Atomic Energy Agency (UN)
ICC	Information Culture Center (R.O.Korea)
IBM	International Besiness Machines
ILO	International labour Organization (UN)
INMARSAT	International Maritime Satellite Organization
INTELSAT	International Satellite Telecommunications Organization
INTUG	International Telecommunications Users Group
ISDN	Integrated Services Digital Network
ISO	International Standards Organization
ITU	International Telecommunication Union (UN)
KDI	Korea Development Institute
KISDI	Korea Information Society Development Institute
KITI	Korea Information Telesis Incorporated
KOTIS	Korea Travel Information Service Co.
KPT	Korea Port Telephone Co.
KTA	Korea Telecommunication Authority
KTAI	Korea Telecommunication Authority International
KTARC	Korea Telecommunication Authority Research Center
MTI	Ministry of Trade Industry (R.O.Korea)
MOC	Ministry of Communications (R.O.Korea)
MOFA	Ministry of Foreign Affairs (R.O.Korea)
NCA	National Computerization Agency (R.O.Korea)
NICs	Newly Industrializing Countries
NIES	Newly Industrializing Economies
NIEO	New International Economic Order
NIIO	New International Information Order
OECD	Organization for Economic Cooperation & Development
PABX	Private Automatic Branch Exchange
PATU	Pan-African Telecommunication Union
PBX	Private Branch Exchange

PSTN	Public Switched Telephone Network
PTT	Postal Telegraph and Telephone (Authoroity)
RARC	Regional Administrative Radio Conference
RPOA	Recognized Private Operating Agencies
SNA	Systems Network Architecture (IBM)
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VAN	Value Added Network
UPU	Universal Postal Union
WARC	World Administrative Radio Conference (ITU)
WATTC	World Administrative Telegraph and Telephone Conference (ITU)
WHO	World Health Organization (UN)
WIPO	World Intellectual Property Organization (UN)
WMO	World Meteorological Organization (UN)

PART I. INTRODUCTION

Chapter I. Introduction

As there is no reason why the Republic of Korea's bureaucratic-authoritarian regimes (BAR) should be more active in economic affairs than are democratic regimes, so it is in telecommunications affairs. Nonetheless, R.O.Korea's telecommunications and its infrastructure have dramatically changed and developed since the early 1980s. In this context, one may ask : Why has R.O.Korea's domestic telecommunications dramatically developed in the 1980s ? Was it because of an internal drive by the bureaucratic-authoritarian regimes, as it has impacted on the overall econo-political structure ? Or, was it because of external pressure from bi-lateral or multi-lateral arrangements ? Or, was it simply because of telecommunications issues *per se* such as technological innovation and convergence, world-wide changing telecommunications policies, and growth of national and international telecommunications markets ? All of these pressures may be intertwined with one another.

However, R.O.Korea's telecommunications sectors have, in practice, met various challenges ranging from *internal* demands by an increasing number of suppliers, better quality of service, and liberalisation, to the *external* demands of threats to open its markets, particularly in the 1980s. Although there is not a single guideline or way of communication policy to develop communications infrastructure or to cope better with current challenges, R.O.Korea necessarily has to make its own choice in the light of the state of its own development and national requirements.

As one possible way forward, this research looks at the possibility of multi-lateral arrangements through international organizations (e.g., International Telecommunication Union), which may offer R.O.Korea more secure opportunities to meet a complex and challenging contemporary telecommunications environment. The ITU, which is regarded as the foremost international organization, has dealt with all forms of telecommunications and its issues over some 125 years. Despite current less favorable trends towards international organizations and growing criticism of the ITU's politicization and organizational inefficiency, ironically, there is growing

interest in the ITU and its functions from the North, especially that of the International Consultative Committee for Telephone and Telegraph (CCITT) and the World Administrative Telephone and Telegraph Conference (WATTC).

Apart from the ITU's functions *per se* specializing in telecommunications issues, R.O.Korea's membership of the ITU, as a UN family agency, may have significant implications in terms of econo-political diplomacy. Indeed, in spite of R.O.Korea's persistent efforts and desire to achieve membership of the UN, it is not a UN member state, yet. Nor has it attained membership of regional organizations such as ASEAN. In addition, it does not have any coherent philosophical or ideological ties as do African countries or Group 77 (Non-Aligned Nations), where North Korea has membership. On the one hand, this status may imply that R.O.Korea has mainly paid attention to bi-lateral or uni-lateral arrangements concentrating on an export-drive economic policy under its bureaucratic-authoritarian regime. On the other, it may mean that R.O.Korea has been traditionally isolated from the world due to geographical, cultural, and political reasons.

However, no state can currently exist on its own in a complex international system, particularly owing to the development of communications. Such reality gave rise to the emphasis which R.O.Korea (specifically its Government) places on *internationalization* including active participation in the international organizations such as the ITU in the 1980s. Against this background, this research will focus on *dynamic interlinkages between R.O.Korea and the ITU*, in order to investigate two major objectives: The first is to bridge domestic and international telecommunications issue-structures. The other is to lay the foundation for possibilities of whether or not the ITU offers an alternative to bi-lateralism from which R.O.Korea has often met vulnerability, and to other multi-lateral arrangements in which it has faced insufficient solutions.

Chapter II. Literature Reviews and Research Questions

In order to understand dynamic 'interlinkages'[1] between R.O.Korea and the ITU, as R.O.Keohane and J.S.Nye (1987:753), R.O.Keohane (1986:190-192), and P.J.Katzenstein (1976;1977;1978) argue[2], it is important to discuss a combination of both domestic structure (R.O.Korea) and the workings of international organizations (ITU). All play a role along with international structure, in affecting state behavior and outcomes. On this basis, this Chapter will first look at existing studies of two variables. The first is R.O.Korea's bureaucratic-authoritarianism, which has impacted on its infrastructures and policies concerning international organizations. The second concerns major perspectives on international organizations. These are reflected in structural changes within the ITU.

1. Review One - Domestic Structure and Its Evolution: R.O.Korea's Bureaucratic-Authoritarianism

1.1. Theoretical Approaches

A certain type of 'regime'[3] in general dominates each country's socio-economic and political development. Such is the bureaucratic-authoritarian regime in R.O.Korea. In theory, the term **›bureaucratic-authoritarianism‹** was initially developed from the analysis of Latin American countries. It identifies a category of "military regimes that utilise institutionally advanced administrative structures to promote deepening outward oriented industrialisation with the cooperation of business elites, while restricting political freedoms and imposing austerity on industrial workers."[4] In a sense, bureaucratic-authoritarian regimes gave rise to the possibilities of peripheral capitalist development in the newly industrialising countries (NICs)[5] such as R.O.Korea. However, the importance of the bureaucratic-authoritarian regime to the emergence of NICs is often challenged by two major perspectives on development: modernization theory and the dependency paradigm.

What is modernisation ? The term **›modernisation‹**, **›developmentalism‹**, or **›industrialization‹** "refers to the capacity of underdeveloped countries or

emerging new states to develop the economic and political capacity, and the social institutions, needed to support a liberal democracy such as is found in parts of the First World."[6] Special emphasis is also given to the ability to cope with social change in conjunction with economic development and industrialism - chiefly economic growth.[7] In this context, many see the successful penetration of innovative and progressive elements of modernization into the NICs such as R.O.Korea as attributable to their economies and societies being organized along commercial and capitalist lines so that their structures are roughly in line with those of the more developed areas.[8] However, in underdeveloped or developing regions, there are great differences among individual countries. Each is at a different stage of development and therefore each will need somewhat different policies[9], of which modernisation theory faces no account. For example, T.Smith (1985) argues that developmentalist theory does not explain the increasingly intractable problems of the Third World and its theoretical models are weak.[10]

A further challenge to the modernisation theory emerged in the 1970s. Neo-Marxism merged with **dependency theory**[11] to measure the external and internal dimensions that "distort the process of development".[12] Yet, since the Marxists had never accepted the concept of stages of growth and its reliance on modernisation, the emphasis shifted to an imbalance between *core* and *periphery* in the light of political, economic and cultural relationship.[13] This perspective views the outer limits of development as "posed by the periphery's structural relations with the core, which define the developmental constraints to which strategies must attend."[14] However, the effect of dependence on development is also limited because it may apply to "particular cases but cannot be generalised."[15] The effect appears to be a "result of particular national strategies."[16] In general, "dependence, as an analytical tool, is not conducive to a useful analysis of underdevelopment".[17]

As K.Rupesignghe (1986) argues, overall, "both paradigms - development and dependencia - may 'coexist' within a conflictual relationship that is both fundamental and historical in character."[18] In particular, according to B.Warren (1973), "a significant number of peripheral nations (e.g.,NICs) had

successfully promoted by way of industrialization under the auspices of capital and technology transfer, rapid national capitalist development."[19] G.Boyd (1988) and G.O'Donnel (1979) argue that "advanced modernisation can be achieved only under strong administrations"[20], or "strong intervention of the states called the bureaucratic-authoritarian regime".[21]

Methods of advanced modernisation under the bureaucratic-authoritarian regime in NICs demonstrate both the "'protection' characteristic of the import substituting strategy and the 'promotion' characteristic of the export oriented strategy".[22] In such dependent capitalist countries, H.B.Im (1987) argues that "democracy is rare, because the expansion of the state has preceded the dominance of industrial capitalism, the industrial bourgeoisie has been created by state economic policies and is politically weak. In a restricted democracy, the power bloc has the political power to impose an authoritarian solution and the popular masses lack the power to reverse it.[23] Then, *how would these theoretical approaches accommodate R.O.Korea's econo-political regimes which have impacted on its infrastructure such as telecommunications ?*

1.2. Application of the Bureaucratic-Authoritarianism Model to R.O.Korea's Structure

The origin of bureaucratic-authoritarianism in R.O.Korea may be in part traced back to the old Korean imperialism whose governing tool was *Confucianism*. Thereafter, the trend seemed to be enhanced by the legacy of Japanese colonial administration (1910-1945), which worked closely with the *zaibatsu* (Japanese large companies). It was also followed by the American military government (1945-1948) which sought to assemble a moderate centralist coalition. "The Americans did nothing to dismantle the Japanese legal and judicial system, which ties the courts closely to the large and unreformed police forces, giving central authorities a flexible weapon in controlling opposition."[24] Instead, "the net effect of American policies was to strengthen the right, particularly by fostering the bureaucracy, police and new military forces."[25]

Against this background, "the First Republican Government presented by

Syngman Rhee (1948-1960) was able to maintain a significant degree of executive autonomy, aided by extensive resources in the hands of the bureaucracy." In addition, "control over import licences gave Rhee an instrument in securing the loyalty of the army, bureaucracy and favoured firms. Licences were issued on political grounds, permitting select companies to realize high returns through pure arbitrage."[26] In return, R.O.Korea implemented "policies designed to protect the domestic market through the use of multiple exchange rates and import controls in the 1950s." However, "due to their narrow domestic market, import substitution was a self-limiting process."[27]

Meanwhile, the Korean War (1950-1953) not only divided the country into two (North and South) subject to the ideologies of communism and capitalism, but also knocked down its barriers to trade. Then, R.O.Korea had outer limits which can be described as sufficient to keep countries ***in*** the system but not sufficient to protect the home economy against destructive competition. Under these conditions, "there were few incentives to reform despite pressure from the Americans." As a result, "GNP growth declined from a post-war high of 7.7% in 1957 to 3.9% in 1959. The decline in primary production was even more precipitious, with a growth rate of -0.9% in 1959."[28]

It was the Third Republican Government (1961-1979) under the late President Park, which established a new government and new policy. It is also this Park regime which was recognized as demonstrating bureaucratic authoritarianism. R.O.Korea's policy was 'bureaucratic' in as much as it was governed by the military rules rather than because of the personal rule of a military strong man. Also it was 'authoritarian' because obedience to government dictates was required of individuals.[29] H.B.Im (1987:240-1) notes that "emergence of such a regime was completed with the imposition of a new constitution in late 1972 - known as the *'Yushin Constitution'*.

From this point of view, some commentators such as G.Boyd (1988), B.Cumings (1984), P.M.Kuznets (1985), and H.B.Im (1987) see Korea's case as one of political leadership of a military 'bureaucratic-authritarian regime', which reflected "a structural transformation from the stage of

import-substitution industrialization to that of the deepening of the productive structure or an outward looking export-oriented policy."[30] Others such as J.Riedel (1987) and S.Haggard (1987) regard Korea's superlative economic performance based on 'market-oriented' economics or industrialization as a 'new orthodoxy'[31] in development economics.

The bureaucratic-authoritarian regime based on export-oriented policy has given an impetus to the formulation and implementation of a structural transformation since the early 1960s. There were major policy changes such as restructuring of industry and adoption of a new economic strategy. For example, a range of new instruments for economic control and planning such as the "Economic Planning Board" adopted the 'Five-year Development Plans.'[32] Enhanced by these government-led plans, exports and growth of foreign capital rapidly increased through the introduction of a comprehensive 'Foreign Capital Inducement Act'. Investment in the country led to the introduction of an import liberalization system in the mid-1960s. This was an attempt to emulate "the open door system"[33] within the spirit of the General Agreement on Tariffs and Trade (GATT).

As the key instrument for its incorporation into the new international division of labour, a prime measure of the R.O.Korean export-oriented policy in the early 1970s was that of 'Free Trade Zones'.[34] The main aims of Free Trade Zones were to attract foreign investors to construct and operate commercial manufacturing facilities for processing raw materials into export products. They offered various advantages such as government subsidies, no currency controls, and no trade unions along with 'cheap labor' to the multinationals.[35] This labour-incentive industrial policy gave rise to an impetus in *manufacturing capacity*, through which Korea's successful electronic industry was able not only to leap towards producing various products of dependable quality, but also to provide the development of a telecommunications industry, today.

Following the assassination of President Park and ensuing civil disorder, the Fifth Republican Government (1980-1988) came into power in 1980. Although Chun's Government might search for political legitimacy due to the spectre of Kwangju[36], it has depended even more heavily than its

predecessor on economic performance. The econo-political system under Chun's regime exhibited a basic continuity with the centralised bureaucratic-authoritarian regime of a 'hard' state.[37]

However, the 'success' of R.O.Korea's export-oriented industialisation accounting with nearly 40% of its GNP in exports has been challenged by the dependencia perspective. Export-oriented industrialisation especially that platformed by the Free Trade Zone is regarded as being controlled by multinational companies. M.Bienefeld (1981) and A.G.Frank (1981) see export-oriented industrialisation leading to potential problems derived from the role of foreign capital and the increase in foreign debt levels. They draw attention to balance of payments problems caused by the importation of technology, and Korea's dependency on the *core* countries for trade - i.e., the generation of social-costs in the course of industrialisation.[38]

In practice, R.O.Korea's foreign debts amounted to US$ 44.5 billion in 1986. Moreover, its exports are heavily concentrated on the markets of a few industrial countries such as the US, which may make R.O.Korea very vulnerable. Although some may argue that "Korea's past economic growth would not have been possible without foreign technological assistance,"[39] others such as S.B.Chung (1984) argue that the relations between R.O.Korea and Japan demonstrates a negative role for Japanese technology in the industrialisation of Korea.[40] That is, due to lack of technical and operational know-how, Korea depends on Japan for equipment, spare parts, industrial materials. Furthermore, it is possible to argue that Korea's current economic success marked by "a high rate of growth of over 12.5 %, a near record low unemployment rate of 3.8 %, the first substantial current account surplus - 4.9 % of GNP in its modern history [mainly depended upon] the favorable *external environment* such as improved terms of trade, low international interest rates, the appreciation of the Japanese yen leading to the considerable depreciation of the Korean won on a real effective basis."[41]

However, the dependencia version of R.O.Korea's experience has been challenged in several ways. These require a major adjustment in the basic premises from which the dependency perspective view the development

process. How can the dependency arguments explain *extensive state intervention* controlling the negative effects of industrialisation ?

To some extent, there appears some consensus concerning R.O.Korea's case. Power was generally centralised within a monolithic state, and directly exercised in the economic sphere by long-term plans and strategies. In constrast to the view of dependencia theorists such as Frank (1981), R.O.Korea's debts actually decreased to US$ 33.71 billion in 1988. In particular, foreign debts of the state-run corporations such as telecommunications not only decreased from 31.4% (US$ 13,996 million) at the end of 1986 to 26.8% (US$ 9,048 million) in June 1988, but also these corporations repaid a total of US$ 1,877 million in the latter half of 1988 ahead of schedule in order to curb possible inflection. Further, in order to avoid trade dependence and mounting protectionist[42] moves in the US and the EC, and to enhance "state capacities for continued self-reliance deepening export-oriented industrialisation,"[43] R.O.Korea has pursued a policy limiting foreign direct investment of developing outward oriented national firms, and of diversifing its export markets from the Western industrialised countries to the Middle East and communist countries such as China.

In particular, a series of internal and external challenges and tensions led the Chun bureaucratic-authoritarian regime to establish legitimacy by furthering the overall programs of liberalisation and less government intervention, i.e., ›decentralization‹ both economically and bureaucratically. These include the opening of internal markets and more democracy in the political system. This trend "dedicating itself to import liberalisation and promising itself a smaller role in the economy"[44] is well demonstrated by the Deputy Prime Minister's reference to the 5th Economic Development Plan (1982-1986):

> "to minimize inefficiencies caused by comprehensive government intervention in the market place, increased dependence on the market mechanism through reduction of the government's role in economic management was stressed."[45]

Overall, the R.O.Korean Government was able to manage its

administration effectively in conjuction with industry through "the state apparatus that can be used to transmit and enforce the regime's policy."[46] The state's apparatus was strengthened in two ways. First was "a range of new instruments of economic control and planning. The other was more politically centralized and insulated Government." In return, "decision-making was centred in the executive and new organs of political control."[46] In contrast to other developing countries, "the hand of government or the role of state is more visible than that of the market, as the force behind R.O.Korea's unique success.[48] Along these lines, there was a further top-level decision in the 1980s. President Chun himself announced in a state-of-the-nation address in 1982:

> "institutional reforms will be continued to strengthen the functioning of the market mechanism".[49]

This market-oriented economic policy or strategy goes hand in hand with political transition. "The increased role of political parties enhanced by popular resentments derived from drastic political control is likely to propel economic issues to national attention.[50] As a result, a new democratic constituion in October 1987 and the election of a President, Roh Tae Woo, by direct popular vote in December were adopted.[51] These alterations towards democracy tend to be in line more with M.Bienefeld's view (1981:79-96) than H.B.Im's (1987:232) above. In particular, these dramatic changes in economic and diplomatic relations have been enhanced by "President Roh's declaration (July 1988) and address in the National Assembly (October 1988):

> "The R.O.Korea will have enhanced and rectified its foreign relations with not only the West but also East through cultural and economic co-operations. In this line, R.O.Korea will not seek North Korea's isolation in the world during the process of rectifying relationships with North Korea."[52]

Perhaps influenced by the 1988 Seoul Olympiad, this address signals changes in R.O.Korea's closed (foreign) policy regarding communist countries including North Korea.[53]

In contrast to predecessors, the Roh administration (1988-) is often said to be one which is decentralising or even weakening the state. The

R.O.Korea's emerging internal political system is likely to move towards ›pluralism‹.[54] However, since the concept of pluralism is based on power which is widely distributed among different groups - called interest groups, the term pluralism is unlikely to exactly explain R.O.Korea's structure. The wider dispersal of power among interest groups, the less chance there is for control by any single center of power[55], and one may question: how far the Korean Government will allow disperal of power.

With regard to the role of the state, R.A.Dahl (1961) and E.A.Nordlinger (1981) argue that "government both pursues its own preferences and responds to demands coming from outside interests."[56] E.Latham (1951) argues that government is neutral and acts essentially as a referee in the struggle between groups.[57] Which argument is more applicable to R.O.Korea may depend on sectoral experiences, which seem better able to explain R.O.Korea's remaining bureaucratic-authoritarianism. Sectoral importance comes from the increased numbers and status of bureaucratic technocrats. These lead to an enhanced leadership policy with demands for responsive administrative guidance of and support for national industries. S.Haggard (1986) argues that shifts towards liberalisation in R.O.Korea have been effected by *dirigist* states widening powerful policy instruments.[58]

Further, as G.Boyd (1988) observes, the most prevalent explanation of the R.O.Korea's phenomenon has placed very heavy emphasis on the internal policies pursued. And the very internal policy, which steers the current transformation of its econo-political or structural regime, is unlikely to be complete ›pluralism‹ but rather to be ›corporatism‹. Corporatism suggests that "each party is able independently to exercise some form of sanction. Power is thus neither pluralistically dispersed, nor concentrated, but polycentric within an overall hierarchy."[59]

It is arguable that *authoritarian regimes can be more active in economic affairs than democratic regimes.* They can act faster than their democratic counterparts. But, then, why does the R.O.Korea's regime appear to be more successful than Latin American regimes ? Here, some commentators such as P.W.Kuznets (1985) say that "the activism of Korea's

authoritarian regimes has resulted from their success not their authoritarianism, because successful action should foster further action, whereas unsuccessful action would not."[60]

In reality, the success may neither be driven by one single reason, nor prevail over all sectors. But, the Korean regime has stressed the importance of administrative-societal links for effective technocratic performance as well as the significance of technocratic capacities, functional growth policies, and limited dependence on foreign direct investment. At the same time, it has imposed considerable guidance and direction on national private sectors. That is, as many empirical analyses of R.O.Korea's structure reveal, "the policies had generally offsetting effects; effective rates of protection were lower and less widely dispersed than in most other developing countries"[61] Further, as the World Bank observed, its success could be due to "flexibility that an outward-orientation provides. And its strategy has been associated with a broad array of economic reforms which have outweighed the vulnerability that it risks. All in all, the focus is on efficiant administration or management, in association with the exercise of state power within the traditional culture and the provision of a military force necessary to counter the threat from N.Korea."[62]

To sum up, R.O.Korea's econo-political regimes have evolved since its independence. They have shifted from the solid bureaucracy and long-standing nationalist credentials of Rhee's regime in the 1950s, to a purer bureaucratic-authoritarian and military rule primarily targeted at improving economic performance based on an export-oriented policy of Park's regime. In particular, being a divided nation, its foreign relations excluded Communist countries, especially North Korea, until the 1980s. Although the Chun and Roh Governments still demonstrated the bureaucratic-authoritarianism, they placed emphasis on liberalising economic policy. However, it is the Roh Government of the late 1980s which is publicly committed to liberalising and diversifying *political* as well as economic policies at both national and international levels. That is, due to internal and external drives, the Government is reducing bureaucratic constraints, which allow both multi-party politics and free market forces greater play.

2. Review Two - Perspectives on International Organizations: International Telecommunication Union

Many commentators such as S.Hoffmann (1970) suggest that international organizations have reflected characteristic features of the evolving international system.[63] There are various perspectives on international organizations such as the ITU, whose functions have impacted on Members' domestic infrastructures as well as through which Members have created conflicts or coalitions with others in order to maintain the *balance-of-power* or create *interdependence*.

2.1. Realist Perspective

One familiar perspective is ›realism‹ or the ›billiard-ball model‹, that sees international relations as high politics focussing on 'state-centric' power, interests, and rationality within or through internaional organizations. Thus, for the realists, hierarchies of issues - *inter alia*, military force - exist. The world (of international organization) is made up of many 'states' as dominant actors with conflicting interests like billiard balls. Further, some realists such as H.D.Lasswell see world politics as the science of 'who gets what, when, and how'. It is a kind of *behavioural process* by which states compete for control of the instrumentation of force that is the essence of government policy.[64] For the realist perspective, therefore, "a universal instrument of foreign policy has been used at all times by all nations who wanted to preserve their *independence*."[65]

However, the realist perspective neglected economic, technical and cultural relations. That is, the role of non-state actors such as multinational companies (MNCs) was not taken into account, especially within international organizations. Nowadays, "such a neglect of economic relations or interdependence seems to be an even greater ommission".[66] It is "particularly weak in accounting for *change*, especially where the sources of that change lie in the world political economy or in the domestic structures of states.[67] Such criticisms are relevant when discussing the

ITU, where there are various participants ranging from state to non-state actors concerned with telecommunications issues.

2.2. Neo-Realism: From Structuralism to Beyond Structuralism

2.2.1. Structural Realism

›Neo-realism‹ introduces questions of power or interest at the *structural* level, where there emerge fundamental cleavages or conflicts among non-state-actors as well as state-actors. In contrast to realism, a major component of this model is provided by a *'changing'* world. In particular, revolutionary changes in the technology of communications have transformed the 'global' system - from a 'national' scale - to a web of global interdependency. Thus, world power includes not just traditional security policy of the military, but trade and monetary policy[68], as well. In return, one of the prominent cliches is to date a view that the world is becoming increasingly interdependent.

Yet, the term **interdependence** is variously identified. Many commentators such as P.A.Reynolds (1980), R.Rosecrance (1977), and O.Young (1969) have made efforts to define the concept of 'interdependence'.[69] In a sense, it may be easier to understand the concept when comparing it with the term dependence: Supposing the term dependence were defined as "a state of being determined or significantly affected by 'external forces'", interdependence would mean 'mutual' dependence. The latter refers to situations characterized by "reciprocal effects among different countries".[70] In spite of these various versions, R.O.Keohane and J.S.Nye's (1977) term *'complex interdependence'* achieved consensus among acamedics to some extent: It is characterised by "multiple channels of diplomatic interaction, by all types of actors, and by absence of hierarchy on issues." They envision irrelevance of military force in determining the outcomes of bargaining and conflicts."[71] Also, its characterization "generates distinctive political processes including linkage strategies, agenda control and coalition building."[72] Their views are further significant in the observation of international organizations.

In R.O.Keohane and J.S.Nye's series of work (1972; 1974; 1977; 1979; & 1987) concerning international organizations, they (1972) listed five consequences of growth of international organizations for interstate 'inter-linkages.'[73] In turn, they (1974) viewed "international organizations not as sources of definitive law but as entities that institutionalized policy networks and within which transgovernmental policy coordination and coalition-building could take place."[74] Further, they (1977) see *coalition* as a motive for cooperation through which a member country lacking influence on its own, can afford to enforce or exert its power in a form of enhancing cohesion with other members which have similar interests.

Concerning interdependence through international organizataions, R.O.Keohane and J.S.Nye are not the sole proponents. P.A.Reynolds (1980) argues that "interdependence may be reflected by 'institutionalization', in the range and quality of transactions - called 'transgovernmental relations'.[75] P.J.Katzenstein (1975) also says that "effective international institutions can defuse conflicts among nations and promote positive-sum outcomes, and that such conflicts are not only possible but probable in the absence of such institutions."[76] Further, W.J.Feld and R.S.Jordan (1983) see that "the growth and geographic distribution pattern of international governmental and non-governmental organizations is a clear indication that the web of international contacts and relationships between governments and non-governmental actors has grown immensely and has become more closeknit."[77]

However, **challenges to these views on interdependence** are derived from several directions. An argument may come from the **≫scope of international organizations≪**. That is, as H.K.Jacobson (1977) argues, "the authority of international organizations is limited, and their functions are generally very restricted. International organizations are therefore not fully autonomous systems, which R.O.Keohane and J.S.Nye (1977) are also in part aware of. Moreover, the UN and its agencies whose programs have been financed by voluntary contributions, have been said to be limited in their ability to provide or to enhance the kind of interdependence that would

impose compelling constraints on states to refrain from the use of force. As K.W.Deutsch (1968) argues,

> "neither do these organizations have the power to tax, nor do most of them have any effective power of sanctions. Their governing bodies are composed of instructed delegates of governments who must say what their governments have ordered them to say. Unlike members of a national legislature, they are one-way representatives. They represent their governments to the international organizations, but they cannot also represent effectively the 'will of this organization' to their constituents, as national legislators can."[78]

In line with the limits of international organisations, some may argue that avoidance of conflict has not been due to the existence of international organizations - *inter alia* the UN, but to international systemic elements such as the nuclear balance of power among the superpowers. Furthermore, "the ability of universal international non-state actors [such as private operating agencies] to contribute effectively to enhanced interdependence has been minor. That is, although many international non-state actors have official consultative status with a number of UN bodies, their influence with UN officials is generally very limited."[79]

Another perspective on international organizations is that which sees them as the **»processes of decision-making or ways of negotiations of national interests in their mediums (or arenas)«**. S.D.Krasner (1985) in association with E.B.Hass, (1980), A.Stein (1980), R.O.Keohane and J.S.Nye (1987), J.S.Nye (1988) employs this structural concept. In a sense, "structuralist scholars differentiate the state system into a component core, periphery, and semi-periphery segments. In essence, this categorization extends the insights of structuralist class analysis (derived from Marxism) to the international system level. The core states, mainly those of the industrialized capitalist North, are said to have so structured the global political economy that they are inherently and perpetually advantaged."[80] That is, S.D.Krasner (1985) gives insights to look at angles not merely from the *'consequences'* of interdependence[81] as outcomes of decision-making procedures, but from the *'processes'* derived from structural conflicts mainly between the North and the South[82]: *Why* and

what has the South wanted from international organizations ? ; *How* has it acted in the processes of setting international regimes ?

2.2.2. **International Regimes**

The current preoccupation in studies of international organizations is on the implications of **»international regimes«**: Many academics such as H.Ruggie (1975), S.D.Krasner (1982;1983), R.Keohane (1982), E.J.Noveotny (1988) integrate their views on international organizations into a theory of international regime. What is an international regime ? The term is complicated and varied: H.Ruggie (1975) defines it as "sets of mutual expectations, generally agreed-to rules, regulations and plans, in accordance with which organizational energies and financial commitments are allocated."[83] S.D.Krasner (1983) views it as "principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue-area."[84] His view seems to be that regimes are not static regulations *per se*, but are a live variable in association with other variables that effect the setting of regulations.

R.O.Keohane (1982) sees an international regime as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actor expectations converge in a variety of areas of international relations."[85] According to his later work (1986:194), "a structural interpretation of the emergence of international rules and procedures, and of obedience to them by states, is one of the rewards that could be expected from this 'modified structural' program."[86] This view is shared with E.J.Noveotny (1988), who envisions that "a characteristic of international organizations is in fact the phenomenon of practices that institutionalize the principles and norms of the regime through authoritative decisions made in international organizations."[87]

The main stream of regime literatures fits into what has been labelled as a 'rule utilitarian' approach, in which compliance with rules is explained from the long term utility calculations of the actors involved.[88] According to R.O.Keohane and J.S.Nye (1987), the regimes may have two types of effects on strategies: On the one hand, they may create a focal point

around which expectations converge, reducing uncertainty and providing guidelines for bureaucrats about legitimate actions and for policymakers about feasible patterns of agreement. In the long run, one may even see changes in how governments define their own self-interest in directions that conform to the rules of the regime. On the other, they may constrain state behavior by prohibiting certain actions. From this point, F.Kratochwil and J.G.Ruggie (1986:759) broadly summarize regimes as "governing arrangements constructed by states to coordinate their expectations and organize aspects of international behavior in various issue-areas. They thus comprise a normative element, state practice, and organizational roles."

However, some academics such as H.G.Schermer (1972) suggest that these international regimes (as a normative element) have limits mainly because "there is neither a consistent body of legislation above the state level, nor is there a legislature."[89] Because international regimes have little enforcement power, powerful states may be able to take forbidden measures. But they may incur costs to their reputations, and therefore to their ability to make future agreements.[90]

Apart from the matter of degree or scope that the international regime has to impact on Members' domestic structures or *vice versa*, "relationships of interdependence occur with networks of rules, norms, and procedures that regularize behavior and control its effects." Many envision that "the flow of influence is surely reciprocal between international regimes (institutions) and bargaining, and domestic policy." [91]

In a sense, some may notice that the regimes for R.O.Keohane (1982) have been conceptualized as 'intervening variables' standing between basic causal factors and outcomes/behavior. What S.D.Krasner (1983) calls "modified structuralism".[92] S.D.Krasner argues that a structural analysis emphasizing the relationship among basic causal variable, regimes, and behavior/outcomes suggests an even more discomforting line of reasoning.[93] This kind of discomfort or conflict, according to L.McKnight (1987a;b), sufaces when the large economic stakes are involved in the outcome of international regimes.

S.D.Krasner (1983) further develops a veiw that "once regimes are established they may *feed-back* on the basic causal variables that gave rise to them in the first place."[95] From this point, he sees that an international regime is not simply an intervening variable, but is an *'interactive or autonomous'* one. He argues that "once a regime is actually in place, it may develop a dynamic of its own that can alter not only related behavior and outcomes but also basic causal variables." According to him, there are four feedback mechanisms:

"a. regimes may alter actors' calculations of how to maximize their interests;
b. regimes may alter interests themselves;
c. regimes may become a source of power to which actors can appeal;
d. regimes may alter the power capabilities of different actors, including states."[96]

In terms of 'calculations of interests', R.O.Keohane (1982) also places emphasis on "'information channels' as a form of capital investment with potential economies of scale, under conditions of complex interdependence. He argues that the institutions and procedures that develop around international regimes acquire value as arrangements permitting communication, and therefore facilitating the exchange of information."[97] The function of information offers a reduction of uncertainty.[98] For this reason, regimes allow state-actors to gather information about the activities of others and are particularly important in situations where rapid information exchanges are vital.

With regard to the 'alteration of interests', regimes led to their creation in the first place by increasing transaction flows. As S.D.Kranser argues, through international agreements or rules on business practices and technology transfer, developing countries have sought to legitimate and thereby enhance the power of national governments to regulate multinational corporations. Referring to the 'source of power', the regime in this category is used by actors with limited national capabilities as a source of power. In relation to 'actor capabilities', regimes may reinforce or undermine the underlying power capabilities of their members.

On this basis, S.D.Krasner (1985) demonstrates 'methods' and 'reasons' for the structural conflicts in international organizations. In history, new regimes have been created by hegemonic Northern states possessing overwhelming military, economic, and ideological power. However, international organizations began to be no longer merely a mechanical tool obediently doing the work of their creators - the North. As G.D.Ness and S.R.Brechin (1988) argue, "they [organizations] are live collectivities interacting with their environments, and contain members who seek to use the organization for their own ends, often struggling with others over the content and allocation of the products. Histories, environmental interactions, and international conflicts give organizations a specific set of powers, but these are not always the powers their creators intended." [39]

The Third World wanted to alter the structure of international organizations, because they also wanted well-being through the economic growth and development, which industrialized countries had already achieved and enjoy. However, S.D.Krasner says that national political regimes in almost all developing countries are weak, poor, and *'vulnerable'* both domestically and internationally. Thus, because there may be few internal policy mechanisms, they want to use international organizations to achieve a *'legitimacy'* which could support their leaders in the control of domestic politics. Yet, S.D.Krasner himself made some exceptions such as the newly industrializing countires (e.g. R.O.Korea), although the reasons were not clearly discussed.

How does the South want to use international organizations ? According to S.D.Krasner, the developing countries (South) are in favour of *'authoritative allocations'* rather than a competitive *'market-oriented'* approach to achieve their goals, because they would be better off with authoritative allocation by rules rather than the liberalism which allows the market to determine who gets what. In this context, he suggests that there be two different sorts of power for the South to utilise in international organizations. The first is *'relational power'* behaviour which maximizes values within a given set of institutional structures. The other is *'meta power'* which changes the institutional regimes themselves. He argues that the developing countries prefer to use 'meta power' to alter

the existing and liberal international regimes. In particular, their vulnerability is one of the motivating forces for the meta-power program to transform international regimes.

However, R.L.Rothstein (1988) argues that "if authoritative allocation was as popular in the Third World as Krasner suggests, why does it appear that some developing countries have recently converted to "privatization and diminish government intervention in the economy."[100] Further, D.A.Lake (1987) puts forward the view that "Third World countries are not as homogeneous or domestically weak as Krasner asserts." He continues that "some developing countries are aggressively flexible. There is no a priori reason why Third World states cannot engage in market-led adjustment as easily as their developed counterparts. Some developing countries have no option but to allow international market forces to pass through into their domestic economies which is a central tenet of dependency theory. Third World states who may actually be more effective at market-led adjustment than the weak states of the North can often be more effectively met by governmental coercion".[101]

S.D.Krasner (1985) in particular argues that the reason why the developing countries were able to raise their voices through the UN and its agencies (e.g.,the ITU) lies in *'external variables'*. According to him, the developing countries' strategies could not be achieved by their own will alone. There are three variables by which they have succeeded in altering international regimes to some extent. First is the *'forum'* of existing *international organisational structures*. The developing countries gained access and began to raise their voices based on a one-nation-one-vote, i.e., *voting power*. Second, they gained from the *coherence of the ideological arguments* such as the new international economic order (NIEO)[102] (and the new international information order (NIIO)) used to rationalize and justify their demands. Indeed, the UN and its family agencies through the adoption of the Declaration and Programme of Action for the Establishement of a NIEO in the 6th UN Special Session of 1974[103] became involved in these economic conflicts.

A further external variable lies in the *time-period*. Namely, until the 1970s, the North, chiefly the US, had taken a defensive attitude toward the demands of the South. By the 1980s, however, such an understanding mood in international systems began to fade away. The North took universal international organisations less seriously, and the NIEO also became muted even though it did not disappear. Although, as S.D.Krasner argues, state power might still significantly remain as a crucial variable in the structural conflicts of international relations, in practice, the less favourable world trends for international organizations have been well demonstrated by the withdrawals of the US and the UK from UNESCO in the mid-1980s.[104] In this context, R.B.Porter and R.Vernon (1989) argue in favour of international organizations:

> "any move to curtail the role of the existing global institutions at this stage, while alternative means for international cooperation are not yet firmly in place, would be dangerous and destructive."[105]

2.2.3. **Beyond Structuralism**

It is also worth noting that challenges of such theories of complex interdependence or structural realism come from R.O.Keohane and J.S.Nye themselves in their later work (1987:753), where they suggest that :

> "[...] The concept of complex interdependence has been bypassed or misinterpreted [...]."

They suggest that more attention needs to be directed at "how a combination of domestic and international processes shape preferences, as well as to examine how conceptions of self-interest change, as a result of evolving international institutions, individual or group learning, or domestic political change."[106] From this point, H.H.Hobbs (1989) further emphasises that "the future of subnational actions on international issues is inevitable."[107] This is what R.O.Keohane (1986:192) envisions as **»beyond structural realism«**, which needs better theories of domestic politics, decision-making, and information processing, so that the gap between the external and internal environments can be bridged in a systematic way, rather than by simply adding catalogues of determined foreign policy facts

to theoretically more rigorous structural models. That is, it is necessary to pay more attention to the 'internal-external interactions'.[108]

In particular, referring to a matter of 'different ways or patterns of interdependence', P.J.Katzenstein (1975) places emphasis on a view that "international interdependence is expanding rapidly in *a whole range of issue-areas*."[109] D.Baldwin (1980) also suggests that "patterns of interdependence and patterns of potential power resources are closely related in a given issue-area."[110] Furthermore, R.O.Keohane (1986) envisions:

> "when considering different patterns of outcomes in different relationships or issue-areas, [...] power resources are differently distributed in issue-areas, and [...] ways in which these differences promote or contain actor attempts to link issue-areas in order to use power-resources from one area to affect results in another."[111]

Moreover, E.B.Hass (1980) and R.O.Keohane & J.S.Nye (1987) developed their work on "issue-areas that has gone beyond typology by applying an economic or public choice approach to issue-linkage." A key feature of issue-linkage is that "it necessarily involves intragovernmental (national) as well as intergovernmental (international) struggles."[112] It means that, as A.Stein (1980) points out, although "linkage is the central analytic problem with an issue approach to international relations",[113] the issue-area approach is subject to context-dependence.

For this reason, R.O.Keohane & J.S.Nye's (1987) analysis of regime change focused on issue-specific sources of power and developed an "issue-structure theory."[114] According to them, structural theory remains useful because its simplifications help to highlight how self-interest can be consistent with the formation and maintenance of international institutions. Namely, one needs information about preferences as well as about structure to account for state action, on the grounds that even if we understand both state preferences and system structure, we will often be unable to account adequately for state behavior unless we understand other attributes of the system, such as the character of international and transnational interactions and the nature of international institutions.[115]

Nonetheless, as S.D.Krasner (1983) sees, these neo-realist perspectives - *inter alia* international regimes - on international organizations meet two challenges. The first is dependency theorists, who see the regime reinforce existing power capabilities. The other is neo-mercantilists, who see a fully open regime for goods and services initially serving the interests of a hegemonic state, but over the long term tending to undercut the hegemon's position.[116]

2.3. Dependencia Pespectives

According to C.Archer (1983), neo-realists especially R.O.Keohane and J.S.Nye (1977) did not clarify a "definition of dependence as a state of being determined or affected by external forces"[117], although R.O.Keohane and J.S.Nye categorize the term interdependence into two: sensitivity and vulnerability.[118] There is also a possibility of 'conflict' rather than a course of co-operation, because the term interdependence connotes the ability of one state to influence another in some way. When two states cooperate, they benefit from the creation of new values. When they are in conflict, they attempt to gain values at each other's expense.[119]

As a matter of fact, analysing the 'cost-benefit' of an interdependent relationship is almost impossible. The consequences - whether the benefits exceed the costs - depends on the values of the actors as well as on the nature of the relationship. In theory, the effective management of cooperation, including the application of planning, programming, and budgetary tools, could make a contribution to the enhanced and beneficial interdependence of member-states. In terms of cost-benefit analysis, however, the wider the gaps and disparaties of international power which exist among actors - especially between North and South, the more conflicts arise between them in international organizations.

The **›dependencia paradigm‹** in relation to international organizations suggests that "the inequality of capabilities within interdependence relationships at times evokes fears of dependence on the part of governmental and non-governmental actors."[120] Hence, the term

interdependence does not always mean situations of 'mutual benefit'. "The idea of asymmetrical interdependence "may be more appropriate, although "asymmetrical interdependence does not imply that one bargainer will be able to exercise influence over another".[121] In other words, "interdependence is a prominent characteristic of the relations between the industrial countries and between them and some developing countries (OPEC members)[122], but not between developed and developing countries. Simply, the more powerful states can use interdependent relationships or international regimes as a further source of power. Therefore, many believe that successful cooperation between the contending member-states of the UN and its family agencies such as the ITU is impossible to achieve.[123]

Against this background, S.Amin (1977) argues that "the call made for a new international economic order (NIEO) by Third world leaders at the UN and the various North-South dialogues is an attempt to obtain more imported technology and thus to finance a new stage of development." He also sees this attempt as placing the Third World more in the grip of the neo-colonialist system. Hence, he recommended more self-reliant development with mutual assistance between Third World states, a reduction in trade with the industrialized world, and thus a loosening of dependence. All in all, he has "little faith in the present international organizations as tools for fashioning a more independent or interdependent Third World." In consequence, he suggests that greater mutual assistance between Third World states should imply something more sophisticated than a number of bilateral arrangements.[124] Some dependency theorists, therefore, recommend the South to co-operate among themselves through forming regional organizations such as the Association of South East Asian Nations (ASEAN).

K.J.Holsti (1978), however, looks at the question of how the dependencia perspective can explain how some countries have successfully overcome neo-colonial economic relationships to promote genuine indigenous development, for instance through export-drive development[125] and through active participation in the ITU and implementation of its organizational systems and functions.

2.4. Neo-Mercantilist Perspective

The essential idea of the »neo-mercantilist« perspectives is the priority of national economic and political objectives over considerations of global economic efficiency. Simply, each state-actor will pursue economic policies that reflect domestic economic needs and external political ambitions without much concern for the effects of these policies on other countries or on the international economic system as a whole. One thing in common between the North-South conflict and earlier mercantilism is its primarily 'economic' nature. That is, state goals are identified with the pursuit of economic power. Accordingly, states may seek to diversify their economies or manipulate the international economy in numerous ways including through multilateral international organizations.[126]

L.McKnight (1987a) considers international telecommunications - particularly standardization - as mercantilism. Because of the international economic importance of Integrated Services Digital Network (ISDN), the telecommunications issues with which the ITU traditionally dealt are expected to be the center of a power struggle between telecommunications administrations and terminal equipment manufacturers. He (1987a;1987b) also argues that the "large economic stakes in the outcome of an international telecommunications standards-setting process [through international organizations particularly such as the CCITT under the auspices of the ITU] increases the probability that political, not technical, factors will be determinative in the formation of coalitions to support the adoption of a particular standard." Hence, he believes that "neo-mercantilist state reactions will be frequent, and cooperation infrequent, although with increased competition individual firms and nations may have increased incentives to cooperate on standards."[127]

However, what neo-mercantilists seemingly omit is the current tendency of developed countries towards increasing protectionism because of issues of *sovereignty*. As S.D.Krasner (1988) emphasizes, "sovereignty legitimates national states functioning within specific territorial boundaries. [...]

Without sovereignty, many poor and small areas would be placed in formally subservient relationships with more powerful actors."[128]

Given the importance of econo-political sovereignty, international organizations have helped to set the international agenda, and acted as catalysts for conflict- or coalition-formation characterized by direct communications and as arenas for political initiatives and linkage between states. The one-state-one-vote norm has allowed states to pursue their strategies. Therefore, the ability to access and choose an organizational forum is regarded as a critical econo-political resource. The ITU is such an econo-political as well as technological resource.

3. Review Three - Telecommunications: Issue-Areas

Telecommunications is a vital variable mediating the interlinkages between R.O.Korea and the ITU, because negotiating all forms of telecommunications issues has been the *raison d'etre* of the ITU. Further, commentators such as Rosenau (1969), C.R.Mitchell (1978), H.K.Jacobson (1979), R.O.Keohane & J.S.Nye (1977;1987) and S.D.Krasner (1985) envisage telecommunications (or communications) as "an impetus of dynamic global interaction or linkage."[129] In particular, telecommunications can be the very issue-areas in which "power resources are differentially distributed"[130], as P.J.Katzenstein (1975), D.Baldwin (1980), R.O.Keohane (1982;1986), and S.D.Krasner (1983) argue. Then, *what is telecommunications and what issues have impacted on both national (R.O.Korea) and international (ITU) telecommunications sectors ?*

3.1. Telecommunications and Its Applications

3.1.1. What is Telecommunications ?

According to the International Telecommunication Convention of the ITU, the concept of telecommunications is defined, as follows:

"Any transmission, emission or reception of signs, writing, images and sounds or intelligence of any nature, by wire, radio, optical or other electromagnetic systems."[131]

3.1.2. **What is Telecommunications Technology ?**

The concept of telecommunications tends to be of technology *per se*, of which transmission may take one of three forms: "electrical signals along a conductor; electromagnetic radiation; or light signals passing along an optical fiber."[132] In another sense, the term telecommunications technology is often identified or confused with information technolgy mainly due to the convergence of computer and telecommunications technologies. Computers need telecommunications for transmission and telecommunications networks need computers for switching and signalling. Yet, the concept of information technology seems to be rather broader than telecommunications technology, as seen in its definition:

"The acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro electronics-based combination of computing, telecommunications and video."[133]

Indeed, information technology has arisen as a separate term to describe the convergence of computers providing the capacity for processing and storing information, telecommunications providing the *vechicle* for communicating and video techniques providing high quality display of images. Overall, the cluster of technologies consisting of "computers, telecommunications, fibre optics, and even satellites"[134] which have separately evolved, can hardly exist on their own. They are intertwined one another, today.

3.1.3. **What are Telecommunications Services ?**

The convergence of telecommunications technology offers a variety of new services. According to ITU's definition, telecommunications services have two categories. One is 'bearer service'. The other is 'teleservice'. The former is "a type of telecommunication service that provides the capability for the transmission of signals between user-network interfaces."

The latter is "a type of telecommunication service that provides the complete capability, including terminal equipment functions, for communication between users according to protocols established by agreement between administrations*."[135]

On occasion, the concept of telecommunications services is identified by criteria used in national regulations for 'basic services' (both voice and non-voice) and 'value added services' (called enhanced or special services).[136] The latter, "which are a product of the linkage of computers into the communication network", offer various new services such as "electronic document interchange, viewdata, store-and-forward message switching, terminal and host interfacing."[137] Various higher quality services are also expected in the advent of integrated services digital networks (ISDN). But, there still remain considerable arguments about how to classify these services.[138]

3.2. Telecommunications and Its Issue-Areas

3.2.1. Telecommunications: Socio-Economic Issues

Rapid innovation of telecommunication technology leading to the emergence of new types of telecommunication services has impacted on various socio-economic aspects of the national and international telecommunications community.[139] Some commentators such as F.Williams (1988) envisage "the telecommunications infrastructure as an important requisite for development of an information-age economy".[140] Others argue that telecommunications has been increasingly recognized as of significance for commerce and socio-economic development.[141] Overall, telecommunications becomes a prime impetus not only for supporting other economic infrastructures but also for directly generating socio-economic development. These arguments mainly stem from the growing size of telecommunications **markets**[142], which are structured by both telecommunications equipment and service industry.

With respect to **telecommunications equipment**, three key market segments can be categorised: Network switching equipment, transmission equipment and

terminal (or customer premises) equipment.[143] These markets, of which world expenditure on telecommunications equipment is forecasted to exceed $120 billion in 1988[144], have been growing as seen in Table 2-1 and 2-2.

Table 2-1; Trading Countries' Exports of Telephone and Telegraph Equipment (1980 & 1985)

Countries	1980α	1985α	export annual growth rate (1980-5;%)	total 1985 exports(%)
Japan	602	2,148	29,0 (4)	27,7
Sweden	445	946	16,3 (9)	12,2
F,R,Germany	635	876	6,6 (12)	11,3
US	557	832	8,4 (11)	10,7
Canada	211	600	23,2 (6)	7,7
France	179	*486	**28,4 (5)	6,3
Belgium	222	461	15,7 (10)	5,9
Britain	140	348	20,0 (8)	4,5
Taiwan	32τ	297	45,0ψ (3)	3,8
Hong Kong	14	206	71,2 (1)	2,7
R,O,Korea	25	196	51,0 (2)	2,5
Italy	72	187	21,0 (7)	2,4
Netherlands	344	171	-13,0 (13)	2,2
Totals	3,478	7,754	17,4	100,0

Note; 1985 average exchange rates were used for both years,
α ; millions of US dollars
(); ranking
* ; figure for 1984
**; growth rate for 1980-1984
τ ; figure for 1979
ψ ; growth rate for 1979-1985

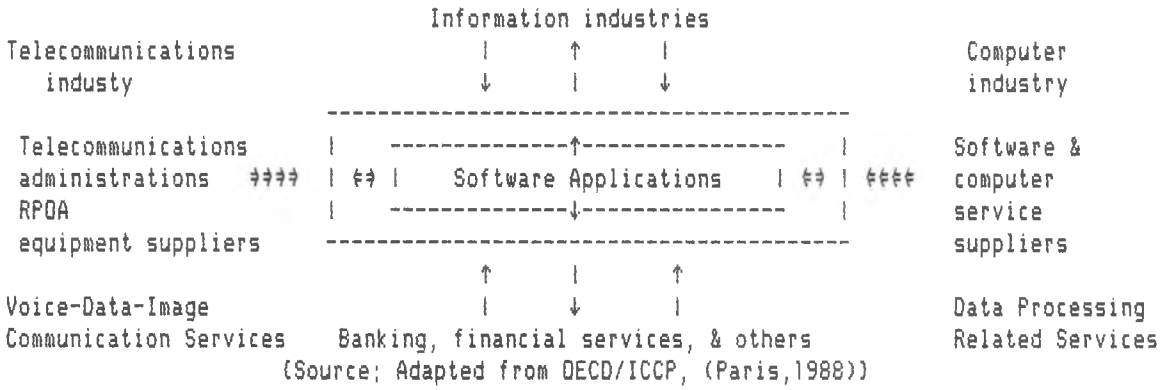
Table 2-2; Telephone & Telegraph Equipment Trade Balances; Telecom Equipment Markets

Pricipal exporting nations	1980	1985	1986
Japan	562	2,004	7,080 (3)
Sweden	407	788	845 (18)
F,R,Germany	534	685	5,888 (4)
France	121	394*	4,482 (5)
Canada	114	394	1,885 (8)
Taiwan	-15**	161	685 (20)
Belgium/Luxembourg	141	130	468 (27)
Hong Kong	-68	61	521 (25)
R,O,Korea	-93	-8	1,422 (10)
Italy	13	-26	3,916 (6)
Netherlands	208	-29	544 (24)
Britain	40	-110	3,146 (7)
US	136	-1,196	24,009 (1)
USSR	-	-	8,400 (2)
China	-	-	1,448 (9)

Note ; Balances computed using 1985 average exchange rates (millions of US dallars)
* ; figure for 1984 **; figure for 1979 (nos,); ranking
(Souce; US Department of Commerce & ITI (1988))

With respect to **telecommunications services**, four principal market segments can be identified: value-added telecommunication services, local telephone services including leased lines, long-distance voice and data services, and interconnect agreements.[145] The total services market and industry participants increasingly overlap between telecommunications and computer infra-structures, and are expected to lead to new entry opportunities in all areas of the market, as Figure 2-1 illustrates.[146]

Fig.2-1 Telecommunications Network-based Services - Total Market and Industry Participants



(Source; Adapted from OECD/ICCP, (Paris,1988))

As Table 2-2 and Figure 2-1 illustrate, "major advances in telecommunications are playing an even bigger role in shortening the economic distance between countries, promoting the globalization of markets with various participants, and greatly stimulating the scope for international trade.[147] In return, "telecommunications is now inextricably interwoven with other economic sectors, the broad industrial and **trade policy**, consequences of which should not be decided purely by administration (PTT) engineers."[148] In particular, attention in telecommunications is focusing on **trade in services**.[149] Controversies at both bilateral and multilateral levels, such as the General Agreement on Tariffs and Trade (GATT), European Community (EC), and the ITU (*inter alia*, WATTC-88), have increased since the early 1980s.[150]

3.2.2. **Telecommunications: Policy Issues**

Technology *per se* is not 'deterministic'. Rather, it is efficient management or implementation of the technology - called *policy* - that determines a nation's telecommunications competence. As C.Ham and M.Hill

(1984:174) argue, policy issues go hand in hand with other socio-economic issues. Their argument is enhanced by J.V.Langdale (1989):

> "telecommunications and trade in services have become prominent international policy issues in recent years [...] because of the enormous trade, industrial and strategic stakes in the emerging international information economy."[151]

With respect to telecommunication policy, traditionally it has been regulated by Governments, so that it has been regarded as *stable*. An apparent phenomenon in current world-wide telecommunications is the movement towards deregulation, liberalisation, or privatisation, although the scope and degree differs depending on each country. For instance, some (USA) would like to have a fully competitive marketplace, while others want a combination of deregulation and some active regulatory involvement which is necessary to make the transition from essentially non-competitive markets to fully competitive ones while continuing to protect the public."[152]

What is then the meaning and implication of liberalisation, deregulation, privatisation ? The concept of **›liberalisation‹** identifies a "transfer of markets from a system based on rules made by governments to one based on competition between private entities."[153] Its fundamental assumption is based on a view that "in a free market exchanges between individuals will lead to an efficient or optimal allocation of resources. The liberalised or decentralised market system enables individuals to maximize their utilities. In other words, political interference with the process causes inefficiency to the extent that it directs productions away from that pattern of goods and services which would occur from the exchanges of individuals."[154]

Based on this belief, national networks are physically and virtually 'open' at both national and international levels in a country such as the US. Namely, they decide 'not to regulate' ('deregulate') them because "either such regulations cause inefficiency or such deregulation can be a positive force to stimulate competition."[155] Liberals also prefer competition for

"solving any problems which may arise in the industrial transactions of this new industry by way of bilateral or multilateral agreements".[159]

Here, one may raise a question - *why and how has liberalisation emerged from traditionally monopolized telecommunications sectors ?* The reasons are derived from a number of converging pressures, particularly depending on the nature of each country's socio-econo-political circumstances.[157] The most frequently cited reason for liberalisation - especially in subscriber equipment markets - was the need to realize the vast potential of technical change in telecommunications. The implicit assumption was that competition is a more appropriate mechanism for a rapid diffusion of technology than is monopoly.[158]

However, as J.Hills (1989) argues, "the technology itself does not create the pressure, rather [innovation or the convergence of computer and telecommunications technology] has not only introduced new actors such as IBM into the traditional telecommunications market, but also allowed multinational companies to provide their own networks at low cost."[159] Hence, there are technological, economic, and political incentives for liberalisation of national and international telecommunications.

The term **›privatisation‹** is defined in various ways depending on each country.[160] In theory, there are two approaches: In a narrow sense, the term means "the tranfer of ownership from public to private entities".[161] In a broad sense, the term is defined as "the removal of government intervention through which private sectors are allowed to have access to the market."[162] Here, the term privatisation is often confused with the term **›deregulation‹**, esepcially in telecommunications. V.Mosco & E.Zureik (1988) see such a confusion as due to a similar political view, i.e., the support for less government involvement in the telecommunications industry."[163]

The underlying idea of those who use 'privatisation' in this broad sense stems from the negative effect of 'nationalization' whose prime aim was to facilitate cross-subsidies from more profitable services. Hence,

pressure for privatisation is derived from the desire to "improve industry performance by increasing the role of market forces".[164] In telecommunications privatisation also comes from "the need of governments to earn revenue - of particular importance in Third World countries" as well as "the desire of governments not having to finance investment in the telecommunication network from public money.[165]

From a positive viewpoint, "privatisation will generate benefits for consumers because privately-owned companies have a greater incentive to produce goods and services in the quantity and variety which consumers prefer." In contrast, from a negative viewpoint, a greater incentive to exploit public or private monopoly power commercially means that these private entities are in turn less willing to provide uneconomic services, eliminating inefficient production and restrictive labour pratices mean the release of resources.[166] That is, there is considerable pressure for efficiency audits on the grounds that monopoly industries will have inadequate incentive to increase efficiency. As a result, policy-makers in most countries still favour some regulation.

Further, it is worth noting that 'procurement' or 'protectionism' practices under deregulation or privatisation are fungible - if not growing. For instance, "the entities include not only the public monopolies (e.g.,PTTs), but also regulated private monopolies (e.g.,Bell Canada and the Bell Operating Companies (BOC) in the US), so-called 'private' carriers where the government is the major shareholder (e.g., KTA [R.O.Korea], NTT [Japan], BT [UK]), privately-owned carriers with equipment-manufacturing affiliates (e.g.,AT&T and GTE) as well as the telecommunication systems that a number of governments operate on their own behalf".[167] In this context, J.Hills (1989) argues that "the extent of regulation is a political decision. [Hence], the term 'privatisation' hides a variety of government controls."[168]

What is then the meaning and implication of re-regulation ? The rationales for governmental intervention - i.e, regulation that is the system of rules governing the market laid down by government - in any sector of the economy which under idealized competitive conditions would

produce maximum social welfare have varied. The term 'regulation' can be construed as consisting of three types: behavioral, structural, and technical.[169]

The policy of regulation is in a sense created by the negative effects of privatisation. It is envisaged as being necessary or inevitable in order to prevent undesirable practices in industries such as a natural monopoly and to provide universal services (e.g. universal telecommunications services) at relatively low rates to customers. Based on this belief, through government authorities (PTTs) most countries have regulated or even directly run every aspect of the telecommunications network and its associated services including terminal equipment.

In practice, considerations based on diversity, advanced technology, and contestability of market structure depending on the notion of ease of market entry are all less applicable to most developing countries and to some developed countries. Here, "an argument may come from economies of scale and scope, and sustainability of monopoly, apart from that of national monopoly."[170] Thus, pro-regulationists argue that the "forces of liberalisation have been too aggressive in pressing for rapid change; too quick to pass judgement on diverse national policies; and too intensive to legitimate sovereign rights and social objectives".[171] From this point of view, Beesley and Littlechild (1983) argue that "unless safeguards are provided for adversely affected interest groups, privatisation itself could well be jeopardized." In other words, "regulations established to protect the public from the abuses of a monopolist need to be maintained when competition has supplanted monopoly."[172] Privatisation needs institutions and regulations to police the de-regulated market.

For instance, privatisation of BT (UK) resulted in establishment of "a competitive environment administered by a 'watchdog' body (OFTEL) which would attempt to police and promote fair and effective competition and benefit consumers."[173] Similarly, "the role played by the Federal Communications Commission (FCC) in the US for promoting a competitive telecommunications industry structure deserves recognition. The FCC's unique efforts used regulation as a tool to accommodate and foster a

competitive industry structure.[174] Then, will not the extent of regulation through creating or re-evaluating these governing bodies be in a sense *re-regulation* rather than *de-regulation* ?

From the *pro-deregulation* point of view, criticism of regulation first lies in the regulatory process itself. Chiefly in the US, various interest groups with a great deal of influential power use the regulatory process as a "means to further their own economic advantage at the expense of others". As a result, "rather than compete in the marketplace, they [firms] compete in the political domain for control of the coercive power of the government." Further, "regulatory outcomes can result in very substantial economic inefficiencies. Nor is outcome inefficiency the only cost; the regulatory game itself consumes resources such as simple lobbying costs".[175]

Because national PTTs are subject to "practically no competition with regard to price, scope or quality of services, a further argument comes from an efficient management perspective. J.Ziets warns of an overall weakening in the affected national economies as a consequence of a telecommunications system that is inefficient, as measured against international standards".[176] Overall, this pro-deregulation view argues that "pressure of competition and the firms' own incentive not to waste resources are likely to be more effective inducements to efficiency than the creation of a government nanny."[177] Regulation will not solve problems, but it *is* itself the problem, that is the primary barrier to efficient development of a market.[178]

In conclusion, both regulation and deregulation policies have *pros* and *cons*. It depends on telecommunication policy-makers to what degree they regulate or deregulate. Nevertheless, such competition tends to be 'contagious'.[179] Although the reasons and processes of liberalisation, deregulation and privatisation differ from one another depending on the relevant country's econo-political circumstances, overall changes in the political environment or mechanisms adopted by government, rather than in technological innovation *per se* are a major factor in the creation of liberalisation, privatisation, or re-regulation in most countries.[180]

3.2.3. **Telecommunications: Legal Issues in Both Bilateral and Multilateral Frameworks**

These emerging economic and policy issues enhanced by technological applications steer the reform of the **›legal framework‹** of national and international telecommunications. "Existing rules covering [national and] international telecommunications have not kept pace with the revolutionary changes taking place in telecommunications technology and regulatory approaches."[181] In R.E.Butler's (ITU's Secretary-General) view, "all the telecommunications community owes its existence to, and is regulated by national and international law which is itself a product of the needs of society and its constituent establishments."[182]

Growing concern about international regimes in telecommunications come from both trade in equipment and services. That is, "an important set of obstacles to trade in telecommunication equipment are embodied in technical standards at national level and the processes by which these standards are applied." These standards and product standardization - especially those based on multilateral agreements - help reduce the costs of market entry and increase competition.[183] Also, many envision that the expansion of trade in services derived from telecommunications development to future worldwide business will be the most feasible through the least regulation. Multilateral agreements play an important part in this process of transition from heavy to light regulation. In particular, referring to telecommunication trade agreements, a survey demonstrates that "while bilateral accords were seen as the most expeditious by 57% of the respondents, 'multilateral agreements' were considered the most desirable long-term solution, 81% indicated."[184]

3.2.4. **Telecommunications: Considerable & Contentious Issues**

The more telecommunications has been paid attention at both national and international levels, the more interests have overlapped leading to conflicts among participants at both bilateral and multilateral levels.

In terms of its impetus as a mechanism of socio-economic development particularly in the developing countries, telecommunications has received very little attention from academics. Research regarding the interaction between communication (mainly mass communication) and econo-politics traces back to the early 1960s, when L.Pye (1963) and D.Lerner (1963) tried to outline a general philosophy toward the role of communications in econo-political development as the main instrument of modernization or socialization.[185] In contrast, in the 1970s a view emerged that "communications has a special role to play in the new paradigm of self-reliance, which is a strategy of improving the international division of labor without any form of dependency."[186] This optimism met challenges of the dependencia paradigm, which focused on trade in 'foreign telecommunications technology transfer' and 'know-how' which led to wider gaps or imbalances between the haves and have-nots.[187] C.Hamelink (1985) argues that "the transfer of the advanced information technologies to developing economies has been compared to the 'transfer of the canoe without the paddle'."[188] In order to dilute such negative effects or to bridge the widening gap in development of international telecommunications, studies concerning the dynamic interactions between telecommunications and economic development and operational functions such as technical assistance to developing countries have been encouraged and carried on by multilateral organizations such as the OECD and the ITU, especially since the 1980s.[189]

However, many argue that the "ITU of which activities have been in tradition confined to technical questions[190] should adopt measures in anticipation of a multilateral trade regime covering telecommunications. In return, many forecast an "overlapping or a blurring of jurisdictional lines"[191] among various international (multilateral) organizations. For instance, the ITU and its Consultative Committee on International Telegraph and Telephone (CCITT), the International Standards Organization (ISO), the International Electrotechnical Commission (IEC) and the European Conference of Postal and Telecommunications Administrations (CEPT) all have been largely instrumental in achieving the existing degree of technical compatibility of international standardization in the field of telecommunications. None of these organizations, yet, is primarily

concerned with the trade impact of standards. Here, one may suggest the GATT. However, it is worth clarifying that the GATT's competence with respect to telecommunication standards is very limited. For example, the Standards Code does not presently cover network equipment, because the code does not extend to government purchasing specifications.

Nonetheless, an obvious areas of 'overlap' - if not conflict - between the ITU and the GATT is envisaged by G.Feketekuty (1988):

> "First, the responsibility of telecommunications officials and ITU to establish internationally recognized technical standards for the interconnection of national networks will overlap with the responsibility of trade officials and GATT to develop rules for minimizing the use of standards as trade barriers. Second, efforts by ITU to harmonize conflicting national regulations with respect to international telecommunications services will inevitably overlap with efforts by GATT to establish rules designed to minimize the trade-distorting effects of national regulations. Third, the traditional role of ITU in developing economic provisions for the interconnection of national telecommunications networks will overlap with the role of trade officials in establishing rules for fair international competition in competitive segments of the telecommunications sector."[192]

It is also of importance to note that where there is stalemate each Member-State or its gigantic multinational companies may like to use 'α' multilateral organization (e.g.,ITU) to affect results in another multilateral or bi-lateral organization (e.g.,GATT).[193] For instance, according to J.Aronson, the US strategy, whose position is based on the right to access and free movement principles, is not striking directly at the PTT monopoly of pricing and facility practices *per se*, but rather "using GATT to promote changes in pricing principles and access to basic networks for value-added and information services, including shared user and non-carrier providers; looking to GATT to ensure that US firms get a fair deal on technical standards, especially those affecting customer premises equipment; and building up the role of GATT to be the central forum to negotiate telecommunication and information service problems."[194] This strategy effects the ITU and its various infra-organs such as the World Administrative Telegraph and Telephone Conference (WATTC-88), where issues in international telecommunication services are dealt with.

All in all, the ITU and its various infra-organs, in which R.O.Korea has had membership since the 1950s, have been traditionally involved in all forms of telecommunications issues. And, these complex and dynamic telecommunications issue-areas can be assumed to have had increasing direct and indirect impact upon patterns of interlinkage between R.O.Korea and the ITU.

4. Research Questions and Methods

None of the studies discussed in these reviews can directly explain interlinkage between R.O.Korea and the ITU, nor the impact of ITU membership on the internal policies of R.O.Korea. However, they give a possible approach to an explanation of interlinkage between R.O.Korea and the ITU. That is, on the bases of the reviews above, one might expect R.O.Korea as a developing country (or a NIC) to have specific reasons for joining and utilizing the international power of ITU. If R.O.Korea were to have acted as one might expect from the literature, then one would assume a particular set of answers to the following questions: Why has it wanted to be a member of the ITU ?; What mechanisms has it used to further its interests ?

In theory, if the R.O.Korea had acted as R.O.Keohane and J.S.Nye (1987) suggest, it would have wanted the ITU to get information to reduce uncertainty and provide guidelines for bureaucrats. Or, as S.D.Krasner (1985) suggests, it would have wanted to use the ITU in order to achieve legitimacy. In particular, as S.D.Krasner (1985) suggests, it would have specific requirements from the ITU: It may have preferred an international telecommunications systems based on authoritative rules rather than market-oriented rules, and wished the ITU to deliver this. Also, it would have wanted to alter the existing ITU regimes.

In practice, it is not such a simple scenario. This *utilitarian* approach alone cannot explain why some countries like R.O.Korea fail to achieve some desired goals or to alter the existing ITU regimes, while others succeed, except to say that those who fail did not act to maximize

their utility (S.D.Krasner, 1988:68). Taking account of this limitation, although this thesis considers various theoretical perspectives and their arguments ranging from realism to neo-mercantilism (Ch.II.2), its major framework is based on neo-realist perspectives largely due to their use of the concept - 'structure' (R.O.Keohane and J.S.Nye,1977; E.B.Hass,1980; A.Stein,1980; S.D.Krasner,1985; and J.S.Nye,1988).

As discussed in the review (CH.II.2.2.1), the dynamic of 'structure' theory is based on the assertion that the state system is differentiated into a component core and periphery segments. This categorization extends the insigths of structuralist class analysis to the international level, where there emerge fundamental conflicts among state and non-state actors. In this view, as the power of states (and non-states) change, the rules comprising international regimes will change accordingly. Thus, the states (and non-states) with significant power capabilities (i.e., *core*) will determine the nature of international regimes.

Yet, it is important to clarify the term - **'structure-centred approach'** - used in this thesis. It not only involves analysis of the distribution of economic (and/or military) capabilities among state and non-state actors within *international organizations* such as the ITU, referring to 'multilevel linkages, norms, and institutions.'(R.O.Keohane and J.S.Nye,1989:54). But it also involves analysis of both 'Union's organizational system' and 'R.O.Korea's domestic telecommunications infrastructure'. The former's scope encompasses organizational purposes, legal instruments, organizational infrastructures, fiscal and personnel management, and method of decision-making. The latter covers driving factors and implications of changes in policy, legal arrangements, and infra-organs under the evolving bureaucratic-authoritarian econo-political structure.

The major reason for employing the Union's organizational system lies in that power over outcomes can be conferred by *organizationally dependent capabilities* such as specific organizational purposes, infrastructures, and method of decision-making (e.g., voting system). In theory, as G.D.Ness and S.R.Brechin (1988) argue in relation to international organizations, the ITU

as an independent organizational variable is a live collectivity interacting with its environments. In practice, the Union's system has not been 'static' but incessantly 'evolving'. Such evolution can be derived from both ability to form coalition or conflict among State and non-State Members, and the organizational characteristics *per se* over time in association with technological innovation. It is apparent that, without looking at the Union's organizational system, it is difficult to explain: How and why the ITU has changed its system including purposes, legal instruments, infrastructures, fiscal and personnel management, and method of decision-making over time.

However, analysing this organizational system alone cannot substantially explain the political processes within the ITU, without looking at the implications of actors' (R.O.Korea's) strategies and their ability in implementing them: How and why R.O.Korea has changed its actions such as methods of using and participating in Union's infrastructures, capability of contributing to Union's finance and personnel, and influence on decision-making; and, how and why these actions have differed from other Members'. In practice, Korea's actions within the ITU are largely influenced by the ways in which it faces its unique circumstances such as a divided nation into two parts (South and North) subject to ideological differences (e.g., capitalist vs communist). Furthermore, despite R.O.Korea's rapid economic growth and longstanding desire to be a UN member, it still has not gained membership. Due to such unique econo-political circumstances, it can be assumed that R.O.Korea uses the ITU's organizational system as an alternative to the UN and as a forum within which it could compete with its counterpart - N.Korea.

Another framework, that needs to be clarified, is the **'issue-structural approach'**. This integrates internal and external structures focussing on specific issue-areas, as developed by R.O.Keohane and J.S.Nye (1987) (Ch.II.2.2.3). The reason for employing this issue-structural approach derives largely from a limitation of the structure approach, which does not differentiate among issue-areas, such as telecommunications. In theory, as R.O.Keohane and J.S.Nye (1977 & 1989: 50) argue, different issue areas often have different political structures that may be more or less insulated from

the overall distribution of economic and military capabilities. Similarly, as D.Baldwin (1980) argues, patterns of potential power resources are closely related in a given issue-area. In practice, the telecommunications issues *per se* discussed in Ch.II.2.3 would have directly and indirectly influenced both ITU's functions and R.O.Korea's telecommunications sector. For example, ITU rules have been very important for the use of telecommunications of all kinds. In particular, many of its deliberations such as developing technology (e.g.,ISDN), setting standards (e.g.,CCITT Recommendations), and formulating regulations (e.g.,WATTC-88 Regulations) become highly political due to lucrative characteristics of telecommunications.

Whilst, R.O.Korea's telecommunications sector, which has been run by the Government since 1885, undergoes rapid development to presently rank it the 10th in the world telecommunications market. In contrast to this development - especially in its indigenous technology and trade capability -, R.O.Korea is currently facing dilemmas due to the different domestic telecommunications systems imported from different countries with lack of international compatibility, and due to the pressure from some industrialized countries (chiefly the US) to open up its telecommunications - *inter alia*, services - markets. In this context, R.O.Korea can be anticipated to use the ITU regime in order to lessen or solve its vulnerability derived from bilateral agreements. Also, it can use power-resources from the ITU regime to affect results in another multilateral organization such as GATT, and *vice versa*.

Overall, this issue-structuralism in theory offers to generate predictions for particular situations. However, as R.O.Keohane and J.S.Nye (1977 & 1989: 51) argue, it is less powerful than the overall structural theory. Mainly because it requires more information about the overall structure of power and how that power is distributed by issue-areas. In practice, without studying R.O.Korea's specific strategies and its methods of implementing them in relation to the ITU's functions (i.e., as issue-areas), its actions concerning particular issue-areas cannot be explained.

In this context, it is significant to integrate R.O.Korea's specific domestic econo-political structure and the Union's organizational system, in a given issue-area such as telecommunications. In practice, interlinkages are mediated by diverse interests within domestic policy as well as by the changing representation of these interests within the ITU. Thus, it is necessary to look at a combination of 'internal-external interactions'. For example, how has R.O.Korea's bureaucratic-authoritarian regime impacted on changes in the domestic infrastructure of telecommunications and on the utilization of the ITU ? How has the ITU regime impacted on changes in R.O.Korea's internal telecommunications ? The implication is that one has to study both internal and external factors in both R.O.Korea's domestic telecommunications infrastructure and the ITU's organizational system and functions. Without such a study, it is difficult to examine methods and reasons underlying R.O.Korea's behaviour within the ITU's organizational system, which may differ from those in relation to the ITU's functions (i.e.,issue-areas).

For these various theoretical and practical reasons, this thesis attempts to combine both approaches in order to investigate the interlinkage between R.O.Korea and the ITU: ›Structure-centred approach‹ involves analysis of both R.O.Korea's domestic telecommunications infrastructure and the ITU's organizational system where state and non-state members (R.O.Korea) distribute their capabilities. Whereas, ›issue-structural approach‹ integrates internal and external structures focussing on ITU's four major functions as issue-areas. These include operational functions such as technical co-operation and assistance activities to developing countries; developing telecommunications technology focussing on ISDN; standardization functions undertaken by the CCITT; and regulatory functions undertaken by the WATTC-88.

On this basis, **R.O.Korea's domestic telecommunications infrastucture under the evolving bureaucratic-authoritarian regimes** will be discussed in Chapter III: What were the driving forces that impacted on R.O.Korea's domestic telecommunications infrastructure ?; How has evolving R.O.Korea's bureaucratic-authoritarian regime impacted on or implemented its domestic telecommunications whose issues have traditionally been technical-oriented

areas ?; And, what limitations and implications are left to be considered ?

ITU's organizational system and its functions in the evolving national and international telecommunications community will be further discussed in Chapters IV.1 to VIII.1: How has the ITU's organizational system evolved over some 125 years ?; What are the ITU's major functions (issue-areas) ?; What are the emerging issues within the ITU, in both its organizational system and functions ?; Why and how have the ITU's Members formed coalitions or come into conflict in both its organizational system and each function (issue-area) concerned ?

Based on discussions of both R.O.Korea's domestic telecommunications infrastructure under the bureaucratic-authoritarian regime and ITU's organizational system and functions, this thesis will investigate methods and reasons underlying interlinkage between R.O.Korea and the ITU in Chapters IV.2 to VIII.2:

1. **Methods of interlinkage**: How have both the organizational system and the functions (issue-areas) of the ITU impacted on development of R.O.Korea's domestic telecommunications and its infrastructure ? How has R.O.Korea used the ITU over time ? ;

2. **Reasons underlying interlinkage**: What was the driving force for the interlinkage between R.O.Korea and the ITU ? Was it R.O.Korea's domestic bureaucratic-authoritarian regime ? Was it external forces ? Or, was it simply the development of telecommunications issues *per se* ?

In order to examine these questions, the **research methods** used are based on a combination of primary and secondary sources, and empirical field surveys. In particular, the latter will combine both 'observation' of the processes of the ITU regimes (e.g., CCITT Study Group Meeting and WATTC-88) and 'interviews' on the basis of open-ended questionaires. The interviewees for this thesis include staff (researchers, technical experts, accountants, and administrators) of R.O.Korea's telecommunications infra-organs (MOC, KTA, DACOM, ETRI, KISDI, etc.) in Seoul; delegates (lawyers, diplomats, and administrators) of ITU's Conferences in Melbourne and Geneva; and elected officials (Secretary-General of the ITU and Director of the CCITT) and staff in Headquarters of the ITU and the GATT in Geneva (Lists of personal communications can be found in Bibliography).

PART TWO: STRUCTURE-CENTRED APPROACH

Chapter III.
Evolving R.O.Korea's Domestic Telecommunications Issues Under Bureaucratic-Authoritarian Regimes

1. Backgrounds

R.O.Korea's telecommunications was directly run or controlled by the Government or Government-owned authority (public corporation) from its inauguration in 1885. Telecommunications issues, hence, have existed as a reflection of the government bureaucratic-authoritarian regime (Ch.II.1) rather than as a sole communication (telecommunication) policy in R.O.Korea.[1]

As part of the industrialisation during Park's regime (1961-1979), telecommunication facilities developed. Here, development was largely due to "the successful implementation of the Government-led four consecutive Five-year Economic Development Plans initiated in 1962. For instance, telephone switching facilities increased from 120,000 lines in 1961 to 3.4 million lines in 1981. The number of telephones per 100 inhabitants went from a meagare 0.4 to 11.8. Also, "long-distance telephone transmission lines and international communication circuits expanded remarkably." This internal developmental policy in the 1960s was enhanced by external supports such as the setting up of a telecommunication training centre by the International Telecommunication Union (ITU)".[2]

On the one hand, through the implementation of telecommunication development it can be said that the Government recognized telecommunication as "part of the social overhead costs essential to national economic development."[3] On the other, Korea's telephone and telegraph systems were 80% destroyed during the Korean War (1950-1953) and therefore replacement was urgent. Seoul (the capital) with 2,000,000 population had only 17,000 telephones (i.e.,0.0085 per person) and its facilities were overloaded. At this time, all telecommunication facilities were used almost exclusively by military, government, or business and industrial interests, and few homes had telephones.[4] Thus, telecommunications was an apparatus of the government or the military rather than a consumer good as it is today.

It is worth noting that from an early stage in R.O.Korea's telecommunications history its international telecommunications operations had relied largly on foreign companies such as RCA Communications Inc. and AT&T (US). The RCA was authorized to establish a radio-communication station in R.O.Korea in 1950, which expanded radiocommunication service from R.O.Korea to the US and other parts of the world.[5] The AT&T (US) was also temporarily authorised to operate an oversea's radiotelephone service with the Department of Communications of the Korean Government at Pusan (the second biggest city).[6]

This reliance on foreign companies implies that R.O.Korea like most developing countries had a weak [telecommunication] equipment manufacturing base, apart from its services. Local demands for telecommunications equipment were not sufficient for local industry to make the necessary investment. To make matters worse, in contrast to developed countries, the R.O.Korean Government and its common carriers preferred to use high quality foreign equipment. Private companies were more likely to import foreign equipment than invest in manufacturing. Under these circumstances, the construction of manufacturing facilities and accumulation of technology were bound to be very difficult.

Furthermore, lack of professional engineers and technical knowledge created severe obstacles to the absorbtion of foreign technology or the efficient implementation of their development projects. Coping with these chronic dilemmas demanded high investment costs. This led R.O.Korea to borrow foreign loans. For example, the US, Canada, Belgium, and Sweden loaned capital to R.O.Korea's common carriers such as Korea Telecommunication Authority.[7] Korea had little knowledge on which to define its technological requirements and was therefore in a vulnerable position in relation to foreign multinationals. This development of telecommunications can be said to concur with the dependencia paradigm.

However, R.O.Korea's telecommunications infrastructure has been able to develop rapidly since the 1980s, through strong Government intervention. Although traditionally there have been many bureaucratic mechanisms to slow liberalization, in a dramatic structural and policy change there has been

considerable decentralisation in the domestic telecommunication sector, since the early 1980s. These have parallelled structural changes such as the liberalising of the bureaucratic-authoritarian regime. Indeed, the climax of R.O.Korea's telecommunications history in this decade was the liberalisation or decentralisation of its infrastructure. It is also interesting and important to notice that a turning point in R.O.Korea's internal telecommunications - 1982 - coincided with historic external events in telecommunications such as the "divestiture of AT&T (January 8 1982) and the break-down of barriers to new entry" in the US,[8] as well as the Nairobi Plenipotentiary Conference of the ITU (1982). Here, one may assume that R.O.Korea's domestic telecommunications issue-structure would have been influenced by external impacts, but these were internalised into its unique behavioural and structural circumstances.

Against this background, this Chapter will focus on certain questions: What was the driving force that impacted on R.O.Korea's domestic telecommunication structure especially in the 1980s ? ; How has R.O.Korea's bureaucratic-authoritarian regime impacted on or implemented domestic telecommunications where issues have been technically oriented ? ; And, what limits remain to be considered ?

2. Driving Forces of Change in R.O.Korea's Telecommunications Infrastructure

2.1. Internal Forces under the Evolving Bureaucratic-Authoritarian Regime

2.1.1. Government Recognition

Like other econo-political policies, it is "the President and the technocratic bureaucracy who have been responsible for the formulation of major telecommunication policies in R.O.Korea.[9] Neither opposition political parties nor industries had significant roles in decision-making. Changes in telecommunications policy or infrastructure were initiated and implemented by the Government. The first change in R.O.Korea's telecommunications sectors in the early 1980s came from *political acceptance* of

telecommunications as the foundation for an early realization of an information-oriented society as well as a vital infrastructure for developing other industries.

For this reason, the 5th Republic Government gave priority to telecommunication development, implemented by the 5th Five-year Economic Plan (1982-1986). The Government decided to carry out a decisive investment policy so as to ensure good quality communication facilties: A total of 5,000 billion won (about US$ 7 billion) was spent on installing 5.8 million telephone lines.[10] Furthermore, some important figures directed by the Economic Planning Board (EPB) and the Presidential Secretariat took charge of government decisions on telecommunications in the early 1980s.

Such government intervention for formulating policies is based on a belief that R.O.Korea, especially its telecommunications sector, needs a proper 〉tool〈 to police its infrastructure. According to one of the Government officials (the Ministry of Communications), "the very tool is an appropriate policy." In constrast to the US, where decisions traditionally have been made through debates among pluralistic interest groups and law is central to the process. R.O.Korea lacks such a legal basis for the development of telecommunications not only because of its short history of telecommunication operating and manufacturing industries, but also because of lack of expertise.[11] In Korea's framework of bureaucratic-authoritarianism, the Government (the MOC) has dominated decision-making over a centenary of communication history.

Yet, this centralized bureaucratic-authoritarian regime has met several challenges. It has become a more complicated telecommunication infrastructure itself in order to meet changes in socio-economic and political environments. In the 1980s, there began "considerable social and political unrest."[12] "The economic effects of evolving new socio-political patterns and relationships began to erode the established

isolation of the planning and implementaion system."[13] In other words, challenges against the Government and its decision-making as a whole appeared.

2.1.2. **Political Legitimacy**

Spurred by the changing internal political system such as the method of election of the president, the expansion of public participation has led to public involvement in policy. The opposition, strengthened by a surprisingly strong showing in elections in February 1985, has sought to exploit various economic issues. In return, there is "a shift to more overt politicization of economic decisions. Party politics began to limit the government's positions on economic policy and circumscribe its capacity for implementation."[14] This enhanced role of political parties propelled economic issues to national attention.

These changes impacted on the telecommunications sector. For instance, an inspection of Government offices was revived after 16 years in abeyance due to the Yusin Constitution. Undergoing such inspection in October 7 1988, the Ministry of Communications was attacked for importing a certain type of computer and for the continuation of a telephone tax of 25% despite the increasing number of telephone subscribers. The phenomenon emerging in the late 1980s of moves towards more liberalisation or privatization in the telecommunications sector tends to be in part derived from political factors such as the need to establish government legitimacy through decentralisation of the political regime.

Nonetheless, unlike other sectors where a new range of political pressures are evident in decision-making, R.O.Korea's telecommunications sector has been relatively less insulated from direct scrutiny and criticism because of its more technically oriented character. Political parties may not yet see communication (or telecommunications) as a significant economic infrastructure, so that this sector still tends to be remote from politicization.

The second stage of changes in telecommunication policy - ›privatization‹ - scheduled for 1989 is, however, implicitly motivated by political reasons, on the grounds that the Government needs capital. This trend is not unique. As J.Hills (1989) and R.Butler (1989) point out, "pressure for privatization come from the recent need of governments to earn revenue - of particular importance in the Third World countries."[15] The intention of the Korean Government, however, tends to be twofold: Selling shares of public enterprises or state-owned companies to the private sector can be used as a means of *legitimating democracy* on the one hand, and as a means of raising *capital for national treasury revenue*'[16], on the other.

2.1.3. **Legacy of Selective Industries in the 1970s**

The necessity of liberalisation policy is enhanced by R.O.Korea's on-going market-oriented economic system, whose basic rules of investment have always been set by the Government's industrial policy. Disagreement about the ultimate contribution of such industry policy to Korean develoment derives from its inefficient management.[17] For instance, "massive investment in the heavy machinery and chemical industries in the 1970s was completed just at the outset of the global and domestic economic downturn, leaving many plants with severe overcapacity problems."[18] In consequence, the Government needs to look for an alternative industry such as telecommunications to compensate such a failure.

Furthermore, the Government and industry are strongly linked. As S.Haggard (1987) comments, "a tacit alliance emerged between the Government (especially under the bureaucratic-authoritarian regime) and large domestic business" (conglomerates or *chabol*) through a complicated system of incentives and supports. Nonetheless, the Government retains significant independence from business in the formulation of economic policy, which may be a crucial factor in explaining its ability to shift policy in a more outward-looking direction.[19]

However, this exclusive political power over industries came under attack during the 1980s partly due to "negative economic consequences of the heavy industrialisation drive, an increase in business concentration and

a corresponding neglect of the small and medium-sized firms that constituted the backbone of the light manufacturing sector."[20] These economic imbalances contributed to an increase in labour conflicts and trade union activity. As a result, this alliance between government and big business is eroding, and hasty reforms are being implemented.[21]

In addition, the ensuing recession in industrial countries reduced demand for Korean export products. Hence, the nation's GNP registered negative 5.2% growth in 1980. Faced with these adverse internal and external conditions, the Korean Government began to critically re-examine its role in the nation's overall economic development."[22] All in all, coming into the 1980s, the Korean economy faced severe structural difficulties and challenges. Against this background, the telecommunications, information, and electronics industries began to be recognized as strategic sectors to the 1980s and beyond.

2.1.4. **Status Quo of Economic Growth**

It appears to be contradictory to seek liberalisation in order to reach the goals of a government plan. Yet, the Government is aware that growth can be achieved only if Korea remains a highly competitive exporter and makes substantial progress in technological development. There are internal dissensions between those who see foreign technology, capital and free trade as necessary to this development and those in favour of a more dirigible policy. However, a virtual consensus exists that state-owned and bureaucratic infrastructures such as that of telecommunications network operation can hardly meet today's rapidly changing environment.

2.1.5. **High Cost for Sovereign Risk Business**

In the early stages of development, "the Government took the lead in establishing broad development goals for the society, in providing a proper business climate for the private sector, and in mobilizing domestic and foreign resources for investment and developing the infrastructure. But, some critics suggest that as the economy grows, extensive government intervention may become self-defeating."[23] Others point out that

government intervention is justified by Korea's smaller markets which can only support one or two producers - called '*chabol* (conglomerate).' Regulation is thus required to restrict the use of monopoly and oligopoly power.[24]

Yet, K.H.Kim (1988) argues that "since the late 1970s, it has been increasingly recognized that the Korean economy has become too large and too complex for the Government to control in an efficient way." This is true in the case of telecommunications infrastructures, particularly after the mid-1980s. "This recognition has led to the acceptance of the general philosopy that the Government should minimize its role in the economy and rely more on the market mechanism and private initiative to achieve an efficient allocation of resources."[25] Many argue that decentralized decision-making may become the most effective means of achieving efficient allocation of resources especially in a rapidly changing and highly competitive contemporary telecommunications environment.

2.1.6. **Liberal Winds towards Public Corporations**

Government intervention has been more overtly implemented through various institutions such as 'direct state-owned companies'[26] and 'public corporations or enterprises.' In fact, "the public enterprise sectors (e.g., telecommunications), in which the central government exercised significant authority, have a very crucial role in economic development in Korea, as in most developing countries."[27] Economic development took place in part because of "the size of the public sector." That is mainly because "the larger a public sector's share of the economic activity, the more the regime can affect the economy."[28] In case of telecommunications, the public sector provided most of the country's overall telecommunications services in 1972.[29] However, a more flexible and liberalised approach has been *incrementally* introduced in the public sector in the 1980s, on the grounds that competitiveness could hardly be maximized under bureaucratic intervention.

To conclude, all these internal political and economic factors can be directly or indirectly responsible for changes in R.O.Korea's telecommunications issue-structure, especially since the 1980s.

2.2. External Force: Bi-lateral and Multi-lateral Influences

Some arguments suggest that Korea's recent efforts to restructure or liberalise its economy, in particular, its telecommunications sectors are a response to ›external political pressure‹ or ›internatioonal trends‹. Such claims seem paradoxical when internal liberalisation policy contrasts with rising 'protectionism' abroad.[30] B.Y.Koo (1986) argues that liberalisation policy seems to have arisen "not because of pressure from other countries, but because of the Government's firm conviction that a greater role for the market mechanisms was needed to ensure long-run industrial competitiveness and sustained economic development."[31] In fact, most of those interviewed for this thesis put forward similar views on the first restructuring of the telecommunication sectors in 1982. That is, *›external factors‹* - whether bi-lateral such as US influence, or multi-lateral such as the ITU - have had little influence on those changes.

In contrast, American pressure for liberalisation of R.O.Korea's domestic telecommunications markets in the late 1980s is already a well-known secret. The US influence is enhanced by the trade surplus between R.O.Korea and the US. For example, Korean manufactured goods - particularly telecommunications equipment - have been more exported to than imported from the US.[32] It is also worth noting that American pressure to open Korea' telecommunications domestic markets comes in such areas as value-added services and databases, where R.O.Korea is still very weak. Along with Europe, R.O.Korea became the major target of the US efforts to open domestic telecommunication markets. In this context, there occur several problems. Firstly, the time that the US has requested for the opening of domestic markets is too short. It seems that the US has in mind the European unified market of 1992.[33] Moreover, R.O.Korea lacks strength compared with Europe. Korea has the advantage of neither a strong regional coalition nor internal resources.

Even so, R.O.Korea is not the only country which is influenced by the US or other external force. In fact, as long as the world - especially the telecommunications world - is *interdependent* (if not dependent on one another), external pressures such as the US's can hardly be ignored. Structural changes at the international levels promoted by the US telecommunication policy of 'liberalisation' spur changes in national telecommunication policies. The privatization of Japanese telecommunications and alterations in several European countries demonstrates American influence in the opening of telecommunication markets.

It is also important to notice that the ITU suggests that "the phenomenal growth and evolution of technology and the increased awareness of national authorities on the crucial importance of telecommunication to the economy as a whole have aroused the attention of government policy-makers to give high level consideration to the sector. The ultimate goal of the recent structural changes in many countries that consisted of divestiture in some, privatization in others, and generally speaking liberalisation, is to have efficient resource management and better access to capital for investment so that the sector assumes its rightful key role in the socio-economic development of nations."[34] All in all, it could be these bilateral and multilateral trends in the telecommunications sector that would have directly or indirectly impacted on R.O.Korea's restructuring of telecommunications.

2.3. Telecommunications Issues *per se*

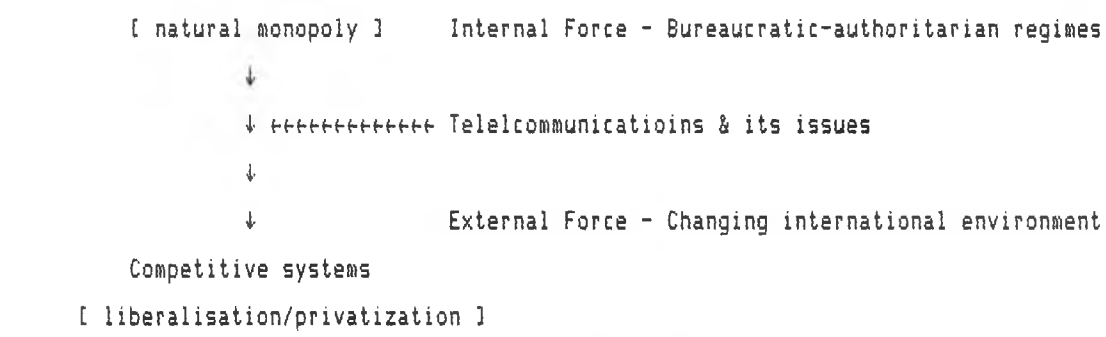
As discussed in Ch.II.3, one may assume that telecommunications issue-areas have impacted on R.O.Korea's telecommunications sector. In practice, until recently R.O.Korea like most other developing countries has perceived telecommunications as a source of fiscal revenue and essential for national security rather than a basic infrastructural prerequisite for socio-economic development. It would therefore be unavoidable for countries like R.O.Korea to either run the telecommunication business directly or entrust it to a state-run corporation with the legal protection of a monopoly so as to secure sufficient resources and to give priority to government and key industries in the utilisation of the limited resource of telecommunication

facilities." As a result, "the revenues from telecommunications services collected by the national treasury is often cross-subsidised to other less profitable sectors or higher priority requirements even not related to telecommunications."[35]

Also, due to lack of capital investment and long-term policy by 1979, "the backlog of supply accumulated every year, and it became difficult even to replace obsolete facilities or to provide adequate maintenance, thus eventually adversely affecting the level of revenues from telecommunications services themselves."[36] That is, telecommunications in R.O.Korea faced bottlenecks especially in the late 1970s.[37] In consequence, these chronic problems accelerated the demands for more efficient management and the reform of its policy.

In conclusion, as Figure 3-1 illustrates, various internal and external variables have impacted on R.O.Korea's telecommunications infrastructure. The growing complexity of telecommunications in association with its high technology makes Government intervention under the centralised bureaucratic-authoritarian regime difficult and inefficient. In order to meet managerial efficiencies as well as social welfare demands[38], there was increased pressure to introduce a greater role for liberalised market-oriented principles in Korea's telecommunication sector both domestic and international.[39] Yet, it is worth reminding readers that the overall changes of telecommunications infrastructure were almost parallel with those of the macro econo-political structure (Ch.II.1).

Figure 3-1; Driving Forces of Changing Korea's Telecommunication Issue-Structure



3. Implementation of R.O.Korea's Domestic Telecommunications Issues under the Liberalising Bureaucratic-Authoritarian Regime

3.1. Evolving Policy Issues and Implementation

Influenced by the internal and external forces above, centralising government-dominated infrastructure until the early 1980s has *incrementally* changed to decentralising public- ,in turn, private-shared infrastructure in the late 1980s in R.O.Korea's domestic telecommunications sector. The scope for such change ranges from reforming its legal framework (Ch.III.3.2), restructuring of its infra-organs (Ch.III.3.3), to liberalising its terminal equipment and in turn foreign investment (Ch.III.4).

However, the term liberalisation or decentralisation in R.O.Korea's telecommunications sector drew attention largely from transferring telecommunications operating (business) departments under the Ministry of Communication (MOC) to common carriers such as Korea Telecommunication Authority (KTA) and DACOM in the early 1980s, - called the first step of liberalisation. Yet, it needs to be clarified that the liberalisation did not allow these carriers to compete with each other over the same services. For example, the KTA provides basic voice services. Whilst, DACOM provides only non-voice services. In order to provide such non-voice (data) services, the latter leases lines from the former. It is also important to note that the KTA holds about 1/3 of shares of DACOM. In addition, influenced by the liberalisation/decentralisation, several common carriers such as Korea Mobile Telecommunication Co. (MTC), Korea Port Telephone Co. (KPT), and Korea Travel Information Service Company Ltd. (KOTIS), have been newly set up to provide specific services such as car-phone and paging services, communication services in harbor areas, and information about air travel respectively, since the mid-1980s.

Furthermore, it is worth noting that although the KTA was physically released from direct control of the MOC, it was still wholly owned by the Government until the late 1980s, - called the second step of liberalisation or privatization. Yet, the privatization in the late 1980s does not mean that common carriers (especially KTA) are wholly private-owned

enterprises. For example, 49% of the KTA shares belonging to the Government were sold to private sectors. Here, in contrast to the general concept of privatization discussed in Ch.II.3, R.O.Korea's interpretation of privatization tends to be in line with that of "the 〉Volksaktie〈. The latter aims to emphasize "a social purpose that leads low income citizens to participate in national strategic industries as shareholders."[49]

Overall, this step-by-step policy change aims at encouraging managerial efficiency of state-owned industries through reducing governmental intervention, and raising funds from people by introducing competitive principles so as to solve both national financial problems and the waiting list for telecommunications services.

3.2. Reforming R.O.Korea's Domestic Telecommunications Legal Issues

Changing policies have gone hand in hand with a set of regulatory reforms in econo-political structure since the early 1980s: they include the Foreign Capital Inducement Act, Semi-conductor Industry Fostering Plan, and Electronics Industry Promotion Law. Also, the Law of KTA and the Law of DACOM were enacted in January 1981 and March 1982 respectively. These Laws generally cover each organizational structure, scope of business, and accounting management. With regard to the scope of business, KTA is mainly responsible for providing basic voice services such as PSTN, and validating all equipment to be used in telecommunications systems among many others. Whereas, DACOM is responsible for providing non-voice services such as information transmission (e.g., DACOM-NET) and value-added (or enhanced) data services such as data-bank. Although each Law is promulgated for different types of services, neither covers legal arrangements between themselves in terms of connection.

It is the Telecommunication Basic Act enacted on September 1 1984, which is promulgated for 'the entities (e.g., DACOM) to undertake partial telecommunications services' in Article 3, and for their 'right of connection and usage of telecommunication circuits' in Article 6. Although the Act does not designate any particular entity, it must have 1/3 of its ownership shared by the Government or KTA. The only eligible entity, at

present, for non-voice services under this law is DACOM. In line with these legal trends[41], the Act primarily intends to "stimulate developing telecommunications and to enhance the promotion of telecommunications industries and technologies."[42]

Similarly, the "Law concerning Promotion and Encouragement of Computer Networks was promulgated for the development and distribution of computer networks as well as the creation of a foundation for telecommunication networks, including the information processor industry, information processing hardware industry and other related industries in 1986."[43] With this law, the MOC assumes a critical role in setting the Government's strategic plans and allocation of financial resources for the promotion of computer communications.[44] Also, a plan for several regulatory reforms relating to finance, taxes, and bonds etc. was passed in the National Assembly in 1987.[45] In addition, influenced by increasing demands for frequency usages, the Ministry of Communications reformed a regulation relating to management and administration of radio frequency in 1987.[46]

Such regulatory reforms reflected demands for decentralisation of econo-political structure in a broad sense, of telecommunications infrastructure in a narrow sense. That is, it was necessary to examine the basic rules integrating the legal system with the telecommunications sector: the scope of KTA's compliance with the existing rules dealing with telecommunications policy and administration; the congruence of existing rules with rapidly changing telecommunications technology (e.g., ISDN) and its environment; and the lack of systematic apparatus for the integration of telecommunication sectors ranging from administration to private industries.[47]

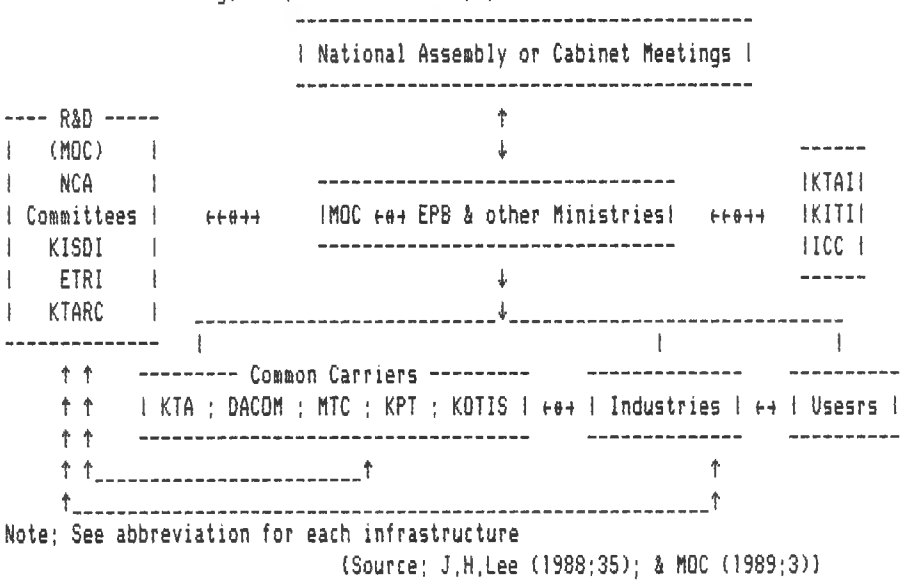
However, it is worth noting that such reforms did not intend to exclude entire Government regulation. For example, the Telecommunications Basic Act still gave the Government (MOC) the authority to pursue "informationization of society"[48], "to estabish and enforce local content requirements, to deny import licenses and to restrict public sector procurement to products containing a stipulated level of local content."[49] It is arguable that such reforms tend to be *re-regulation* rather than deregulation or

liberalisation. For this reason, as W.H.Won (1987) argues, "R.O.Korea may have a structural and legal problem as an obstacle hindering new media from being private-owned."[50] Although this restriction may be amended by further privatization (Ch.III.3.1), Government intervention - whether through regulations, policies, or R&D investments - seems to be the rule rather than the exception[51], especially in bureaucratic-authoritarian regimes. In this context, a vital issue is how to harmonize such regulations and implementation in the rapidly changing national and international telecommunications environment.

3.3. Restructuring of R.O.Korea's Domestic Telecommunications Infrastructure

The government-owned authority traditionally had been the sole actor in R.O.Korea's telecommunications infrastructure. Liberalisation of telecommunications sectors in the 1980s led to diversification of the structure of actors, as seen in Figure 3-2. All the actors or infra-organs may not have direct access to policy-making, but "liberalisation has made the shaping of policy more 'pluralist', increased the scope for agitation by distributional coalitions, given managements incentives to evolve their own strategies for the acquisition of government favors and larger market

Fig. 3-2; Restructured R.O.Korea's Telecommunications Infrastructure



Note; See abbreviation for each infrastructure

(Source; J.H.Lee (1988;35); & MOC (1989;3))

shares, and weakened elite consensus on basic principles of structuring administrative power and of macro-management."[52]

In return, decentralisation or liberalisation in R.O.Korea's telecommunications sectors may be expected to result in weakening of the Government (MOC). But, there is little evidence so far that the MOC tends to be just another 'pressure group' that has more or less the same or simliar power to other groups such as common carriers and industries. In contrast to the trend concerning R.O.Korea's macro econo-political structure (Ch.II.1), the Government (MOC) has still dominant power over decision-making among various institutions in telecommunications infrastructure. This is mainly because R.O.Korea's telecommunications issues are implemented by infra-organs on the basis of government-centred *corporatism* rather than pluralisim.

3.3.1. **Restructuring of the Ministry of Communications**

Because the role of the Government itself has been in transition since the early 1980s, the general arguments (R.A.Dahl,1961; E.A.Nordlinger,1981; and E.Latham,1952) can not fully explain R.O.Korea's telecommunications sectors. That is, having "the dual responsibilities for operating the daily telecommunications business and making Government policy"[53], the Government (MOC) had traditionally pursued its own preferences and responded to demands coming from outside interest, rather than be neutral concerning telecommunications. Such dual responsibilities, however, were transformed to a policy-making body.

That is, by relinquishing its role as a common carrier, the MOC mainly sets and implements telecommunications policy, and monitors and guides various telecommunications infra-organs such as common carriers, research institutes, and industries.[54] However, this transformation may give rise to arguments. On the one hand, the MOC is still sole authority for overseeing the nation-wide communications networks such as broadcasting networks and independent communication media which had in the past been controlled independently by different departments of the Government. On the other, the MOC is taking positive steps towards the information society

by initiating projects for fostering the growth of the information industry, popularizing the use of information among the public, promoting R&D activity and training specialized manpower.[55]

Furthermore, the MOC restructured itself through establishing a Telecommunications Policy Bureau in January 1982[56], which was further reformed in 1983.[57] This creation resulted in the abolitions of several others. In a sense, the restructuring enabled the Bureau powered by the Telecommunications Basic Act (1984) to upgrade its status as the leading department regarding telecommunications[58]: The new Bureau has overall powers to monitor - if not control - telecommunications infrastructure as a whole. However, the restructuring did not seem to pay particular attention to external policy especially that regarding international organizations. For instance, through the restructuring, the existing division responsible for international cooperation was abolished. In consequence, few personnel under the Assistant Directorship have dealt with international matters including regional and international organizations such as the ITU.[59]

In March 1987, the Government decided that "a 49% share of KTA held by the Government would be year-by-year privatized from 1989. In order to meet the plan, the MOC further instituted a Promoting Committee of Privatizing KTA in February 1988. While the Telecommunications Policy Bureau itself formed a practical group to pursue privatization of KTA.[60] In brief, the Government (MOC) became solely responsible for long-term telecommunications policy, whilst other institutions (e.g., Office of Management & Planning in the KTA) took responsibility for short-term plans such as 'annual investment.'

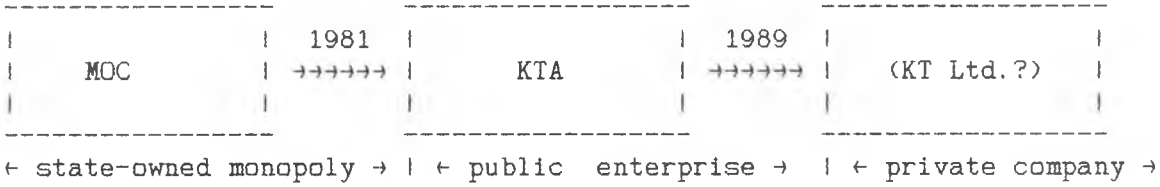
3.3.2. **Establishing Common Carriers**

Another major restructuring of R.O.Korea's telecommunications infrastructure was the setting up of **≫Korea Telecommunication Authority (KTA)≪**. The KTA enacted by the Law of KTA on March 14 1981 was created as a public enterprise wholly owned by the Government on January 1 1982. It is responsible for the operation of Korea's telecommunication

network. It is also in charge of providing public commercial telecommunication services; conducting R&D activities on telecomnmunications operations; training manpower; testing and validating all equipment and apparatus to be used in telecommunication systems; supporting telecommunication industry in application of newly developed technologies into telecommunication services; and supporting activities of academic, research and training of institutions and organizations related to telecommunications.[61] In order to carry out these functions, KTA further underwent internal re-organization in July 1987.[62]

Due to the liberalisation of KTA leading to an increase of capital investment and early repayment of outstanding foreign loans, the ratio of own capital to total capital increased to 65% in 1987. However, KTA still encountered several limits such as government intervention, and inefficient managements. Hence, it further undergoes changes toward privatization in 1989, as seen in Figure 3-3.

Figure 3-3: Two-step Liberalisations of the KTA



The issues of privatizing KTA, however, raise a number of arguments between those who are in favour of privatization and those who want KTA to retain its position as a public entity. The former argue that 'competiveness' can hardly be maximized under bureaucratic intervention or regulation as a form of public enterprise.[63] Hence, they see the KTA need to reform internally and place greater emphasis on 'enterprise-initiatives' and efficiency. In contrast, emphasizing the financial success of the KTA since 1981 and 'sovereign security' particularly as a divided nation, the latter (especially KTA management and the telecommunication union) are opposed to the privatization since they wish to protect its virtual monopoly and power base. In practice, the privatization may leave some unsolved questions such as the possible weakening of R&D and its investments.

Despite the *pros* and *cons* of the arguments, privatization of KTA is likely as a result of the backing of *inter alia*, the Telecommunications Policy Bureau within the MOC, the Economic Planning Board, and the President Secretariat. In practice, such privatisation stems from the political variable of an 'election pledge'. The Government decided on the 'popularization of shares' in 1987, in order to meet the increasing demands for more democracy. Public corporations and banks were initially targeted. Here, the KTA was included in a category of partial privatization along with electric and steel public corporations. Based on the Government plan in 1988, KTA is about to change to a joint-stock company: 49% of the shares belonging to the Government will be sold each year starting from 1989, although 20% of the sale is due to be purchased by employees.[64]

Overall, liberalisation or privatization of KTA can be seen as a managerial strategy to meet internal and external structural changes. However, the view of privatization seems to differ between the MOC and KTA. The MOC tends to consider the privatization in terms of **pressure from the advanced countries, chiefly the US, to open telecommunication markets** and of **encourging a spirit of private enterprise.**[65] In contrast, KTA tends to look at it as a way to seek **more autonomous and efficient management.**[66] Although privatisation was initiated by the Government, in practice, KTA recognises that it should improve its management not only through quantitive expansion but also through qualitative improvement of services. It is and will be the KTA and other operating agencies which are directly subject to external pressures to open markets.

Data Communications Co. (DACOM), as a common carrier, was also instituted on the basis of both Government and public investment in March 1982. This step was basically to separate traditional carrier services like telephone or telegraph from various information-oriented services such as teletext. Under this plan, KTA was originally supposed to handle voice services only, while DACOM was responsible for solely information (non-voice) services. It was an epoch-making event in that DACOM started as a private enterprise.[67] In 1984, DACOM was dedicated as a public telecommunications operating company.

Due to characteristics of its major business such as information transmission and data banks[68], it is heavily investing in standardizing information equipment and technology. In order to provide telecommunications data - especially value-added - services[69], DACOM also took over the whole leased data circuit services for data communications from KTA in 1985. Thereafter, it has introduced many new data services.[70] Overall, it plays a key role supplying various information services to both private consumers and the Government (MOC), KTA, Post Offices, and '88 Olympics.[71]

However, it is arguable whether the Government-led divisions between KTA and DACOM based on different services can be satisfactory to both entities. In practice, becuase KTA holds 800,000 shares out of a total of 2,362,000 of DACOM (1988)[72], some of staff in DACOM feel that the forthcoming privatization of KTA may lead to DACOM's vulnerability. Also, in the advent of the ISDN era, not only KTA but also existing conglomerates such as Samsung, Daewoo, Hyundai, Lucky-Goldstar may enter competitive telecommunications data service markets.[73] Indeed, the conglomerates have already entered the computer and telecommunications industry, but still mainly in manufacturing.

In order to meet this internal and external competition in telecommunications service markets, DACOM seems to have concentrated on external markets earlier than KTA. For instance, DACOM has launched an oversea Liason Office (Geneva).[74] Nonetheless, overall management and policy are still the concerned of the Government. This is demonstrated by Y.T.Lee (President & Chief Executive Officer of DACOM): "The whole success of DACOM is to a large extent attributable to collaboration with the Government, particularly, the Ministry of Communications and KTA."[75]

In addition, there are three other common carriers, which were newly instituted to provide services. For example, **≫Korea Mobile Telecommunication Co. (MTC)≪** provides car-phone and paging services. **≫Korea Port Telephone Co. (KPT)≪** established in December 1985 provides communication services in harbor areas. Yet, 47% of its total investment belongs to KTA, whilst 53% belongs to six companies. In turn, it was dedicated as a public

telecommunication operating company by the Government in January 1988. In addition, **≫Korea Travel Information Service Company Ltd. (KOTIS)≪** was set up by co-investments of DACOM and subsidiaries of the Korean Air Line (KAL) in Novemver 1987 to supply information about air travel. It is also dedicated as a public telecommunications operating company.[76]

3.3.3. Restructuring of Research Institutes

Enhanced by the Long-term Technology Development Plan for the Year 2000 formulated in 1985, the Government is placing top priority on national development in the fields of telecommunications, computers, automation, semiconductors and so forth.[77] To achieve this end, various research institutions have been reformed or instituted. One of them is **≫Electronics and Telecommunications Research Institute (ETRI)≪**, which was established in 1975. Supported by the Government, its major objective is to undertake national research and development (R&D) on advanced information technology integrating the areas of telecommunications, computers, automations and semiconductors. The Institute also performs the role of linking the basic research of universities with the product developments of industries systematically and productively.

According to the Telecommunications Basic Act, ETRI has several functions or activities. Firstly, it has been providing technical assistance to 25 small and medium telecommunication industries and 27 prospective small and medium enterprises (SME). In collaboration with the MOC and KTA, ETRI is undertaking support of the domestic telecommunication component industry.[78] It has also been helping to foster the nation's technical development by transferring 20 technology items including the centralized switching maintenance system to local industries for mass production. In consequence, ETRI has so far obtained 15 industrial property rights, e.g., R-2 receiver technology for TDX-1.

To support the formulation of telecommunications policies and to facilitate the transformation of the present society into an information society, research activities have largely focused on three issues since

1986: Trends in Domestic and Foreign Policies in Telecommunications; Promotion of the Growth of National Telecommunications Industry, specifically in relation to information technologies; Planning Strategies for the Modernization of Post-Offices and Services. Further, one of the major missions of ETRI is to develop an Integrated Services Digital Network (ISDN) system along with other subjects such as Telematic Services, Digital Switching, Optical Communication, Radio Wave Resources, Custom VLSI, Nest Generation Semiconductor etc.[79] The objectives of R&D are to conceptualize how ISDN will be compatible with the Korean telecommunication environment, to specify the technical requirements and to develop implementation strategies.

It is worth noting that ETRI has actively built its relations with both internal and external entities. It has closely worked with or undertaken work for both the Ministry of Communications (MOC) and the Ministry of Science and Technology (MOST). To advance as a world class research institute, ETRI needs to secure indigenous R&D capabilities and to push ahead with the 'internationalization of R&D activities'. Consequently, ETRI has expanded and consolidated technological cooperative relations with advanced and developing countries and established international joint research programs.[80] It is also accelerating *multi-national cooperation through international organizations*, in particular the ITU and its standards-setting infrastructures - the Consultative Committees (CCITT & CCIR).

Another major research institute is **≫Korea Information Society Development Institute (KISDI)≪**, which was established in January 1985 under the name of Institute for Communications Research (ICR). It was restructured in 1988 based on the Law of Information Society Development Institute. It aims to upgrade telecommunication economics as well as set national telecommunications policy through studying policies, systems, and industries.[81]

There are also research institutes such as **≫KTA Research Centre (KTARC)≪** within the KTA. In addition, the **≫National Computerization Agency≪** was established in January 1987 on the basis of Art.13 of the Law

expanding distribution of and encouraging use of computerised networks. Its aim is to encourage development of technology and standards, and to develop and distribute computerized networks. The **》Technical Information Center《**, which plays an important role in the electronics and telecommunications fields of Korea, was also nominated as a Telecommunication Center in 1986 under the Telecommunications Basic Act. In association with the Institute (ETRI) above, it has translated and supplied the CCITT *Recommendations (Hand Books)*.[82]

There are also organizations relating to engineering service such as **》Korea Telecommunications Authority International (KTAI)《**, which provides telecommunications engineering services and manages overseas telecommunications projects. **》Korea Information Telesis Incorporated (KITI)《** maintains and repairs telex facilities and equipments. The **》Information Culture Center (ICC)《** also publicizes the information society to the public.[83]

3.3.4. R.O.Korea's Telecommunications Industry

It is very difficult to identify the term telecommunications industry in R.O.Korea. That is not simply due to the convergence of technologies but due to the character of R.O.Korea's industrial structure. Influenced by liberalisation, the border between manufacturing companies and service providers is becoming blurred. Companies - especially conglomerates - have taken over telecommunications and computers manufacturing industries. Moreover, the forthcoming liberalisation may allow them not only to be potential large *users* but also to enter into service markets as *providers*.

The telecommunications industry hardly featured in the industrialization policy which placed emphasis on the development of selective industrial strategies, such as *labour intensive industry* in the 1960s and *capital intensive heavy and chemical industries* in the 1970s.[84] It is only since the 1980s that R.O.Korea has shifted towards more *technology-intensive* industry. In practice, the 6th Five Year Economic Plan (1987-1991) decided a separate policy for telecommunications, since not only has the telecommunications industry been recognized as a strategic

industry for a developed economy as a whole and for basic provision of societal welfare, but also a prerequiste infrastructure for most other industries.

This movement in favour of technology intensive industry is in part due to the negative economic consequences of the heavy industrialisation drive. A further reason can be found in the vulnerability of telecommunication industry in the late 1970s and in the early 1980s. As Dr. M.Oh said, "usually the local demand for telecommunications equipment is not sufficient enough for local indusry to make investment. In addition, the Government or common carriers tend to prefer to use high quality foreign equipment. Hence, the private companies tend to import foreign equipment rather than invest in domestic manufacturing business. Under these circumstances, the construction of manufacturing facilities are bound to be very difficult."[65] These problems tended to invoke a consensus that promotion of the telecommunications industry was essential. In particular, enhanced by a convergence of electronic, computer and telecommunications technologies in the 1970s, these industries go hand in hand with an early realization of the information-oriented society, which is the current priority of communication policy in R.O.Korea.[66]

Furthermore, liberalisation enabled KTA to push the promotion of the domestic telecommunications industry by making maximum utilization of its **purchasing power**. For example, KTA has been installing facilities at the rate of over one million telephone lines annually since 1980. This investment enabled KTA to provide a stable market for local industries, and to help them upgrade their product quality by implementing such measures as a demand forcasting system, and a quality assurance system.[67]

However, implementing the degree or scope of liberalisation is always subject to Government intervention. J.A.Caporaso (1988) and D.M.Leipziger (1988) describe R.O.Korea's policy in its telecommunications industry under the bureaucratic-authoritarian regime as 'functional interventions' - "essentially market-driven but prone to *ad hoc* intervention in selected malfunctioning markets."[68] In practice, the Government (MOC) plans to organize the development of the communications or telematics industry into

three areas: "information facilities production; information processing; information communication. This plan is based on re-organizing the policy making bodies of the Government to provide a solid foundation for all of these areas."[89]

A reason for the 'functional intervention' is to prevent industries from imbalance between demand and supply, and possible dependence on more advanced foreign suppliers.[90] Another reason may be due to the large investment required to develop digital equipment - the backbone of a modern telecommunications system. That is, "the speed of the product cycle and of technological innovation and diffusion may be such that the ultimate competitiveness of the industry is uncertain and the private sector feels it is too risky to finance."[91] For this reason, it was mainly the Government which invested in the modernization of facilities and fulfilment of telecommunications demand, during the period of the 5th Five-Year Plan (1982-1986). Another reason can also stem from a tradition that decisions for certain systems or facilities have been made at Ministerial or even Presidential levels. For example, when President Ford (USA) visited Korea, the Government decided to install an American exchange system.

Overall, the intention of shifting telecommunications policy more towards liberalisation under the bureaucratic-authoritarian regime was to promote competitiveness based on a belief that "competitiveness can hardly be maximized under political intervention."[92] V.Corbo and S.W.Nam (1988) see this implementation as "stimulating further 'productivity improvement' based on a much stronger and broader technology as well as continuous government efforts for more efficient resource allocation". In this context, what may be significant is neither planning nor policy itself but "the combination of policy and effective implementation", as P.W.Kuznets (1985) argues.

Implementation of telecommunications industry policy has been carried out both internally and externally. In the domestic market, "liberalising the 'terminal market' of the Public Switched Telephone Network (PSTN) in 1982 spurred a variety of non voice communications to be

accommodated in the network. This measure resulted in a remarkable improvement in the product quality and a significant cost reduction."[93]

However, in order to ascertain the 'localization' of technology, domestic laws such as the Telecommunications Basic Act and the Science & Technology Development Law gave Ministries the authority to establish and enforce local content requirements, to deny import licenses and to restrict public sector procurement to products containing a stipulated level of local content. In conducting these laws, various Ministries such as Trade and Industry (MTI), Science & Technology (MOST), Communications (MOC), and research institutes such as ETRI and KAIST are all involved in the telecommunications (or information) industry. The laws demonstrate the Government's emphasis on the *corporatist* implementation of telecommunications policy.

Such localization drives in higher-technology manufactured goods can be seen in both the telecommunications and computer industries.[94] On the one hand, import approvals for public sector (e.g.,telecommunications) use continued to come from the MTI. MTI's schedule of import licensing liberalisation indicates phased liberalisation of personal computers and peripherals from July 1987 and 1988. Even after these dates, local content requirements are expected to continue for all 'public sector' procurement, thereby sharply limiting foreign penetration of the Korean telecommunications market. On the other hand, "the MOC is taking a wide range of measures to assist firms specializing in components and larger firms are required to purchase such locally manufactured items, to provide equal opportunities or "to foster the components industry and small businesses."[95] All these stimulate existing companies and newcomers ranging from conglomerates to small and medium sized firms to enter open terminal markets. In return, there are at present about 179 companies manufacturing telecommunication terminal equipment.[96] Yet, telecommunications exchanges and optical fibre markets are still occupied by the few big conglomerates.

Another concern has been the improvement of external performance. Influenced by the Government policy, the telecommunications industry also has devoted efforts to manufacturing indigenous telecommunications

equipment as well as learning technological know-how. As a result, R.O.Korea's telecommunications industry developed its equipment markets ranking 10th in the world. For example, R.O.Korea's exports of telecommunications equipment has dramatically increased from US$ 25 million (1980) to US $196 million (1985) with a 51% annual growth rate. In particular, its trade balance in telecommunications equipment markets has changed from an import surplus amounting to US$ 93 million to an export surplus of US$ 1,422 million (1986), as seen in Table 2-1 and Table 2-2. This fast growing trade includes not only low-tech equipment such as telephone terminals and cable but also high-tech equipment such as exchanges, optical fibre, and wireless goods.[97]

These trade figures also imply that "liberalisation has already taken place in manufactured imports in accordance with a pre-announced schedule and a five-year tariff reform." In fact, foreign participation in the form of joint or direct investment also has been liberalised during the 1980s - but through several regulatory forms such as the Foreign Capital Inducement Law which was passed in 1983 and became effective in July 1984[98], as Table 3-1 demonstrates.

Table 3-1 ; Production & Exports by Investment Source

	1983		1985		1987		Compound annual growth;83-85	
	pro	exp*	pro	exp	pro	exp	pro	exp
Domestic	1,037	635	1,643	1,098	2,980	1,872	30,2	31,0
	(42,8)	(43,9)	(49,0)	(55,0)	(40,7)	(44,2)		
Joint venture	704	174	1,052	276	3,131	1,331	45,2	66,3
	(29,0)	(12,0)	(31,3)	(13,8)	(42,8)	(31,5)		
Foreign	685	637	661	624	1,205	1,028	15,2	12,7
	(28,2)	(44,1)	(19,7)	(31,2)	(16,5)	(24,3)		
Total	2,436	1,446	3,356	1,998	7,316	4,231	31,8	30,8
	(100)	(100)	(100)	(100)	(100)	(100)		

Notes; * - Products ; Exports, Semiconductors are included,
The figures in parentheses are the proportion of local component ratios (million US dollars, %)
(Source; The Electronic Industries Association of Korea)

All in all, the internal and external implementation of telecommunications industry policy reflects R.O.Korea's determination to achieve a suitable mix of "high-quality labor-intensive traditional

industries and skill-intensive heavy and chemical industries."[99] Such a mix is regarded as allowing "R.O.Korea to prosper in the 1990s in a niche between the advanced industrialized countries that are moving into high-tech oriented industry and information-intensive activities.'[100] Overall, R.O.Korea's telecommunications industry has improved its economic performance especially through its export-drive policy. And export growth implies that it needs universal international standards for equipment.

However, in R.O.Korea's telecommunications **service industry**, market-opening has still been rather limited. P.F.Allgeier (1988) argues that even 'approved' foreign services activities find themselves operating under more restrictive rules than their Korean counterparts.'[101] K.H.Kim (1988) argues that the Government has to announce its commitment to full liberalisation in these sectors. As a result, President Roh has endorsed a liberalisation plan which set a date of 1992 for the reform - the opening of some service markets (e.g., securities) to overseas investors.

However, in contrast to NEC (Japan) and IBM (US) who directly participate in setting international standards of the ITU, R.O.Korea's telecommunications industry has hardly recognized its role. In particular, it is worth noting that the Telecommunications Basic Act allows the Government (MOC) to permit and manage the types (standards) of telecommunications equipment and facilities which are used by common carriers and manufactured by telecommunications industries.

3.3.5. **R.O.Korea's Trade Unions**

The role of trade unions is basically to promote better living conditions of workers. However, their bargaining power has been rather weak in R.O.Korea. Although the Korean Government has seldom directly intervened in disputes (e.g., wages) in industry, it controlled both collective bargaining activities and internal union affairs. A union prone workforce was frustrated by the continuing impotency of its unions enhanced by cozy relationships between business and some union leaders.'[102] In particular, "amendments to labour legislation further strengthened the hand of the Government *vis-a-vis* the trade union movement over the 1970s. Such

control over the labour force facilitated the exploitation of comparative advantage."[103]

Although the 1980s inherited this legacy to some extent[104], trade unions' movements began to surface in the 1980s. *Wouldn't such movements be influenced by liberalisation ?* A positive answer may be illustrated by the changes in the Korean Federation of Postal & Telecommunication Workers Unions. From its inception in 1958, the Korea Communication Workers Union (KCWU) has hardly shown any movement against the Government. It was the early 1980s when the Korean Federation of Postal & Telecommunication Workers Unions (KFPTU) was established following the restructuring of the KCWU into two unions: postal (KCWU) and telecommunication (KTTU). This restructuring is obviously an outcome of liberalisation of common carriers. Its membership increased from less than 2,000 in 1958 to more than 60,000 in 1983.[105] This new-found strength is likely to bring wage increase to the Korean industry. Hence, many expect that the big companies are now seriously considering introducing factory and office automation to improve productivity.[106] All these movements possibly contribute to pressure for a high-tech oriented policy in the telecommunications industry as well as in other industries. Therefore, Korea's industry is no longer regarded as a low cost export base. Some commentators such as J.Ridding (1989) argue that "high abour costs deter potential foreign investors".[107]

In conclusion, Korea's liberalising bureaucratic-authoritarian regime in association with external forces has impacted on the overall telecommunications infrastructure ranging from restructuring of the Ministry itself, to liberalisation of common carriers and recognition of user demands. This evolution - if not revolution - has transformed R.O.Korea's monopolistic telecommunications infrastructure into a more pluralist one, although the Government still controls the overall policy. Aside from the degree or scope of the transition, it has allowed network operators which are more autonomous in both internal and external management. However, it is worth noting that it is only the Government and its infra-organs (RPOA), which have access to the work or arena of inter-governmental organizations (ITU). In contrast to their counterparts in developed countries, seldom have industry, trade unions, and users

recognized and have access to the ITU and its activities.

4. Implications of Implementing R.O.Korea's Domestic Telecommunications and Its Issues

4.1 Developing R.O.Korea's Domestic Telecommunications Technology and Its Issues

R.O.Korea's telecommunication history over more than a century[108] can be viewed in terms of which **technology** has been developed, adopted, or transferred from abroad. Like most other countries, R.O.Korea's telecommunications technolgy and its evolution can be categorised into non-voice (telegraph) and voice (telephone). In order to operate these two basic technologies, each component consisting of terminals, exchange and transmission systems[109] has been developed - or imported.

In spite of such a long history, moreover, R.O.Korea's telecommunication technology hardly developed until 1961. This failure was due to general international trends as well as internal circumstances such as the Japanese occupation of Korea (1910-1945) and the Korean War (1950-1953). Inspired by the bureaucratic-authoritarian regime, there was a change in telecommunications during the period of 1962-1981.[110] Yet, only since the early 1980s under the Government's Long-term Technology Development Plan for the Year 2000 initiated in 1985 and the 6th Five-year (1987-1991) Economic Development Plan, R.O.Korea's telecommunications technology has taken-off towards modernizing as well as improving its facilities and services for *self-sufficiency* in various ways. That is, initiated by the Government-drive policies of mid- and long-term plans, various telecommunications institutions such as the common carriers, industries, institutes and universities began to pay attention to research and development (R&D) programmes.[111]

Supported by increasing R&D investment seen in Table 3-2, indigenous telecommunications technology such as electronic switching exchange systems and microchips have been developed.[112] Further, R.O.Korean research institutes (e.g., KAIST) developed optic fibre in 1979, which was the 10th

development in the world.[113] In particular, TDX-1 (telecommunications switching systems) which had been pursued since 1976, were put into production in 1985. This indigenously developed technology is an outcome derived from cooperation among various telecommunications institutions consisting of manufacture by relatively advanced industry, technological know-how from institutes (ETRI), and capital investment by common carriers (KTA) all under the Government's stewardship.

Table 3-2: Korean Government's R&D Plan on Telecommunications Technology

sectors	1987	1988	1989	1990	1991	total
ISDN	51	57	61	65	70	304
TDX-10	100	100	120	120	120	560
Fibre optic	37	43	48	56	60	244
Terminals	15	23	25	28	29	120
Semiconductor*	129	102	96	90	123	530

Note * - Computer included.

(Source: *Telecommunications Annual* (1988))

It is also worth noting that these figures in Table 3-2 show several emphases of Government policy: First, it appears to have encouraged indigenous technology development such as TDX-10. Second efforts have been made to develop the integrated services digital network (ISDN). Technologies such as fibre optic, computers and terminal equipment form the basis of ISDN.[114]

To form the backbone of long-distance transmission and in preparation for ISDN services, R.O.Korea (especially KTA) also has launched full scale optical fiber cable construction projects. In addition, a submarine optical cable between Cheju Island and the mainland will begin service in 1989. This system is intended to augment transmission capacity to meet increased demand in the Island on the one hand, and also to provide extension links to the trans-Pacific submarine optical cable system (TPC-3). A portion of this submarine fibre optic cable is to terminate in the Island. It forms part of the planned Hong Kong - Japan - Korea optical cable system (H-J-K cable).[115] With regard to satellite communications, the second earth station for international telecommunication satellite organization (INTELSAT) system was built at Poun in 1985. In 1988, a second antenna was

added to augment capacity to accommodate the extraordinary requirments anticipated for Seoul Olympic Games. Owing to these Governmental and industrial plans and technological development, a set of new telecommunications services have begun to operate.[116]

How has innovation in telecommunications technology and services impacted on R.O.Korea's telecommunications infrastructure ? At first sight, the effect of telecommunications technology and its services is to offer expanded **choice to users** such as special qualities of interactivity. Further, the way in which R.O.Korea implements its telecommunications policy tends to contrast with that of other countries in that its liberalisation emphasizes rural communications. For example, during the 1982 and 1987 period, KTA has made efforts to develop rural telecommunications by expanding the automatic telephone network and widening the local call service area even to isolated small villages and coastal islands.[117]

On the other hand, as F.Williams (1986:18) suggests, it may be useful to think of telecommunications technology as progressing somewhat akin to a *game* among various infrastructures. To win the game, their activities are expected to be conducted among the field of competing interests of the other stakeholders. Although there are growing concerns about conflicting interests among infra-organs in the liberalisation, followed by further privatization of telecommunications markets up to the current time, R.O.Korea's telecommunications technology has been developed, manufactured, and provided on the basis of *corporatism* under the Government's *functional* intervention. In other words, "the Government accepted the risks of short life cycle due to the rapidly changing telecommunication technology." In consequence, as Dr.M.Oh (1987:199) said, R.O.Korea is able to balance the development of essential technologies employed in hardware and software, as well as the advancement of system engineering.

However, one may raise the question of *whether the process of development has resulted in limits or negative effects such as dependence on the core countries.* Although the main objective of the development of telecommunications technology and its facilities is "maximum advantage of a

continuous inflow of foreign technology and know-how"[118], its implementation is in practice seen as leading to technological dependency. Thus, it is worth re-examining whether or not R.O.Korea's telecommunications technology has been "advanced by the rapid growth of information equipment manufacturing technology."[119]

Ironically, modernizing telecommunication technology in R.O.Korea generally means the purchase or import of foreign technology. For example, with regard to **»satellite«** technology, its earth station was built in R.O.Korea by the Philco-Ford Corporation (US) under US$ 5 million and US$ 6.5 million contracts in 1969 and 1976 respectively.[120] Further, Western Union International (US) has established new satellite channels to transmit telex, leased line and public message traffic between R.O.Korea and the US.[121] **»Microwave«** technology was developed through a US$ 6.4 million contract with Collins Radio Company (Canada).[122] And in **»Optical fibre«** technology, the International Telephone and Telegraph Corporation (US) signed a contract to transfer fibre optic technology and develop fibre optic manufacturing facilities in the R.O.Korea. The two-year contract valued at 10 million US dollars is with Samsung Semiconductor and Telecommunications Corporation (SST) of Korea.[123]

In addition, in terms of the **»telephone switching«** expansion programme, ITT was selected for a contract valued at US$ 500 million to supply its advanced electronic Metaconta 10C equipment. It was the biggest contract won by ITT in the Asian region. The equipment was initially supplied by Bell Telephone Manufacturing Company, ITT's Belgian affiliate. The award also called for the transfer of full technology to be made to KTA.[124]

Northern Telecom International Ltd. (Canada) achieved a three-year contract valued at 90 million Canadian dollars for **»digital transmission«** equipment, which would play a large part in the modernization of R.O.Korean telecommunication network in the early 1980s.[125] With regard to **»digital exchanges«**, KTA has placed an order worth 46.8 million US dollars with LM Ericsson (Sweden) for AXE digital computer-controlled telephone exchanges.[126] Furthermore, it ordered telephone exchanges worth 22.5 million US dollars from Ericsson.[127]

Korean Data Communications Corporation (DACOM) has also placed an order with Bell Telephone Co. for the supply and installation of a **packet-switched data network (PSDN)**. The Bell Telephone Co. was to train ten Korean technicians. The network was connected with Europe and the US and came into service by the end of 1983.[128] There are further technology transfers between private companies. For example, Northern Telecom International Ltd. (Canada) has announced a licence and technical assistance agreement with Taihan Telecommunications Co. Ltd. (a Korean manufacturer of telecommunications equipment) to produce Northern Telecom's SL-1 digital business communications systems. The licensing agreement provides for the transfer of SL-1 digital technology to Taihan Telecommunications.[129]

In all these ***technology transfers***, it is not only the technology of the product that is important to the licensee, but also the knowledge of how to use it correctly and what to expect from it when operating in different environments. In consequence, the actual transfer process has become one of the most important features of any agreement covering the export of telecommunication equipment and the associated know-how.[130]

However, the selection of imported technology involves huge sums of capital which is closely interlinked with national telecommunications policy or with bilateral relations so that it is often politically sensitive. In addition, it often leads to *externalities* such as dependence on the foreign company or the country. In order to avoid the negative effects, the R.O.Korean Government tends to make efforts to import technology from a number of countries and involves a number of systems, whilst developing indigenous technology. For example, while semi-automatic switching systems such as M10CN (ITT-BTM) and No.1A (AT&T: US) were adopted in 1979, TDX-1 was being domestically developed in 1985. The latter began to replace AXE-10 (Ericcson: Sweden), which was adopted for rural telecommunications services in 1984. Further, S1240 (BTM: Belgium) and No.5ESS (AT&A: US), which are respectively joint-venture counterparts of Samsung and Goldstar, were admitted into the urban telecommunications market in 1983 and 1988 respectively.[131] As a result, several different switching systems imported from several different countries - M10CN (ITT-BTM), No.1A (AT&T:US), S1240

(BTM:Belgium), No.5ESS (AT&T:US) - are coexisting in the rural and urban telecommunications networks together with the domestically developed TDX-1 and TDX-10.

This diversity of supply allows the Government to impose strict local content rules. The Government also aims to establish technological *self-reliance* through investment in long-term technology development as well as industrial development. It is noticeable that, from the outset, the Korean authorities have made it clear that they were not going to be satisfied simply with the ability to copy existing technology but that they want to become capable of developing their own designs and enhancements, and of being able to provide support to the KTA without having to rely on a licensor. In return, more than 70% of each system is domestically produced, as seen in Table 3-3.

Table 3-3 ; Rates of R.O.Korea's Domestic Manufacturing Switching Systems (%)

Types ; Company;	M10CN ; Samsung	No.1A ; Goldstar	S 1240 ; Samsung	No.5 ESS ; Goldstar	AXE-10 ; Oriental	TDX-1 ; Daewoo & et.al*
1983	63.0	8.6	-	-	-	-
1986	77.4	73.2	-	-	57.6	58.0
1988	77.7	75.7	trial	trial	70.3	71.6

* Samsung, Goldstar , Oriental Telecommunications Co. are cincluded.
(Source; KTA; Korea Industrial Bank; & *et. al.*)

All in all, the Korean Government's desire for self-sufficiency especially in terms of high technology has lessened dependence upon a few *core* countries (chiefly Japan), through diversifying supply. However, this policy may lead to the question of *whether all these different systems can be interconnected one to another ?* From this point of view, countries such as R.O.Korea need the universial *standards* adopted by the ITU.

4.2. Economic and Political Issues

In contrast to Frank's argument (1981) regarding **foreign debt**, Korea Telecommunication Authority (KTA) repaid US$ 288 million out of the total amounting US$ 456 million (June 1988). The amount of repayment represents not only the second biggest among eight public corporations after that of

the Korea Electric Power Corporation, but is also more and earlier than its schedule (US$ 57 million). According to the Economic Planning Board, the early repayment of foreign debt is expected to siphon off 530.7 billion won (some US$ 727 million) in liquidity.[132]

There are further economic (especially trade) issues. R.O.Korea's exports are heavily concentrated in the markets of a few industrial countries such as the US. Despite efforts discussed earlier, the US alone still accounts for nearly 70% of exports of communication equipment, as seen in Table 3-4. Although there are some exceptions such as products of optic fibre cable, domestic consumption of telecommunications products, such as computers, is marginal. It is worth noting however that the major users of optic fibre are KTA (about 90%) and the military (about 7 %).[133]

Table 3-4; Composition Ratio of R.O.Korea's Exports of Communication Equipment by Region

1983	America (US)	Europe (UK)	Asia	Other
	89,1% (83,7%)	3,7% (1,2%)	3,6%	3,6%
1987	America (US)	Europe (UK)	Asia	Others
	70,1% (66,8%)	21,2% (7,3%)	4,2%	4,3 %

(Source ; *Industry in Korea* (1988); & The Korea Development Bank (1988;103))

As the tougher attitude toward reciprocity in market access is most evident in US trade policy, especially since Reagan's announcement of the Trade Action Plan in 1985, so R.O.Korea's position becomes more and more vulnerable. In most of these sectors, Korea's penetration of the US market is additional to significant exports from Japan. For instance, in the semi-conductor market Koreans have not displaced Japanese semiconductors - but have added to foreign penetration of the US market. Japan's penetration of the US market increased from 4.5% to 8.2% between 1982 and 1986, while Korea's penetration increased from 2.0 to 3.4%".[134] Further, although Korean electronic and semiconductor industries have developed rapidly, their size is still about 1/7 of those of Japan.[135]

Overall, despite R.O.Korea's policy diversifying export markets for telecommunications goods, the US is still the major market. In particular, Japan plays key roles in America and world telecommunications markets. As

a result, dependence upon a single and competitive market makes R.O.Korea vulnerable.

Turning to **imports**, although Korea has the export capability in simpler lines such as telecommunications equipment, domestic demand for more sophisticated parts is met largely by imports.[136] The US is Korea's primary source of telecommunications equipment, semiconductors and components, electrical measuring and control equipment. Japan is the primary source of all major electrical and non-electrical machinery.[137] Yet, overall "imports in communications equipments showed a declining trend, while exports have increased substantially. This decrease in imports was basically due to the expanding level of technological self-sufficiency within the domestic industry along with a relatively insignificant increase of domestic demand."[138]

Overall, in terms of **trade**, the Koreans have mounted several high-level political efforts to obtain improved access to the Japanese market. However, they have been no more successful than any other of Japan's trading partners. In spite of R.O.Korea's diversifying policy, the pattern of its trading partners has not much changed, as illustrated in Table 3-4. This lack of change in trading partners may be partly explained by Galtung's (1980) view that trade between *Peripheries* is low while trade between *Center* and *Periphery* is high. This view is apparent especially in relation to 'competitive goods' such as electric or communications goods. One might cite against this proportion that the volume of trade between Hong Kong and R.O.Korea has increased. Yet, this increase of exports to Hong Kong does not mean a demand from Hong Kong itelf. They are exports passing through Hong Kong to China, because for political reasons Korea can not yet overtly export to the communist markets including North Korea.

Furthermore, implementation of R.O.Korea's telecommunications policy is in transition. That is, "unlike in the past, the Seoul Government is not in a position to make authorative decisions in trade negotiations with the US govenment, in view of the rising voices from opposition political parties and domestic private enterprises and the general public."[139] There is mounting internal pressure on the Government from the business

community for reduced communications charges for data transmission and for private companies to be allowed to set up value-added networks.'[140]

In particular, trade balances, especially between Washington and Seoul, have been reversed. Seoul netted a series of trade surplus - e.g., US$ 4.3 billion in 1986, US$ 9.6 billion in 1987, and about US$ 8.5 billion in 1988. As a result, "the Government has been liberalising more industrial sectors to foreign investors and simplifying the approval and administration procedures for foreign investors." In a sense, "foreign investment has been and will continue to be vital to the Korean economy in that it contributes not only to the promotion of economic cooperation with foreign countries but also to the strengthening of the international competitiveness of the nation's industries and to the inducement of advanced technology."[141]

In practice, due to liberalisation for foreign investors, foreign investments and joint ventures have now become commonplace in telecommunications - especially equipment - industries, as illustrated in Table 3-5. "Joint ventures established a new trend which permitted diversification of export markets away from the US. For example, Goldstar Telecommunicataion Co. set up a 60:40 joint venture with Sri Thai Superware Co. in Thailand."[142] Foreign companies such as DEC (US), Fujitsu and NEC (Japan) etc. have also invested in R.O.Korea.

Table 3-5; Technological Joint-Venture with Foreign MNCs in R.O.Korea's Telecoms Industry

	Electronics	Fibre Optic	Telecommunications & Semiconductors
Samsung	NEC (Japan)	AT&T (US)	ITT/BTM (Begium)
Goldstar	Honeywell & Fuji*	ITT (US)	AT&T (US)
Hyundai			IBM (US)**
Daewoo		NT (Canada)	
Daehan Jeonseon		Smitomo (Japan)	
Oriental			AXE-10 (Sweden)
Korea Electronics	Toshiba (Japan)		
ShinYeong	Mitubishi(Japan)		
Kwang Jin	Fujitsu (Japan)		
Samhwa	Nichicon (Japan)		

* US & Japan ** Computer

(Souce : *Who owns whom* (1985) & *et,al,*)

Foreign multinational companies such as IBM (US), DEC (US), NCR (US) and so on began to enter Korean markets through buying-out their previous Korean joint venture partners.[143] In this context, it is arguable whether foreign companies should be subject to national laws of the country concerned or to their own *de facto* standards. At present, although a standard of *Hangul* (Korean) Code for computer networks was agreed by the Korean government, foreign multinationals such as IBM, Unisys etc. still use their own codes. In particular, although Korean companies themselves manufacture computers, those foreign computer systems which were first into the market have saturated large-sized Korean industries. As a result, powered by the size of customer companies'[144] and their quality of goods and services, foreign multinationals' *de facto* standards seem to outweigh R.O.Korea's domestic *de jure* ones.

In addition, the current trade conflicts between R.O.Korea and the US led the US to press Seoul to open its market for telecommunications services - particularly, special or value-added services. Korea, along with the EC, was singled out for pressure to agree a bi-lateral free-trade agreement (FTA). Telecommunications was one of the major items for the first meeting held in March 1989. R.O.Korea has so far refused to allow subsidiaries of foreign companies based in Korea to hook up to international data systems run by the parent company.[145] Moreover, owing to assiduous lobbying, R.O.Korea was kept off the list of alleged unfair traders named in 1989 (Spring) under America's new trade law.[146]

When looking at data processing in the light of **transborder data flow (TDF)**, the issues range from matters which impinge directly on the individual such as 'privacy'[147] to those of 'national sovereignty' and the economic implications for world trade in services. Here, powered by liberalisation and convergence of technologies, multinationals have become TDF's largest users. They can mobilize financial resources for the hardware, software and transmission costs involved in the use of data flows. Multinationals appear to be the major importers of data. Also the transnational infra-firm divisions of labour within corporate computer communication systems often allocate input-output functions to facilities

located in developing countries. As a result, the more powerful equipment tends to be concentrated in the developed countries.

The information advantage of multinationals may place domestic enterprises at a competitive disadvantage, thus hindering the emergence of indigenous capacities in host countries. Most of all, TDF involves the "migration of key decision-making functions" to foreign locations, a country's ability to influence the direction of changes within its borders. All in all, national sovereignty may be impaired if knowledge is restricted to the full range of alternatives open to a given country in a given situation.[148]

In consequence, the more multinationals' power increases, the more governments protect their industries or countries, and the more furious the conflicts between countries depending on volume of use. Indeed, some commentators argue that "foreign information company hardly has control over the sale of their package of services or the level of charges in R.O.Korea."[149] However, it is of importance to notice that due to its divided national circumstances, R.O.Korea is particularly sensitive over issues such as 'sovereignty' or 'national privacy'. Hence, it is not surprising that the Korean Government has restricted the use of international data communications links. This sensitivity is confirmed by a Minisatry official (MOC): "The R.O.Korea can not allow foreign companies to act as though they were state-owned telecommunications companies."[150] However, it is questionable if this Government position will outlast continuous external pressure from the US as well as the further liberalisation of KTA in 1989.

As far as current trends are concerned, R.O.Korea is likely to move further towards liberalisation both for domestic and foreign companies, but under Government auspices or regulation. For example, regulatory reforms such as the Public Telecommunications Business Act (1987) allowed eight domestic companies such as Samsung Data System, S.T.M., Korean Air, Dusan, Hyundai Electronics etc. to expand the scope of common usage within their sister companies for special telecommunication circuits.[151] However, it is also worth noting that all these companies imported foreign systems

such as IBM, Hithachi, VAX, NAS, FACOM.[152] The Government (MOC) allowed such imported technology only on condition that within two years when interconnecting these systems to public networks, the code should be in line with KSC 6501 and the protocol should follow the Z.25 recommendation.[153] Each company is therefore under an obligation to develop domestic technology, in order to meet this requirment.

Finally, in **socio-cultural** aspects, because Korean companies are mostly exporting their goods to Europe on an Original Equipment Manufacturer (OEM) basis such as for Amstrad Computer, 'made in Korea' is not yet acknowledged as a mark of excellence. This seems to be a form of '*socio-cultual dependence*.' However, inasmuch as Korean companies themselves - chiefly the top four companies such as Samsung, Hyundai, Lucky-Goldstar, Daewoo - began to advertise their brands with increasing overseas investment and gained a relatively large amount of sales[154], so this mis-conception is gradually becoming less especially in the electronic and telecommunications sectors.

5. Synopsis: R.O.Korea's Domestic Telecommunications Issue-Structure

The development of R.O.Korea's domestic telecommunications since 1885 has been characterised by technological innovation, various new services, regulatory reforms and restructuring of infrastructure. These have been followed by changes in internal and external policies, and a growing telecommunications industry and its performance in the 1980s.

However, rather than enlarging autonomous or interdependent capacity, telecommunications - especially **high-technology** - has frequently produced *new forms of dependency*. When weighted in terms of the opportunity cost of investing in other sectors, it has generated *new dimensions of inequality*. In other words, of themselves new telecommunications and information technologies hardly expand development of domestic capacity in developing countries.

One may argue that R.O.Korea has increased its **R&D** investment for self-sufficiency and developed its indigenous technologies by its

telecommunications infra-organs. This has been related to the *degree* of investment and quality of technology. Although R.O.Korea increased its volume of R&D in telecommunications, due to the relatively small size of KTA's turnover and the proportion of R&D, the amount it produces is still far less than its gigantic competitors, as seen in Table 3-6.

Table 3-6: R&D Expenditures in Telecommunications Sectors (1987)

Company	Total Turnover [US$ million]	R&D (%) [US$ million]
KTA (Korea)	2,556	79 (3.0)
IBM (US)	50,056	4,723 (9.4)
Fujitsu (Japan)	6,563	525 (8.0)
NEC (Japan)	9,899	1,259 (12.7)
Hithachi(Japan)	20,919	1,224 (5.9)
Honeywell (US)	6,625	451 (6.8)
AT&T (US)	34,087	2,278 (6.7)*
NCR (US)	4,317	299 (6.9)
ITT (US)	11,923	1,085 (9.1)

Note - The figue in ()* is based on 1986
(Souces: KTA, *Datamation* June 1988)

From the **trade** point of view, in spite of diversifying policy, the pattern in telecommunications still shows a chronic *imbalance*. Korea largely imports technology from Japan, while exporting most telecommunications and computer equipment to the US. Apart from the argument that export-led economic development is vulnerable, the trade surplus to the US leads to pressure for the opening of Korea's telecommunications market - particularly, its service market which is a least developed area and in turn the most vulnerable. Such issues concerning trade in services along with transborder data flows (TDF) can lead to controversies ranging from individual privacy to that of national sovereignty.

In this context, it is also arguable that R.O.Korea's bureaucratic-authoritarian regime has not solved the negative effects - dependence - in the process of developing telecommunications infrastructure. The argument, however, is a matter of *degree*: No one country - whether developed or developing countries - can exist on its own, but must co-exist in a complex world - especially one where interdependence is as necessary as in

telecommunications. R.O.Korea has so far devoted its efforts to developing or upgrading domestic telecommunications and its issues. In the late 1980s, it has further sought to diversify its trade counterparts beyond ideological barriers[155], in order to lessen dependencia effects as well as to enhance its commercial interests in extended markets.

Overall, the more complex or sensitive world telecommunications, the more difficulties R.O.Korea faces in isolating itself from international trends and systems. Hence, it is now time for R.O.Korea to look at external variables such as international organizations (e.g., International Telecommunications Union). It needs to devote more attention to the ITU in that it faces difficulties from bi-lateral arrangements, and the ITU is the very place to offer universal standards and other international regimes which R.O.Korea desperately needs internally and externally. Of course, this does not mean that R.O.Korea has failed to participate in activities of international organizations. Until the late 1970s, within a favorable international economic environment, when GATT discipline was still largely intact, Korea benefited from a relatively open world trading system. It benefitted especially from the high growth rates of the OECD countries.[156] In the late 1980s, R.O.Korea has further placed emphasis on 〉internationalization〈 through actively participating in international organizations and strengthening international cooperation.[157] Therefore, for R.O.Korea to better cope with a rapidly changing and controversial telecommunications issue-structure, is not simply to pay more attention to the ITU, but to analyse the methods of and reasons for its actions within/concerning the ITU in the national and internaional telecommunications community.

Chapter IV.
Interlinkage Between R.O.Korea and The ITU: A Case of ITU's Organizational System

The International Telecommunication Union (ITU) as a UN Specialized Agency is an umbrella organization administering various international agreements on the use of telecommunications of all kinds.[1] Not only is it one of the oldest international organizations established in 1865, but it also has the largest membership with 166 Member States. Indeed, it is older as well as larger than the UN itself. Nonetheless, until the 1980s it has been "the least-known member of the UN family."[2] That might in part be due to the character of its traditional membership, which is composed of technical experts rather than administrators.[3]

However, as discussed in Ch.II.3, dynamic changes in contemporary telecommunications issues have brought about alterations in the market as well as in national and international regulatory regimes in the field of telecommunications. As the possibilities for telecommunications have advanced, so their importance to *commerce* and socio-economic development has been increasingly recognised.[4] Thus, the ITU and its activities are no longer limited to technical issues but are intertwined with socio-economic and political issues.

It is, in practice, the unique nature of the ITU's domain of jurisdiction - telecommunications - which allows the whole world to maintain the cohesion of an international arrangement without which no telecommunication system can function.[5] This inevitable interdependence - or need for interconnectivity - in global telecommunications gives rise to a great amount of tension at one level, and pressures for self-preservation and collective agreement at another. Hence, Members (both Governmental policy-makers and private companies) more and more recognize not only the significance of the ITU, but also increasingly demand ITU-interventions through its regulatory regimes, or instruments of operational activities, in order to solve such tensions between conflicting Members' interests. In this context, R.O.Korea has emphasized the importance of mutilateral cooperation through international organizations such as the ITU.

However, it is difficult to comprehend the interlinkage between R.O.Korea and the ITU, without looking at the Union's character as an organizational system. Therefore, this Chapter intends to focus on questions relating to the internal structure and conflicts within the ITU. On this basis, it will further discuss the *methods* and *reasons* underlying R.O.Korea's behaviour within the ITU's organizational system.

1. The ITU: As An Organizational System

1.1. Evolving Purposes and Functions of the ITU

One of the major reasons why Members (states or non-states) want to have membership of the Union is related to its purposes and functions. Until the 1970s, the major **purposes** of the Union were:

> "to maintain and extend international cooperation for the improvement and rational use of telecommunications of all kinds; to promote the development of technical facilities and their most efficient operation with a view to improving the efficiency of telecommunication services, increasing their usefulness and making them, so far as possible, generally available to the public; and to harmonize the actions of nations in the attainment of those ends."[6]

It is worth noting that the ITU's purposes have been continuously revised. In 1982, there were amendments emphasizing international cooperation "between all Members of the Union", in particular "to promote and to offer technical assistance to developing countries in the field of telecommunications" in the Nairobi Convention (1982).[7] And, a further amendment - "promoting the use of telecommunication *services*" - was adopted in the Nice Constitution (1989)[8], following decisions made in the International Telecommunication Regulations by the World Administrative Telegraph and Telephone Conference (1988).[9]

In order to meet these evolving goals, the Union has undertaken various **functions** ranging from fostering international cooperation in the delivery of *technical co-operation and assistance* to developing countries; facilitating the *"world-wide standardization* of telecommunications with a satisfactory quality of service"; to formulating *regulations* for promoting

the best use of telecommunications resources.[10] These are supplemented by undertaking studies, adopting resolutions, formulating opinions, collecting and publishing information concerning telecommunication matters[11], and organizing symposiums and exhibitions regarding technical, legal, and policy issues.[12]

What can be the driving force of such changes in the ITU's goals and functions ? The drive is derived from *structural* as well as *functional* reasons. Growing demands from developing countries have been reflected in the adoption of 'technical assistance', on the one hand. The form of telecommunications and the emergence of service issues also requires the ITU's intervention, on the other.

However, it is worth noting that the Union's concerns do not rely on the message - such as content or semantic communication conveyed - but largely on the *means* of communications[13] - such as as transmission, distribution and reception.[14] But because telecommunications is closely linked with socio-economic interests, these technical concerns involve issues of who should transmit/provide and receive. In order to solve these non-technical as well as technical questions, each Member and the ITU need to readjust their role in facilitating the coordination and harmonization of international telecommunications.[15] In consequence, the ITU's concerns have furthered the "legal, policy, social, political and cultural needs of the various communities"[16], particularly in the 1980s. Overall, the ITU aims to promote co-operation among all Members in the current complex and sophisticated telecommunications environment[17], and is concerned with virtually all forms of telecommunications and its *issue-areas*.

1.2. Evolving and Varying Legal Instruments of the ITU

The International Telecommunication Convention, which is a treaty with binding force, has been the basic instrument of the Union since 1932, with incessant revisions. This long-lasting instrumental system was dramatically changed in the Nice Plenipotentiary Conference (1989). As a result, the instruments of the Union at present consist of the International

Telecommunication Constitution, the International Telecommunication Convention, and the Administrative Regulations. The Constitution, whose provisions are complemented by those of both the Convention and Regulations, became the supreme instrument of the Union.[18] Although all three have binding force, their degree of legal status (hierachy) differs from one another: "The Constitution prevails the Convention and the Regulations, while the Convention prevails the Regulations, in the case of inconsistency."[19]

The idea to upgrade the instruments through introducing the new Constitution came from awareness of cases of disputes between Members and the Union or between Members themselves rather than between the regulatory instruments *per se*. In theory, in the event of conflicts, the constitutional provisions designed to prevent the abrogation of treaties may authorise the application of the International Telecommunication Constitution.[20] In particular, conflicts and Members' withdrawal may disrupt the entire system.[21] For that reason, the Union emphasizes 'obligations of Members'[22] to prevent (economic) harm to others under the 'Constitution'.[23] In terms of managerial concerns, as P.Tarjanne (new Secretary-General) said, the supreme Constitution was created for 'added continuity' with the basic principles, whilst the Convention is expected to be more flexible and efficient to meet rapid changes in the character of telecommunications provision.[24] All in all, it implies that the Union is meeting the challenges of complex telecommunications issues through strengthening its regulatory instruments.

However, international law does not, in practice, distinguish between agreements identified as treaties and other agreements. The name accorded to an agreement is not in itself important and is of no legal effect.[25] This means that the Constitutional provisions are capable of giving rise to disputes concerning 'interpretation.'[26] In general, a more vital point is how much Members themselves are willing to adhere to the Union's regimes, that the Members themselves have decided.

There are also further Recommendations (standards), Resolutions, and Opinions which complement the three instruments above. Although these

supplementary norms do not have legally binding force on their own, they give important guidance to implementation of the various activities of the ITU as well as of Members.

1.3. Organizational Structure of the ITU & Its Issues

The term organizational structure refers to "the total pattern of relationships between the Union's infra-organs and participants (Members)."[27] In a sense, these infra-organs in association with Members are the very bodies that undertake the Union's various functions ranging from that of a 'forum', to 'legislative', 'administrative' and 'operational' ones.[28]

Of all the UN specialized agencies, "the ITU perhaps has the most complicated structure"[29], as seen in Figure 4-1. Further, such complexity has often given rise to disagreements among observers or academics concerning the nature of the Union's organizational structure. For example, some like G.A.Codding Jr.(1988) and G.Finnie (1989) see the ITU having a 'federal nature', because it is unlike other international organizations in which the Secretary General stands alone at the top.[30]

In contrast, A.G.David (former Legal Advisor to ITU) backed by A.M.Rutkowski (Head, Telecommunications Regulations & Relations with Members Division, ITU) denies this 'federalism'[31], on the ground that the concept implies *a balance of 'power' between different entities*, such as administrative, legislative, and judicial parties. They argue that the concept is a governmental or legal concept, which is neither applicable to the ITU, nor has ever been applicable. A.G.David argues that given the structure of the ITU as it stands today, it has no entities within it with executive or judicial 'power', except its legislative bodies - known as the Plenipotentiary and Administrative Conferences. It is with these bodies that the power to do anything in a governmental or legal sense resides. Therefore, it is not the Union *per se* but Member-states who have power. Disputes between Members and the organization since its early days have been derived from the Members' - chiefly the few hegemonies - extreme

reluctance to take any action that might derogate from their sovereignty in this vital and sensitive telecommunications field.[32]

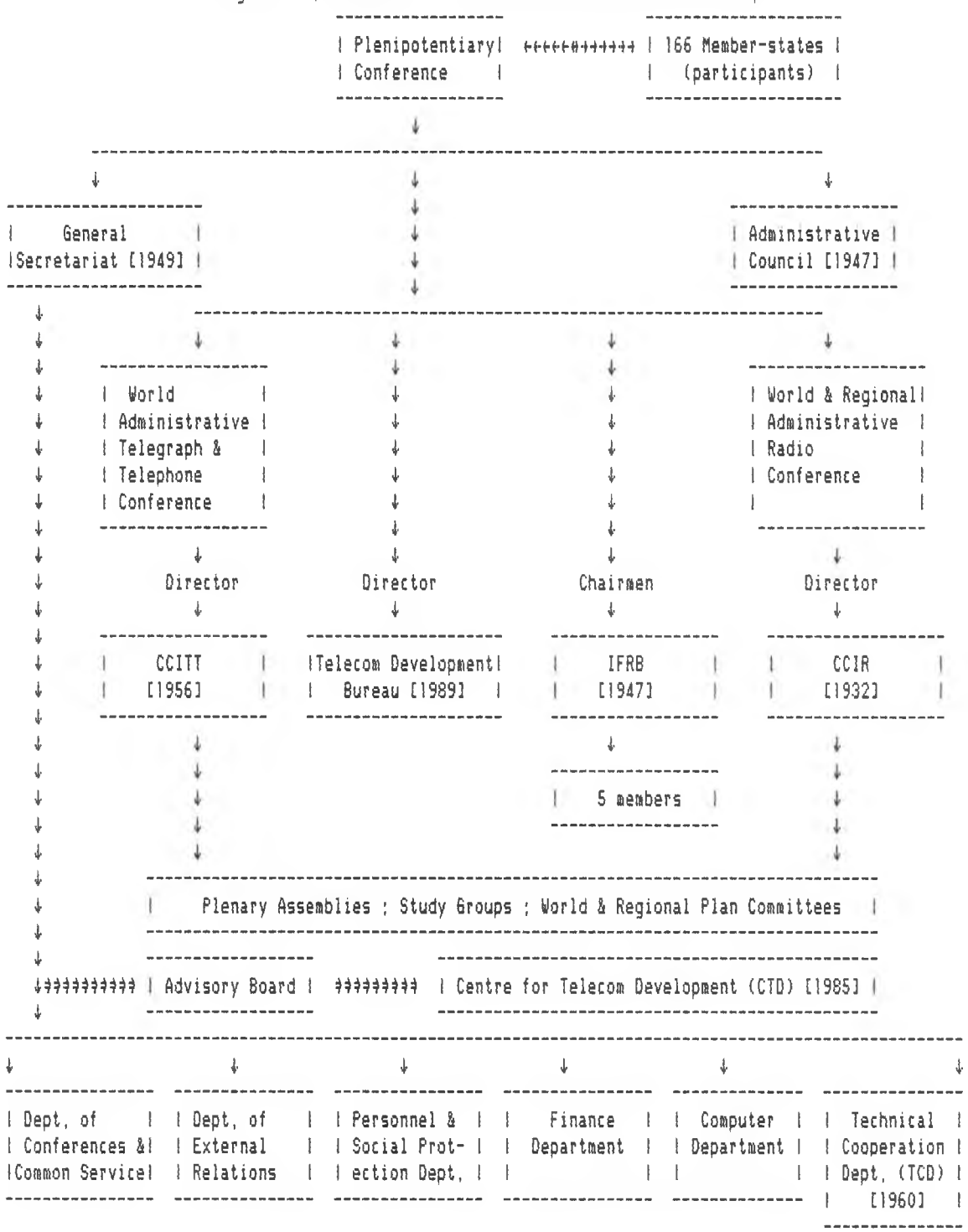
A.G.David further argues that "the term federalism concerning the ITU to date began to appear as a favourite catch word in some industrialised countries in reflecting their fears of 'losing control' over the ITU due to its expansion in membership. [According to him,] it is now even used by some to resist any change whatsoever in the structure of the Union,"[33] although the Union itself and its staff (*inter alia* R.E.Butler, the Secretary-General) recognizes the urgency and dire need for structural changes.[34]

These arguments over federalism appear to be rather confusing, because both arguments try to say that the Secretary General has no overall power or direct jurisdiction over the activities of the ITU. Because each infra-organ has some autonomy, the former regards the ITU (or the Secretary General) as having no absolute power to control its several infrastructures and their activities. Hence, it has a more or less federal nature. In contrast, the latter - especially A.G.David - sees the concept (federalism) misused, since the ITU has never had three divided 'power' entities, and since the power resides not in the ITU but in Member States.

In order to clarify these arguments, it will be necessary to firstly look at questions: *What are Union's infra-entities and their functions ? How have they evolved ? What are the implications of such evolution of infra-organs ?* As seen in Figure 4-1, the Union is at present composed of eight infra-organs. Five of them are referred to as being permanent organs such as the General Secretariat, International Frequency Regulation Board (IFRB), International Consultative Commitees for both Telephone and Telegraph (CCITT) and Radio (CCIR), and the Telelcommunications Development Bureau (TDB). In addition, there is the Technical Cooperation Department (TCD), on a permanent basis. Although the rest including the Plenipotentiary Conference, Administrative Conferences, and Administrative Council are the main places as *fora* where decisions have been made by Members, they are not permanent organs.[35]

These infra-organs have different types of fora - either conferences or meetings organized by the Plenipotentiary, the Administrative Council, the World Administrative Radio and Telephone & Telegraph Conferences (WARCs &

Figure 4-1, Structure of ITU's Infra-entities & Membership



Note - The number within [] is the year when each infrastructure was established,

WATTCs), and the International Consultative Committees (CCIs). The activities of these infra-organs and their fora have been much more frequent in the 1980s than in the past.[36]

1.3.1. **Evolving Issues in the Plenipotentiary Conferences**

The Plenipotentiary Conference, as the ITU's supreme organ[37] and its 'legislative' body, has the power to make decisions which could affect the direction that telecommunications could take for years to come. Meeting once in about every five years, it deals with issues such as determining the general policies for fulfilling the purposes above, and budgeting and accounting of the finance of the Union. It also elects official staff such as the Secretary General and Chairmen of the IFRB. It has elected Directors of the CCIs since 1982, and is due to elect the Director of the Telecommunications Development Bureau.[38] In addition, it revises or sets international telecommunications regimes - the Constitution and the Convention. Overall, being a 'supreme and intergovernmental organ' of the ITU, it is less technical than political in nature.

This legislative and political character of the Conferences has been reflected in the long history of the ITU through the continuous revision of regulatory instruments. That is, the ITU was formed on the basis of the International Telecommunication Convention adopted by the Madrid Plenipotentiary Conference in 1932.[39] In turn, the Atlantic City Plenipotentiary Conference in 1947 for the first time fully recognized "the sovereign right of each country to regulate its own telecommunication" in a Convention.[40] Most of all, it was the 1947 Plenipotentiary Conference through which the ITU formally entered the growing family of specialized agencies brought into relationship with the UN.[41]

Conflicts between the two superpowers - the US v the USSR - followed by their satellites such as North and South Korea were regularly raised in the ITU's Conferences over questions of 'membership'. As a result, the ITU in the 1960s became more than a simple technically oriented organization. That is, a series of the Conferences in Buenos Aires (1952), Geneva (1959)

and Montreux (1965) appeared to be political fora for **East and West** disputes.[42]

In the late 1970s, the birth of new countries from increasing *de-colonization* brought about an all-out **North-South** confrontation in most international organizations (Ch.II.2). However, due to its technical character, the ITU tended to be rather remote from these heated debates. In particular, as R.E.Butler (1986:45) points out, the ITU deals mainly with the *means* rather than the messages of communications. Therefore, in contrast to UN Educational Scientific and Cultural Organization (UNESCO) and other UN specialised agencies, the Union has been less involved in issues concerning economic or ideological/political conflicts such as the New International Information Order. However, G.A.Codding Jr.observes that some of the broader North-South political tensions have been present throughout the Conferences in various ways.[43]

Since the 1980s, the Plenipotentiary Conference has faced increasingly complex and arduous issues ranging from rapidly changing sophisticated telecommunications (Ch.II.3), to growing demands from the developing countries who have coherent voices as well as a majorty of voting power. However, it is also worth noting that the current telecommunications issues such as liberalisation and trade in telecommunications services lead the Conference to raise more fragmented arguments among Members: they are not just the conventional bi-polarised arguments such as the East-West and the North-South, but more pluralised conflicts - especially within the North itself. These arguments reflected on changes of the Union's purposes and infra-organs in both the 1982 Nairobi Conference[44] and the 1989 Nice Conference.[45]

1.3.2. **Various Administrative Conferences**

The Administrative Conferences, which are also »legislative« entities, are of two types: World Administrative Radio Conferences (WARCs) and World Administrative Telegraph and Telephone Conferences (WATTCs). These are the world conferences, which revise the Radio Regulations and Telecommunications Regulations. In general, the WARCs have been held more

often than the WATTCs. There are also Regional Administrative Radio Conferences (RARCs), which deal with regional frequency allocations.[46]

One of turning points in the Aministrative Conferences was WARC-59 which recommended that the Extraordinary Administrative Radio Conference be convened in 1963. That is, it opened space communications. The decisions made in the 1959 Conference did not enable the agency to engage in 'task expansion', but enabled it to keep up with changing technology. By then, "many technological improvements had taken place which resulted in the cost-benefit ratio of satellite communications becoming favourable even for domestic communications, where the distances to be spanned were far less than those involved in international systems."[47]

Another turning point was the creation of a single administrative instrument for telecommunications in place of the Telegraph and the Telephone Regulations - known as the International Telecommunication Regulations adopted in the WATTC-88. This instrument effectively integrated previous discrete fragments dealing with discrete services and networks.[48] However, because of conflicting interests between Members, the issues emerging from the WATTC-88 were complex and controversial.[49]

All in all, by revising or adopting Regulations, both WARCs and WATTCs have endeavored to meet demands for both technological innovation and the structural transformation of telecommunications policy. These changes or revisions of previous Regulations are indicative of a recognition of the need to adapt to new demands evident in national and international telecommunication environments.

1.3.3. **Administrative Council & Implications of Its Membership**

The Administrative Council, which was created by the Atlantic City Plenipotentiary in 1947, gave the ITU a ›continuity‹ that was previously lacking. In contrast to the other infra-organs like the IFRB, the number of Members has grown from 18 in 1947 to 43 Members.[50] Internationalizing the Council made it potentially a more important

political force. In other words, the phenomenon of growth in numbers obviously reflects an increasing influence for the Third World.

The Administrative Council authorized the Union's participation in the UN's Expanded Program of Technical Assistance in 1951. This was the first step in adding 'service or operational functions' to the ITU's traditional 'forum functions'.[51] In a sense, it appears to be an ›executive‹ entity.[52] However, it has little power independent from the Plenipotentiary Conference or Member-States, as demonstrated in the 1982 Nairobi Convention: "it shall act within the limits of the powers delegated to it by the Plenipotentiary Conference".[53]

Nonetheless, it is the Administrative Council which "takes all steps to facilitate the implementation by the Members of the provisions of the Convention, of the Administrative Regulations, of the decisions of the Plenipotentiary Conference, and where appropriate, of the decisions of other Conferences and meetings of the Union. It also performs any duties assigned to it by the Plenipotentiary Conference, determines each year the policy of technical assistance, and ensures the efficient coordination of the work of the Union and exercises effective financial control over its permanent organs."[54] All in all, "membership in the Administrative Council does not necessarily guarantee influence, but since the Council is the only organ of the ITU that is certain to meet annually[55], it is an important infra-organ of access.[56] Being elected as a Member of the Council may be a way in which the stratification or hierachy of power in international relations can be reflected in the ITU and its infrastructure. Further, it is worth noting that although the Plenipotentiary takes 'decisions' *vis-a-vis* a whole series of meetings and conferences, it is the Administrative Council which mainly sets the 'agenda' ensuring implementation or actions.[57]

1.3.4. **The General Secretariat & Leadership of Secretary-General**

The General Secretariat as one of the permanent organs is currently composed of the Secretary-General and Deputy Secretary-General. Its structure has also significantly changed. For instance, the Berne Bureau consisted of a Director and a Deputy Director, which provided legislative

support, facilitated information exchange and provided advisory and frequency registration functions. The Bureau became the ITU Secretariat and was fragmented into separate compartments, as seen Appendix 1 and Table 4-1. The duties of the Secretariat are "the planning and management of technical co-operation programmes for the development of telecommunications, and the exchange, co-ordination and publication of general information regarding telecommunications."[58] In particular, the Secretary General directs the financial and administrative arrangements for the IFRB and the CCIs.

However, unlike some international organizations such as UNESCO or the World Health Organization (WHO), where the Secretariat is responsible for initiating substantive studies and which are headed by a Director-General who wields considerable authority over the agenda and budget of the organizations, it is the Members who initiate substantive matters in the ITU.[59] Members' power has indeed restricted the Secretary-General by severly limiting the number of staff members who can be used for essentially political tasks. For instance, "it was not until 1968 that the Union had its own legal officer, despite the fact that its traditional function was to provide a framework for preparing international regulations."[60]

In fact, the efficiency, success, or characteristic of any organization largely depends upon the 'leadership' of the Secretary-General. For this reason, Article 101 of the UN Charter lays down the "paramount consideration" in the appointment of staff, especially the Secretary-General, as being "the necessity of securing the highest standards of efficiency, competence and integrity".[61] The best Secretaries-General have demonstrated extraordinary qualities of leadership which could both inspire their staff and persuade policies of the Member governments.

Selection of this important post of Secretary-General is entirely the business of governments and how much attention governments pay to the managerial abilities and strength of character of potential candidates.[62] Recognizing the significance of his job, the 'mode of election' has been changed. The Secretary-General was elected by the Administrative Council

from 1947 until 1959. Thereafter, they have been elected by the Plenipotentiary Conferences. In return, the post of Secretary-General no longer belongs to a limited number of Member States but to all.

On the basis of Members' voting, there have been eight Secretary Generals since 1949[63]. They have been mostly lawyers, technical experts, or ex-professors, most of whom had pursued careers in telecommunications in their own countries before becoming ITU officials. "Technical training and experience seem to have become increasingly important qualifications for aspirants to the post of ITU Secretary-General, apart from which country they come from. Participation in ITU activities, including the Administratiave Council, also tends to be helpful."[64] According to collected interviews, however, the selection of the Secretary-General is *to date* more likely to depend on which country he or she comes from rather than what qualification he (she) has. This does not mean that it will necessarily be better to come from the First (industrialized) countries. Instead, it appears to be more advantageous if he (she) comes from a rather *'neutral'* country in terms of policy as well as degree of *power*, such as Australia and Finland. In other words, Members tend to be in favour of someone who is not only qualified in telecommunications, but also is capable of compromising between interests.

Overall, it is true that success of the Union at large depends on who is the Secretary-General - namely, his leadership. It is also recognised that the Secretary-General has relatively more influence than anyone else within the Union. But, although R.E.Butler (Secretary General) and many staff of the Union feel strongly that it needs internal restructuring, the decision is subject neither to the Secretary General nor to the staff, but to Member States themselves. In this context, as A.G.David points out, the concept of 'federalism' is raised as a justification for barring any efforts to deal effectively with these administrative management problems. In order to meet this arguable question, one of the main agenda items at the Nice Plenipotentiary Conference (1989) was "gradually replacing the present structure by a hierarchical structure headed by a more powerful Director General."[65]

1.3.5. **Evolving Consultative Committees**

The Consultative Committees consist of the International Radio Consultative Committee (CCIR) and International Telegraph and Telephone Consultative Committee (CCITT). Their origin goes back to the mid-1920s, when there were a variety of standards in each telephone network, which could not easily connect together. It was at the 1947 Atlantic City Convention that the Consultative Committees (the CCIT, the CCIF, and the CCIR) took on universal membership and were given 'organ' status within the ITU.[66] Further, the Buenos Aires Convention in 1952 (No.3266 of the revision) authorized the merger of two Consultative Committees into the International Consultative Committee of Telephone and Telegraph (CCITT), which was formed in 1956.

Each Consultative Committee holds a Plenary Assembly every four years. This Plenary Assembly draws up a list of technical or operational questions. These questions are then distributed amongst a number of Study Groups. The Study Groups draw up Recommendations (standards) which are submitted to an ensuing Plenary Assembly for adoption. Although not always having the same binding force as Administrative Regulations, they are almost *universally* followed as they represent the collective wisdom of operating administrations and companies, manufacturers and designers of equipment throughout the world. Consultative Committees also convene World and Regional Plan Committee meetings, as a joint activity. These facilitate the co-ordinated development of international telecommunication services. Each Director is elected by the Plenipotentiary Conference and appointed in accordance with No.323.[67] There are also Special Autonomous Groups (GAS) within the CCIs, which work together as may be necessary on the preparation of handbooks on subjects of particular interest, especially to developing countries. One example of such a subject relates to the economic and technical impact of implementing a regional network.

The International Radio Consultative Committee (CCIR) studies "technical and operating questions relating specifically to radiocommunications without limit of frequency range" and issues recommendations on them.[68] Its major tasks are to provide relevant

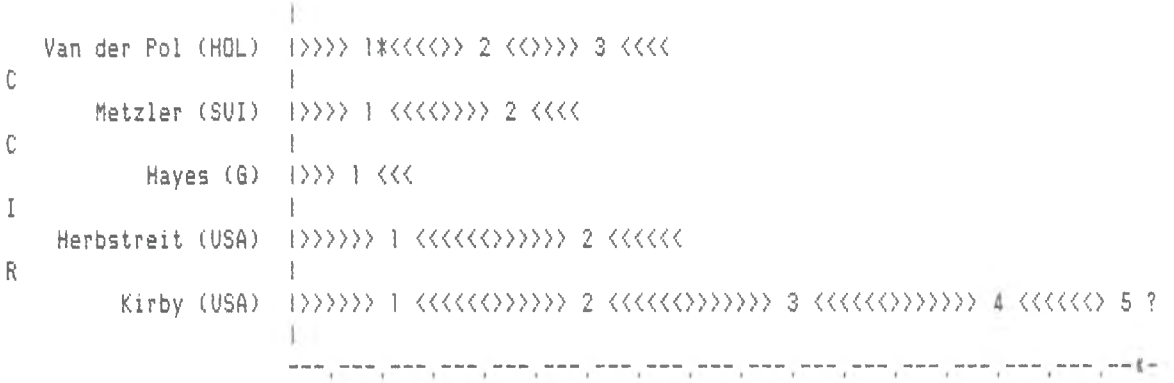
technical bases for the efficient utilization of the radio-frequency spectrum and geostationary-satellite orbit to Members.[69] Whilst, the International Telegraph and Telephone Consultative Committee (CCITT) studies and issues "recommendations on technical, operating and tariff questions relating to telecommunication services."[70]

In an ISDN environment, the activities of the two CCIs tend to be overlap to some extent. In practice, there is considerable interaction between the two.[71] For instance, the Joint CCITT/CCIR Plan Committees are administered by the CCITT. These Committees produce separate books for the planning of intercontinental and interregional services. The major aim of planning for international telecommunications service expansion is coordination and reconciliation of country-by-country plans[72], augmented by other international and regional organizations.

Because of this overlap, many commentators have felt that the elimination of the Consultative Committees as well as the IFRB would help increase the overall 'efficiency' of the ITU in carrying out its tasks.[73] Others such as T.Irmer (Director of CCITT) are aware of the necessity to restructure the CCIs.[74] A series of current speeches and articles by the Secretary-General also admit the need for restructuring. This recognition led to partial restructuring of the CCITT at the IXth CCITT Plenary Assembly in November 1988. However, the CCITT is unlikely to be eliminated because of the significance of its work to the activities of the ITU as a whole. According to A.M.Rutkowski, between 1982 and 1988, most of the major legislative/management meetings, numbers of participants, documents, and adopted norms, regulations, standards etc. related to the CCITT rather than other infra-organs.[75]

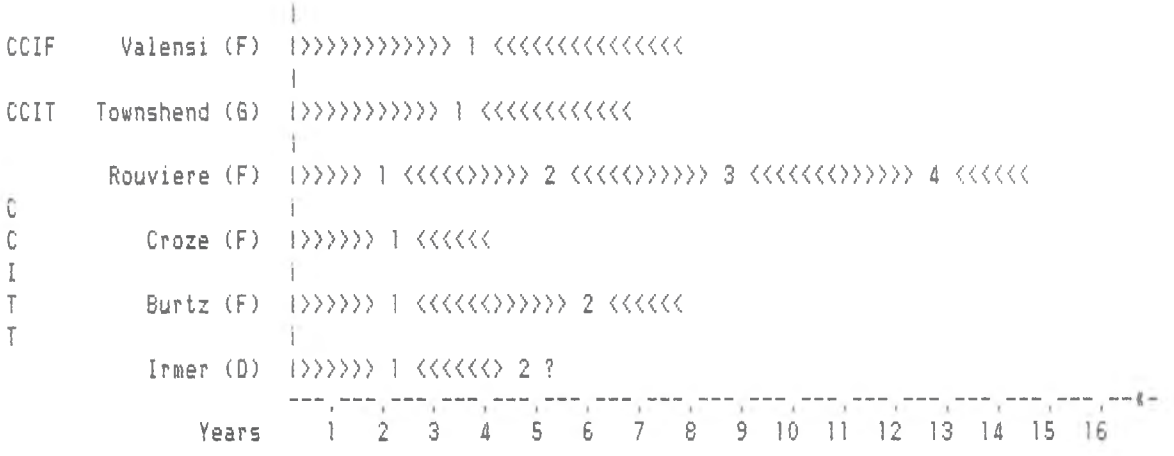
Whilst, although running for more than two-terms as Director may appear to be inefficient, Kirby (US), the current Director of the CCIR is due to undertake his fifth term, since he was re-elected in Nice Plenipotentiary Conference in June 1989.[76] He is the longest serving Director in the CCIs' history, as seen in Figure 4-2a & b.

Figure 4-2a ; Directors of the CCIR



Note - * ; Number of Terms

Figure 4-2b ; Directors of the CCITT



1.3.6. **Controversies in the International Frequency Registration Board**

The IFRB was primarily a simple recorder of frequency assignment for Member States, which has been a major function of the ITU since 1903. However, the IFRB has faced difficulties through the reduction of its original eleven Members to five in 1965, as seen in Table 4-1. The five Members of the IFRB currently serve as custodians of an international public trust, with regard to matters concerning "allocation of the radio frequency spectrum and registration of radio frequency assignments in order to avoid harmful interference between radio stations of different countries; coordinate efforts to eliminate harmful interference between radio stations of different countries and to improve the use made of the radio frequency spectrum."[77] That is, it is responsible for securing formal international recognition for the assignment. The Members are assisted by a specialized

Secretariat. The IFRB's mandate to aid individual Members has been increased considerably by addition to the ITU Convention. In return, its duties in the preparation of radio conferences have been widened. For example, the number of radio conferences has increased more than that which occurred in the past decade.[78]

In addition, its frequency management responsibilities have been extended to cover satellite communication systems. It is empowered to "effect an orderly recording of the positions assigned by countries to geostationary satellites, and furnish advice to Members with a view to the equitable, effective and economical use of the geostationary satellite orbit, taking into account the needs of Members requiring assistance, the specific needs of developing countries, as well as the special geographical situation of particular countries; and perform any additional duties, concerned with the assignment and utilization of frequencies and with the equitable utilization of the geostationary satellite orbit."[79] In this context, the developing countries, unlike other organs, see it as an independent, non-aligned body which makes certain that their frequency notifications receive the same treatment as those of the developed states. Under certain circumstances, the IFRB might even be persuaded to take the side of the developing country in a dispute with the Administration of a developed country.[80]

Despite increasing demands on the IFRB, *inter alia* from the developing countries, however, it has been subject to demands to change its structure and functions, even to the extent of its complete demise. In practice, such demands have occurred at most ITU Plenipotentiary Conferences since the IFRB's original mandate was modified as a result of the failure of the Members of the ITU to create a new 'engineered' radio frequency list in the early 1950s. This was followed by its restructuring in 1965. A decision was then made by the Nairobi Plenipotentiary (1982) to establish a special committee to carry out a thorough review of the long-term future of the IFRB and to make its report to the Plenipotentiary Conference of 1989.[81]

Such challenges have not been limited to the IFRB alone but the Union as a whole, along with most international organizations. Focusing on the

case of the IFRB, the reasons may range from the impact on its future functions of ISDN, to the question of the 'cost' involved in maintaining organs such as the IFRB.[82] In particular, it is worth noting that challenging or eliminating the IFRB can be seen in the light of conflicts between the North and South. This is because the IFRB is regarded as an ITU infra-organ, which is the most favorable to the developing countries. As G.A.Codding Jr.(1988) argues, "the status of the IFRB is an important element in the overall political balance within the ITU"[83]: the major controversy surrounding the IFRB is political and concerns the *'balance of power'* within the ITU.

1.4.7. **New Telecommunications Development Bureau**

The Bureau, which was set up as a new permanent organ in the Nice Plenipotentiary Conference (1989), aims to "facilitate and enhance telecommunications development by offering, organizing and coordinating technical cooperation and assistance activities". To this end,

> "it shall be to raise the level of awareness of decision-makers concerning the important role of telecommunications in the national socio-economic development programme and provide information and advice on possible policy options; and to promote the development, expansion and operation of telecommunication networks and services particularly in developing countries."[84]

The creation of the Bureau in response to the growing demands of developing countries involved "recognition of the Union's responsibilities in respect of technical cooperation and telecommunications development in a more satisfactory manner." Yet, it faces several unsolved problems relating to the existing Telecommunications Cooperation Department and the Centre for Telecommunications Development. This unclear division of work is well demonstrated by Resolution No.PLEN/5 (1989), stating that it shall "take all necessary measures towards the operationalization of the Bureau using the staff and resources of the Technical Cooperation Department."[85] This Resolution can be seen as a means of merging the existing two entities in the interests of more efficient management.

1.3.8. **Various Participants of the ITU**

The number of Members or participants of the Union has drastically increased from 20 (1865) to 163 (1988), and now 166 (1989), as seen in Table 4-1. In contrast to the UN and its family, the ITU allows not only Ministers or Administrations (166: 35%) of all Member States but also recognized private operating agencies (RPOAs - 82: 17%), scientific and industrial organizations (178: 37%), and international organizations (52: 11%) to participate in its activities.[86] The national telecommunications administrations have traditionally assumed a dominant role as representatives of each Member-State. On occasions, the foreign office intervenes when issues that it defines as 'political' arise. According to H.K.Jacobson (1974:81), it is generally true that the lower a state's level of economic and political development, the greater will be the freedom of its delegations to ITU meetings vis-a-vis their national capital. A large number of the participating states can decide their positions on many issues at the meeting.

Aside from a matter of the degree of national industrialization or power, it is physically impossible for most governments to be represented at all of these meetings, and it is very difficult for many of them, even if they can send a representative, to send someone with appropriate knowledge, or who is adequately briefed on the subject matter itself often very specialised, even though it may have an important bearing on his country's interests. Further, the volume of paper generated by these bodies and their meetings is enormous as is the task of digesting and commenting on it.[87] In general, large delegations may have certain advantages in terms of breadth of expertise: the number of participants can be a force stengthening the ITU. However, under the current tendency of deregulated telecommunication policy, the variety of participants (especially the increasing influence of large-scale private enterprises) may lead to conflicts on the lines of both national and industrial interests within a Member-State or among its delegates. But rather than their national backing or its size, the most important attribute is ›charisma‹ through which people gain influence in the ITU.

1.3.9. Synopsis: ITU's Organizational Structure

Each infra-organ has been incrementally involved in meeting the changing Union's purposes and functions over more than a century, as Table 4-1 demonstrates. It is worth noting that such evolution has resulted from negotiations or demands of Member States rather than the Union's will *per se*. Nevertheless, it is still the infra-organs of the Union which currently face the demands for change to meet the rapidly changing character of telecommunications. For this reason, R.E.Butler (Secretary-General) himself as well as many other commentators such as G.Finnie (1989) argue that the ITU must overhaul its structure in order to enable it to cope more rapidly and efficiently with such challenges.

Table 4-1: Structural Evolutions of ITU's Infra-organs 1

years	Members	Staff	Basic tool¤	Plenipotentiary C.	Ad. Council (χ)	IFRB†	CCIs@	G-S#	TDBω
1865	20*	a miniscule	Convention	Paris	-	-	-	?	-
1947	72	56	ITC	Atlantic City	18 (33,3%)	11	3	3	-
1952	96	172	ITC	Buenos Aires	25 (36,0%)	11	3	2	-
1965	133	394**	ITC	Montreux	29 (31,0%)	5	2	2	-
1973	146	556	ITC	Malaga-Terremolinos	36 (-)	5	2	2	-
1982	157	721	ITC	Nairobi	41 (24,4%)	5	2	2	-
1989	166	759@	Constitution	Nice	43 (20,9%)	5	2	2	1

Notes - * ; All from Europe ** ; ITU also was responsible for 208 technical assistance experts,
¤ ; Each International Telecommunication Convention differs because each one was revised after the previous plenipotentiary,
@ ; This figure excluded short-term contracts, which have been yearly increased from 1261 in 1982 to 1480 in 1988,
(χ); % of Western countries † ; Members of IFRB
; Number of General Secretariat ω ; Telecommunications Development Bureau
(Source ; H.K.Jacobson (1974;59&92); Dos.41 & 237 of 1952 Plenipotentiary Conference;
Report on the Activities of the ITU in 1974 & 1983;
Report of the Administrative Council to the Plenipotentiary Conference, Nice, 1989)

In fact, the need for such structural reforms goes back to G.E.Gross (Secretary-General) in the 1960s who directly attacked the system:

> the "elimination of the posts of directors of the CCIs and their replacement with individuals subordinate to the Secretary General would make the operation of the ITU much more efficient".[88]

In turn, R.E.Butler (Secretary-General) in the late 1980s argued for amalgamation of the CCIs:

"nothing but good could come out of the amalgamation. By bringing the telegraph and telephone experts together in a common cause, it cannot but lead to mutual understanding and more fruitful personal contacts."[89]

In consequence, there were several proposals at the Nice Plenipotentiary (1989) concerning overall 'structural reform' of the ITU[90]. In order to review of the structure and functioning of the Union within the Consitution, the Conference (1989) further adopted Article 47 [91] and decided to convene an additional Plenipotentiary Conference in 1991 (two weeks), apart from a regular Plenipotentiary Conference in 1994 (Japan).[92]

1.4. Fiscal Management of the ITU

Efficient fiscal management of the ITU not only provides more flexibility and resources but aso a sign of a healthy and growing organization. However, international organizations today face financial crises, which may strangle them by reducing their activities.[93] Apart from a world economic recession, such crises come from disputes either between financial sources (mainly Members) or between the financial sources and the organization (ITU).

The ITU is **financed mainly from three sources**: These are the ITU's regular budget, the UN Development Programme (UNDP), and special voluntary funds.[94] Like other UN Specialized Agencies, firstly, the ›regular budget‹ mainly comes from the assessed contributions of Members which they have to pay by virtue of being Members of the organisation concerned and which are assessed on a UN formula designed to reflect their national capacity to pay. Yet, unlike other agencies, due to the character of its membership, the ITU is not just financed by the Ministries or Administrations but also by some private operating agencies and scientific and industrial organizations which participate in the Consultatiave Committees (CCIs) especially.[95] However, contributions of the latter comprise only about 3% of the total budget.

Those funds coming from the ›UN Development Programme (UNDP)‹ are financed by the voluntary contributions of Members of the UN. This income

is generally used for technical cooperation programmes. But, since the exact amount allocated to telecommunications is determined by the countries requesting the assistance, and financial resources are made available to UNDP, the ITU has little control over that portion of its budget.[96]

The ›World Bank, Regional Development Banks, and the International Development Agency‹ remain the major international sources of funds for upgrading domestic telecommunications networks.[97] It should be noted, however, that although the ITU maintains close contact with the bank and its affiliate, it has even less control over the projects that are funded and the amount allocated for telecommunication projects by these agencies than it has in relation to UNDP. In fact, the amount loaned for telecommunication projects by the bank and the International Development Association (IDA) is a small portion of the funds they make available to developing countries. It should also be noted that only the credits made available by the IDA are long term and low interest.[98]

In addition, about 10% of the ITU's regular budget income comes from the sale of publications. A further income comes from various "Funds in Trust" or special funds which the Agencies negotiate from various multilateral and bilateral donors, or which have been established to finance special programmes or acivities and to which member governments of the UN contribute voluntarily.[99]

With regard to the **scale or unit of contribution**, there are 15 classes of contribution to each annual budget, ranging from 1/16 to 40 units.[100] Members make a choice - called ›a free choice or voluntary unit choice scheme‹, used in an accumulative way to determine what share in cash terms each will pay each year. Although requests have been made to change the method from voluntary system to normal UN assessment, the 1982 Nairobi Plenipotentiary Conference decided to keep "the existing system of financial contribution".[101] According to this system, Members pay more in relation to their capacity to pay.

Private operating agencies, scientific or industrial organizations, and other international organizations share in defraying the expenses of ITU activities in which they participate. There is now a stabilized unit value for the private operating organizations who will pay 1/5 of the value of one unit. Within these scales or units, there is the hope that some countries will look at their contributions to the ITU, in terms not just of telecommunications services, but also of activities at the national level, and would seek to increase their contribution in accordance with the new unit scale.[102]

In contrast to this hope, most Member States - chiefly the developed countries - have hardly increased their shares from 30 units, although the amount of the contributory unit has increased from 176,600 SF in 1983 to 232,600 SF per 1 unit in 1989, as seen in Appendix 3.A & 3.B.[103] Indeed, there is no single Member State which contributes 40 units. This is seemingly because "the ITU provides no penalties for failure to pay annual contributions, underscoring the voluntary character of the financial obligations of membership."[104] Even though the ITU's Membership has increased from 158 countries in 1983 to 166 in 1989, at present, six countries - France, F.R.Germany, Japan, UK, US, and USSR paying 30 units each - provide about 46% of the ITU budget.

Inasmuch as the ITU is complex, so the **budget** of the Union is complicated. An overall cost analysis of the Union's infra-organs and activities can be seen in Table 4-2. It illustrates that about 25% of its total expense goes to its ordinary budget (e.g. wages of staff). The IFRB spends about 21% which is the largest among the permanent infra-organs. It is also worth noting that the budget for technical cooperation has increased, especially compared to the ordinary budget before the Nairobi Conference (1982) which amounted to 300,000 SF a year for the support of the Group of Engineers. Although how the ITU will pay for the new Telecommunications Development Bureau is not yet known, being a permanent infra-organ, its expense will come from the Union's regular budget. It therefore differs from the Technical Cooperation Department mainly sponsored by the UNDP, and the Centre for Telecommunication Development sponsored by voluntary donations.

Table 4-2: Budgetary Cost Analysis of ITU's Activities (thousands of SF)

year	Admin'e Council ¶	Administrative Conference		Seminars	General Secretariat		IFRB	CCIR	CCITT	Publications	Mis.ⁿ	Total
		World	Region	ITU	M*	OBε	TCρ						
1984	1652	4546	3831		229	26586	9987	20497	9544	15808	10854	6264	109798
1985	2043	5848	3130	67	237	28373	10175	24366	13834	14132	12404	6251	120860
1986	1956	3895	3238	160	270	32418	10707	25318	6823	20106	9078	6802	120771
1987	1729	8632	256	97	251	31807	9685	26156	11010	20370	9880	7217	127090
1988	2128	6207	1792	96	250	30788	9084	25546	9549	23173	8284	8261	125158
1989	7732	1991	2108	56	258	31250	8979	25763	13590	17203	12785	8262	129977
%	2 %	4 %	2 %	0 %	25 %		8 %	21 %	8 %	15 %	9 %	6 %	100 %

Notes - ¶ ; including the Plenipotentiary Conference % ; ITU & Members
ε ; Ordinary Budget ρ ; Technical Cooperation UNDP
ⁿ ; Acquisitions & Maintenance of premises & equipment, public service, audit, various expenditure
(Source; *Report of the Administrative Council to the Plenipotentiary Conference, Nice 1989*, ITU, p.62)

Like most other international organizataions, the ITU also faces **"financial constraints"**[105] from several directions. Firstly, difficulties come from newly launched infra-organs or activities such as new official language services, the Centre for Telecommunication Development and the Telecommunication Development Bureau.[106] Secondly, the Union's activities, such as programmes of meetings, lead to requirements for increased volumes of documents.[107] Further, these activities need translation or interpretation into six official languages. All in all, these require additional budgets.

Despite increasing financial demands on the ITU, financial cut-backs have originated from the UN developmemt programme (UNDP).[108] These cut-backs are worsened by the fluctuation of the US dollar *vis-a-vis* the Swiss franc.[109] From the financial point of view, moreover, the developing countries have come to rely upon the ITU more than ever as other sources of finance such as the UNDP are no longer satisfactory. This dependence on loans and credits from the industrialised world channelled through the ITU represents external finance for developing countries. The permanence of the ITU is thus critical to both developed and developing countries because of the exclusion costs they would incur without it.[110]

When all these budgetary demands are put together, existing Union activities at the Headquarters in Geneva are expected to suffer from a short-fall of 10%.[111] It may also be a question of finance which provokes arguments concerning whether or not to maintain infra-organs such as the IFRB which alone cost about 169,220,000 SF between 1982 and 1988.[112]

Overall, the effectiveness of the ITU and its activities largely lies in the actual funding. Although the Union is financially constrained, it seems to face relatively less financial difficulty or criticism from Member States, compared to other international organizations - especially the UN and its other Special Agencies such as UNESCO.[113] Indeed, many acknowledge that the ITU has in recent years tried to expand its services while maintaining about the same budget.[114]

1.5. Personnel Policy in the ITU

There are two types of personnel in the ITU. One is 'elected officials', which will be increased from nine to ten: These consist of Secetary-General, Deputy Secretary-General, 3 Directors from the two Consultative Committees and the Bureau respectively, and 5 Chairmen of the IFRB. The other is the 'staff in the Headquarters of the Union (Geneva). The latter is also divided on short-/long-term or permanent contract bases.

With regard to control over the general management and policies of the Union, there are a number of arguments about *who has power* - the Union's personnel or representatives of each Member State ? Some argue that both have a certain amount of control, that while the former undertake day to day Union activities, the latter have budgetary control.[115] Others observe that both are inter-related to each other. The former's influence is extremely stratified and is closely tied to that of national governments and the major private firms in the field.[116] Yet, others argue that the former have little independence or administrative power.[117]

These arguments can be inferred from a report provided by the Federation of International Civil Servants' Associations (FICSA). It

reported problems concerning 'staff-management conflicts' in the ITU along with the UN and its Special Agencies in 1984. According to the report:

> "The situation in ITU was unsatisfactory. Despite the existence of joint administration - staff bodies, decisions concerning staff in general were occasionally taken unilaterally. In some joint committees, there was a structural imbalance due to the low proportion of staff representatives in relation to the number of administration representatives. Staff representatives were not given enough time to conduct their representative duties adequately."[118]

Table 4-3: Number of Complaints Rejected or Admitted by the Tribunals by Organization

Organization	A ; Complaints submitted to the UNAT*(1978-82)			
	Complaints	Staff*	Rejected claims	Admitted claims
UN	47	16,019	21	19
UNDP	6	5,931	5	1
UNICEF	5	2,796	3	2
ITC	1	264	1	0
UNRWA	3	88	3	0
UNHCR	1	1,349	1	0
ICAO	6	1,337	4	2
IMO	1	294	0	1
Total	70	27,978	42	28

Organization	B ; Complaints submitted to the ILOAT$(1981-86)			
	Complaints	Staffχ	Rejected claims	Admitted claims
ILO	44	2,590	35	9
WHO	44	4,477	37	7
PAHO	44	870	27	17
FAO	43	7,213	30	13
UNESCO	15	3,200	10	5
ITU	4	957	4	0
WIPO	2	288	1	1
WMO	2	380	2	0
Total	198	19,975	146	52

Notes - * ; As of 31 December 1982, UN Doc, ACC/1983/PER/32,30 June 1983
χ ; As of 31 December 1985, UN Doc,ACC/1986/PER/R37,13 June 1986
UNAT (United Nation Administrative Tribunal)
ILOAT (International Labour Organization Administrative Tribunal)
(Source: Y.Beigbeder (1987;122))

In practice, matters concerning personnel policy have often been raised in Meetings of the Administrative Council, on the grounds of "the uncertainties and anxiety felt by the Geneva-based staff as a result of the deterioration in their conditions of employment and decline in the local value of net remuneration in recent years."[119] Nonetheless, the number of

complaints emerging from the ITU is relatively small, compared with those of other UN Special Agencies, as seen in Table 4-3.

Due to financial constraints, in general, the trend in international organizations is towards a reduction in the numbers of staff. Hence, inasmuch as governments are reluctant to approve pay increases for international organizations, so international civil servants such as the staff of the UN and its family agencies have been granted no pay increase in ten years. This is perceived as an injustice by the staff, with demoralizing effects at all levels. It is also worth noting that even the Executive Heads or Secretary-Generals - who are responsible for management - are unable to get a hearing on salary levels at the General Assembly.[120] In particular, because staff have no guarantee of continued employment with the organisation beyond the end of their current three or five year fixed-term contract, they may depend on the goodwill of their national administration in finding further employment. As D.Williams (1987:129-141) argues, thus, this dependency may make it difficult for staff - especially nationals of Socialist countries or of authoritarian regimes - to be independent and impartial.

Nevertheless, in the case of the ITU, the number of those on both permanent and fixed-term contracts has actually increased over the period. During the 1980s, the Council has also authorized the credits necessary for a growing number of short-term contracts to staff conferences and to cope with the constant growth of documentation: The number of short-term contracts increased from 1261 (1982) to 1727 (1987) and 1480 (1988).[121] Overall, since the Cold War, the number of staff has increased and the geographical basis of recruitment widened.[122] As a result, the number of staff members from Western Europe has reduced from 55% to 46%, while that from Asia and Australia and Africa has increased from 14% to 16% and 8% to 11% respectively.[123]

To sum up, despite many potential difficulties, the Union has made efforts for more efficient staff-management. It has recruited from a wider geographical basis and increased numbers of both permanent and fixed-term contract staff to meet increased activities.

1.6.. Decision-Making and Its Issues in the ITU

As discussed earlier, the ITU has never been given a mandate to formulate any policy or decision independent from its Members. There is growing concern that a more effective management system and a re-examination of the decision-making system is needed to respond to its changing environment.[124]

An instrument through which Members make decisions in the ITU is 'voting'. According to the International Telecommunications Convention (ITC), each Member has the right to vote at all the infra-organs of the ITU.[125] The Constitution (1989) also states that "each Member shall have *one vote*."[126] However, the simple principle of 'one state, one vote' has not always been followed as the basis of international organizations[127], especially many technical spheres such as the ITU. Despite the protests of the non-colonial powers, all of the world's colonial powers obtained additional votes by 1925.[128] The US also used an additional vote from 1934, when it became a Member of the new ITU.[129] This primitive form of 'weighted voting - known as colonial voting' prevailed until 1973 in the ITU's voting system.

The method of voting, in practice, depends on types of conferences and issues. For instance, with regard to the frequency allocation mechanism, 'a first-come first-served rule' called an *a posteriori* basis of allocation was originated in the Berlin Radiotelegraph Conference (1906) and has prevailed since. The right to use certain bands for certain services goes to the first person (Member) who puts in the claim. Although arguments between *a posteriori* and *a priori* rules have continued[130], relating to WARCs and Orbit Plan (1988) the *status quo* has been largely maintained.

The procedures in the ITU have been based on a 'consensus rule.'[131] The rule involves procedures for taking decisions which are legally binding on all but also requires the concurrence of all. Further, voting is used only occasionally. At first sight, such a 'consensus or unanimity rule' in association with lack of voting might produce a system in favor of developing countries. But, in reality, the developing countries today have a

permanent majority in numbers as well as maintaining a remarkable collective solidarity, which they use to trade-off votes.[132] In this context, it is likely to be not only the developing countries but also the developed countries who get advantage out of the system.

Apart from arguments emerging from among Member-States, the weight of private operating agencies in decision-making process is also substantial.[133] These demonstrate the complexity of the decision-making process in contemporary telecommunications particularly growing trends towards deregulation in international telecommunication policies. For example, in relation to its regulatory functions, "the international regulation of telecommunications within the framework of the ITU amounts to a self-regulation of the industry." On the one hand, the term self-regulation implies that "access of all competitors to the decision-making process must be secured" on the grounds that "a bias toward the interests of the incumbent service providers would be unavoidable." On the other, the concept does not seem to fit into a deregulated environment. "To admit self-regulation of the industry within the framework of the ITU would mean reintroducing the combination of regulation and provision of services on the international level. [Moreover], the likelihood of international efforts by existing operating entities to erect barriers to market entry and to restrict market behaviour could not be excluded."[134]

Also, the admission of all competitors to the rule-making bodies of the ITU may create other practical problems. The ITU - especially the Consultative Committees - which are traditionally based on a relatively small number of experts representing homogeneous interests addressing themselves to purely technical questions may be unable to cope with an increased number of participants, with the variety of interests. In addition, smaller undertakings may not be able to finance their participation, because the expenses of delegates are, as a rule, met by the organizations sending them.[135]

Another tool for decision-making within the organizational system is that of **languages**. The language of the ITU also leads to political tension. At present, there are six official languages consisting of English, French, Spanish, Chinese, Russian, and Arabic. French is the primary language of the ITU. One may ask: *Why and how were the six languages adopted ?* The reply is based not simply on the size of the lingustic community, but on power. According to J.A.Laponce's (1987) study, the language itself has rank depending not only on the size of the linguistic community but also on military power. As far as the size of lingustic community is concerned, out of some 82 different languages the Chinese (935) should gain priority followed by English (409), Hindi-Urdu (352), Russian (280), Spanish (275), Arabic (166) and Korean (63). In terms of the relationship between language and military expenditure, English (30.7%) comes first followed by Russian (26.4%), Chinese (10.3%), Arabic (5.3%), German (4.8%), French (4.2%), Spanish (2.1%), Japanese(1.5%) and Korean (0.8%).[136]

Looking at this statistics, there is no particular reason why French should be the primary language of the ITU. The main reasons for adopting French as the primary language might be due to French contributions to the invention of the telegraph by C.Chappe (a French inventor)[137], to French initiation of the ITU's Meeting, as well as to the location of Headquarters at Geneva where French is the official language. Moreover, if it is necessary for Spanish to be an official language, why not Hindi-Urdu or German/Japanese ? All in all, the matter of adopting an official language suggests it is not so much a question of "the primary means of communication"[138] as a complicated international power structure question.

There are also a number of implications to the language issue. Members - no matter whether they are developed or developing countries - who do not use the six official languages as native, will obviously suffer a disadvantage in fully comprehending the issues concerned and expressing their agenda at conferences (*processes* of decision-making). They are further required to meet the 'costs' for translation of the legal instruments and the outcomes of conferences, and to take account of differences in interpretation.

1.7. Structural Conflicts within the ITU's Organizational System

The evolving mandate, infra-structure, and authority of the ITU have reflected the conflicting pressures of international relations, together with telecommunications technological evolution. Nonetheless, the technical feature of the new politics is the most evident. The ITU as an organization with a mainly 'functional purpose' has had no political purpose.[139] In other words, it has grown out of technical necessity. This technical or functional aspect of international collaboration in telecommunications has hardly been affected by whether a regime is communist, socialist, or capitalist.[140] Overall, the ITU has traditionally been regarded as being remote from political (or ideological) conflicts.

However, G.A.Codding Jr.(1984) suggests that the ITU "has entered into a new period of crisis", in which politicized issues outweigh technical ones. One of the major reasons for the present disparity is derived directly from the "different stage of development" of its Members. "The nature of the new crisis has caused one of its more important clients - the US - to actually raise the question of the desirability of the ITU's survival."[141]

But, is such political tension a new phenomenon in the ITU ? Although conflicts might have hardly surfaced under its technical-oriented functions, the answer is negative. Political tension traces back to the early period of the ITU's history, as illustrated by shifts in its aims and in methods of decision-making within the Union. Since 1868, the major politicized issues within the Plenipotentiary Conferences have been those of the 'voting method', and the 'right of participation (membership)' of States. Several different conflicts over 'membership' have occurred. For instance, the USA initially refused membership on the grounds that its telecommunications was run by private companies rather than administrations. In turn, the USSR in 1927 and Spanish Franco regime in 1947 were not allowed to attend.[142]

In addition, during and after the Cold War period, there were heated conflicts over the membership of those countries divided by the Cold War such as Korea and Germany.[143] The Union grew from 72 in 1947 to 166 in

1989, because of decolonisation instituting changes in the pattern and size of the Administrative Council. In addition, the numbers of personnel and chairmen in various infra-organs as well as the appointment of the present Deputy Secretary-General, J.Jipguep (Cameroon) come from developing countries.[144] These structural changes may be explained by S.D.Kranser's (1985) views that the developing countries owe to external variables such as *voting power* with a majority in numbers in accordance with the decline of hegemony of the West.

However, there appear several differences in the view of the ITU compared to those about other international organizations. Whereas S.D.Krasner (1985) argues that "the current hegemonic power - the US - has faced an erosion of its actual power", E.J.Novotny (1988) argues that "the US is not perceived as a weakening power in the case of telecommunications. Its communications industry has led the way in technology, services, and global competitiveness."[145] Further, in contrast to the UN and its Special Agencies, the ITU has been rather remote from the debates or conflicts from the econo-political arguments discussed above. In particular, the emphases on socio-economic development within the ITU has come not from the North-South dialogue, but from recognition of the benefits of promoting telecommunications especially in developing countries in the 1980s. In this complex telecommunications field which demands collaborative multilateral efforts, J.Doran (1989) sees the ITU present "an ideal forum for middle-power activity and leadership"[146] rather than just for the conventional superpowers or for the collective voting power of the South.

Moreover, in contrast to H.K.Jacobson's (1974) view - that the shift of membership pattern has had virtually no effect on the ITU, because it is difficult to distinguish between the policies of competitive and authoritarian regimes'[147], the ITU currently has become a forum where competitive regimes backed mainly by the US and authoritarian regimes favoured by most administrations (PTTs) conflict with each other. Particularly in the late 1980s, in order to meet these conflicting policy issues, the ITU has revised and reformed its regimes (i.e., regulatory instruments).

2. Discussions: Interlinkage between R.O.Korea and the ITU through ITU's Organizational System

2.1. Methods of R.O.Korea's behaviour in ITU's Organizational System

Although R.O.Korea has reinforced its active participation in the ITU in the 1980s (Ch.III), initiation of interlinkage between R.O.Korea and the ITU traces back to January 15 1948. It began before the Korean official Government - called the Republic of Korea - was founded. At that time, Marden G. Coake (American) was a representative on behalf of both Japan and Korea. Meanwhile, R.O.Korea was established as an independent government, so that two Korean representatives replaced the American representative.[148] This was the threshold for R.O.Koreans to observe the ITU - more specifically, the Plenipotentiary Conference.

However, it took more than one year for R.O.Korea to be an observer at the ITU. Furthermore, because of heated ideological conflicts in the 1950s discussed above, transferring its position from an observer to that of a Member of the ITU was not an easy task[149], either. After struggling to achieve membership, how has R.O.Korea acted within the ITU ? How has the ITU - especially, its organizational system - impacted on R.O.Korea and its telecommunications infrastructure ?

2.1.1 R.O.Korea's Behaviour within ITU's Organizational Structure

In the beginning, it was mainly the **≫Plenipotentiary Conferences≪** where R.O.Korea participated. It was the Buenos Aires (Argentina) Plenipotentiary Conference (1952) which R.O.Korea first attended as a Member State. This Conference was meaningful for the ITU itself, because it was its first meeting as a UN Specialised Agency. But, along with Germany, China, and Vietnam, R.O.Korea again encountered heated disputes over its membership in the Conference. However, after a second vote, the Conference gave R.O.Korea the opportunity for the new Republican Government to confirm its membership and to legitimate its status.

R.O.Korea, in turn, used its membership in order to impede North Korea's application for status as an observer in the Geneva Plenipotentiary Conference (1959).[150] This behaviour opposing North Korea's participation in the ITU continued in the Montreux Conference (1965). R.O.Korea held that:

> "The Government of the R.O.Korea [...] is the only legally constituted government of Korea, recognized as such by the General Assembly of the UN. Therefore, it has the uncontestable right to represent and speak for all of the Korean people, whether they live or not in the northern provinces of Korea. [...] This only one Korea is rightfully, lawfully and legitimately represented by the R.O.Korea, Therefore, the participation by the North Korean regime in the work of the ITU is out of the question, under whatever pretext the argument may be presented to that end."[151]

This declaration indicates that R.O.Korea tended to use the ITU as an arena to articulate its general policy concerning international organizations. In particular, it placed considerable emphasis on participation in the UN. All in all, *externally*, R.O.Korea sought to enhance its image as differing from that of Communist N.Korea through raising its voice within the ITU.[152] In the 1960s, moreover, R.O.Korea's recognition and actions extended both to various of the Union's infra-organs[153] and to other international orgaizations such as the international telecommunications satellite organization (INTELSAT).[154] Internally, bearing in mind its econo-political rival - N.Korea -, the country underwent industrialisation under its centralized bureaucratic-authoritarian regime (Chs.II.1 & III).

In contrast to this foreign policy stance, particularly towards N.Korea and Communist countries, within the ITU in the 1950s and 1960s, in the 1970s, it dramatically changed. For instance, the Delegation of R.O.Korea made the following declaration in the report of Committee 2 to the Plenary Meeting of the Malaga-Torremolinos Plenipotentiary Conference (1973):

> "[...] The R.O.Korea [we] respectfully invite all Members' attention to [...] the effect that R.O.Korea would not oppose North Korea's participation with us in international organizations, if it is conducive to the easing of tension and the furtherance of international

cooperation. [...] We do not even oppose North Korea joining the UN along with the R.O.Korea."[155]

In the light of cultural and economic concerns, R.O.Korea enacted an open door system to all nations irrespective of their ideologies and political systems (Chs. II.1 & III). Apart from its direction of overall foreign policy, the declaration indicates that R.O.Korea was using the ITU as a *medium* to attempt to obtain full UN membership. In a sense, it could be an indirect communication to N.Korea through international fora (or mediums). Although both Koreans have not yet become Members of the UN, due to these alterations in R.O.Korea's foreign policy along with overall international trends (Ch.II.2), the Democratic People's Republic (North) Korea was admitted as a formal Member of the ITU in 1975.[156]

In the 1980s, R.O.Korea's foreign policy became more flexible and diversified, as demonstrated by President Roh's address to the National Assembly (October 4 1988). It has enhanced and rectified its foreign relations through cultural and economic cooperation with both the West and East - beyond ideological blockages.[157] This policy, especially concerning international organizations, was enhanced by President Roh's personal address to the General Assembly of the UN (October 18 1988), as an observer Member, when the major agenda item was the question of Korean unification.[158] He utilized the UN to gain both internal and external *legitimacy* for his leadership.

These steps toward recognition and utilization of the roles of international organizations have been reinforced by the policy called *internationalization* (Ch.III). This foreign policy and its implementation went hand in hand with the hosting of the 24th Summer Olympics in Seoul in 1988. Its successful operation was regarded partly as due to advanced telecommunications and services. Therefore, the R.O.Korean Government further drew attention to not only the ITU's overall system as a conventional political *arena* but also to its function as a technical or regulatory *instrument*. As a result, its behaviour demonstrated little in the way of ideological arguments concerning N.Korea either in the Nairobi (1982) or Nice (1989) Plenipotentiary Conferences. Instead, the

significance of ITU's functions was emphasized by the Minister of Communications (R.O.Korea) in the Nice Conference (1989).[159]

Whilst, it is worth noting that the main agenda of R.O.Korea in the Nice Plenipotentiary Conference (1989) was to gain **membership of the ≫Administrative Council≪**. R.O.Korea's interest in the Administrative Council goes back to the Montreux Plenipotentiary Conference (1965), where the Korean Government proposed changes relating to the number of members on Administrataive Council. Then, it wanted to replace Article 9 (Document No.78) of the Conference with the following :

> "The Administrative Council shall be composed of 30 Members of the Union elected by the Plenipotentiary Conference with due regard to the *need for equitable representation of all parts of the world.* [...] Half of the Members of the Council shall be elected by every Plenipotentiary Conference."

The reasons given were that an:

> "increase of Members of the Council is a consequence of the large increase of the Members of the Union, [and] election of half of the Members by the next Plenipotentiary Conference would avoid the lack of continuity that would be caused by election of all members at a time. [In addition], prohibition of election for three successive terms of office will enable more general participation by the Union's Members in the work of its supervisory body."[160]

Although its proposal for the election of half of the Members was not accepted at the Conference, its request for an increase in the number of Members was adopted not only at Montreux but also at the successive Conferences (Ch.IV.1). All in all, the greatest achievement of R.O.Korea's actions concerning the ITU's organizational structure is for the first time to gain an elected Member of the Administrative Council (with 83 votes) in the Nice Plenipotentiary Conference (1989).[161] It is of significance for Korea to be a Member of the Council in terms of both diplomacy and the efficient administration of telecommunications development. However, how it will act within the Council is not yet known.

Apart from the Plenipotentiary Conferences and the Administrative Council, since the 1960s, R.O.Korea has participated in ITU's other infra-

organs such as the IFRB, CCIs, and Administrative Conferences since the 1960s.[162] However, unlike other Member States discussed above, there is little evidence that R.O.Korea would like to change or abrogate the structure of the ITU's infra-organs, such as the IFRB and the CCIs.

2.1.2. R.O.Korea's Fiscal Contribution to the ITU

Before common carriers were established in Korea in 1982, the Government contributed one unit (about 240,000 SF per 1 unit in 1990)[163] to the ITU budget. As a result of the internal restructuring of the Korean telecommunications infrastructure in the 1980s (Ch.III), there are now additional financial sources such as the Korea Telecommunication Authority (KTA) and Data Communications Co. (DACOM). They have contributed ½ unit each so far.

Moreover, R.O.Korea voluntarily contributed US$ 1 million to the ITU, when it met financial difficulties in funding technical assistance in 1979.[164] However, compared with R.O.Korea's overall contributions to the UN family agencies, the amount contributed to the ITU had been less than that of the UPU, the IMCO, and even IACO, as seen in Table 4-4.[165] However, as the Minister of Communications declared in the Nice Plenipotentiary Conference (1989), the R.O.Korean Government's long standing contributory scale is about to increase from the present one unit to five units:

> "To keep pace with the efforts of the ITU in promoting the international telecommunication cooperation, the Korean Government has determined to take more responsibility and to share our development experiences with other developing countries of the Union. To reflect our determination, we are now considering increasing our current contribution unit for the expenses of the ITU. [...]"[166]

Table 4-4; R.O.Korea's Contributions to Budget to the UN Special Agencies (US$ million)

UN	ILO	FAO	UNESCO	IACO	UPU	WHO	ITU	WMO	IMCO	WIPO	IAEA
-	-	0,18	0,15	0,50	0,95	0,15	0,23	0,17	0,97	-	0,15

(Source: Annex - Doc.9, ITU (1982:15))

These actions of R.O.Korea contrast with those of the developing countries (the South) who have generally wanted financial assistance from

the ITU, and the developed countries (the North) who are usually reluctant to increase their contributory units (Ch.IV.1).

2.1.3. R.O.Korea's Behaviour concerning ITU's Personnel Policy

Actors within the ITU can be divided into two groups: *staff* in the ITU Headquarters (Geneva) and *delegates* sent to each meeting organized by the ITU. The roles of both groups are important to participation in ITU meetings and to carrying out of its activities. Indeed, whatever R.O.Korea's foreign and telecommunications policy, it is these actors who perform or deliver the agenda from the Korean Government or other Korean entities to the ITU, and *vice versa*.

With regard to the **staff in the Headquarter**, R.O.Korea's performance has hardly changed or improved. Although ITU's staff is recruited from a wider geographical base and increased, since the mid-1970s there have only been one or two R.O.Korean national personnel.[167] At present (1989), there are two permenent Korean staff in the ITU's Headquarters: one originally came from a research institute (ETRI) in 1983; the other came from the Korean Broadcasting System (KBS) to the CCIR in 1981. There is also one further Korean in the Technical Co-operation Department on a short-term contract base (1987-1989).[168] However, this person comes from the Ministry of Communications (R.O.Korea) and his salary is paid not by the Union budget but by the Korean Government.

Especially in the 1980s, the R.O.Korean **delegation** has improved in both numbers and structure. Compared with the number of Korean delegates in the 1950s and the 1960s, when two more or less came mainly from the Government (Ministries of Communications and Foreign Affairs)[169], there were more than ten delegates in the 1980s. In particular, the delegates were sent not only by the Government but also by various newly established infra-organs such as common carriers and research institutes. For example, there were 28 delegates consisting of 9 from the Ministry of Communications (including the Minister), 5 from the Ministry of Foreign Affairs (including the Korean Ambassador in France), 9 from common carriers (5 from KTA and 3 from DACOM), 5 from research institutes (4 from

ETRI and 1 from KISDI), and one from the telecommunications industry at the Nice Plenipotentiary Conference. This composition indicates not only the importance of the Conference *per se*, but also R.O.Korea's changing diplomatic agenda, as discussed above.

Against this background, one may ask if the diversifying structure of delegates may result in the Government (MOC) having less power or influence over its agendas within the ITU. However, this is unlikely to be witnessed, since R.O.Korea's telecommunications infrastructure is still dominated by the bureaucratic-authoritarian regimes (Ch.III). In particular, relations among infra-organs are likely to be *corporatist* rather than *pluralist* (Chs.II.1 & III). As stated by the Minister of Communications in the Nice Plenipotentiary Conference (1989):

> "[...] all other branches of the telecommunication industry in Korea will join the Government in strengthening their ties with the ITU by various kinds of contributions toward the work of the ITU."[170]

Nevertheless, it is obvious that the decentralised common carriers or other entities will want to reflect their own interests particularly in the competitive telecommunications environments.

2.1.4. R.O.Korea's Behaviour concerning ITU's Contemporary Activities

Aside from the major functions of the ITU which will be discussed in Chs. V to VIII, there are a variety of contemporary activities organized by the ITU such as the 'World Communications Year (1983)'. A special Communication Committee was established by the Government in 1983. In association with the ITU, this Committee organized various activities such as International Telecommunications Forum Seoul '83 as an international academic symposium, special postage stamps, the '83 Korea Telecommunication Exhibition, and so forth.[171] Moreover, the Government, common carriers, and the telecommunications industry have actively participated in various exhibitions and symposiums organized by the ITU in the 1980s, such as Telecom '87 held in Geneva.

2.2. Reasons Underlying R.O.Korea's Behaviour within ITU's Organizational System

Before discussing the reasons underlying the ways in which R.O.Korea has acted concerning the ITU's organizational system, it is worth questioning: *why was it so difficult for R.O.Korea to be a Member of the ITU ?* Despite difficulties, *why did R.O.Korea want to get ITU membership?* The former can be primarily answered by the structural trend of the 1950s, when *ideological* games derived from the East-West conflict dominated overall international organizations including the Union (Chs. II.2 & IV.1). The Republic of Korea along with the People's Democratic of Korea was, in fact, a representative victim of the game. Further, it can be assumed that the two divided Koreas have been competitive in all directions. They have competed in both internal and external levels. In this sense, it is not difficult to anticipate that the two Koreas would like *internally* to achieve more economic growth and military capacity[172], and *externally* to obtain prior membership of international organizations.

Although, in theory, international organizations *per se* might not give R.O.Korea substantial power, they are regarded as offering Member States *arenas* or *regimes*, particularly when multiple issues are imperfectly linked in the world (Ch.II.2).[173] In practice, R.O.Korea has given high priority to the UN, as seen in R.O.Korea's declaration of the Montreux Plenipotentiary Conference (1965). The reason traces back to 1948, when "R.O.Korea was established under the auspices of the UN. In turn, it has been endorsed, supported and protected by the UN through its troubled existence and growth including the years of the Korean War when the UN intervened with its international police force. Yet, R.O.Korea has been denied its rightful place in the UN mainly as a result of the veto by the USSR."[174]

Because of R.O.Korea's unique structural condition by achieving its membership in the 1950s, it tended to use the ITU as a UN Specialized Agency in order to legitimate its existence or independence. Influenced by international conflicts derived from *high politics*, in the 1960s, R.O.Korea also utilized it as a place for justifying its position, particularly

concerning its counterpart (N.Korea). Thereafter, its changing foreign policies especially relating to North Korea have been reflected in its agendas within the ITU. In particular, as R.O.Korea's declaration of the Malaga-Torremolinos (1973) Plenipotentiary Conferences demonstrated, it used the ITU to articulate its changing foreign policy as a method of gaining UN membership.

Then, why have its foreign policies articulated in the ITU especially those concerning communist countries including N.Korea changed since the 1970s ? Reasons for such manoeuvering of foreign policies stem from both internal and external factors. Internally, there are two-fold reasons. One reason is that, due to R.O.Korea's export-drive economic policy, it needed an extension of external markets including those of communist countries. The other reason relates to the growing internal desire to unify two divided nations. Externally, it is worth noting that the 1970s was the era of *detente* between the US and China - West and East. It was also the era when world tension transferred to North-South econo-political conflicts.

In the 1980s, internally, as D.Lake (1987) argues, R.O.Korea's foreign policy has diversified further to encompass developing countries (the South) and the Communist countries (the East). Similarly, its policy towards international organizations has also diversified. Furthermore, its actions within the ITU's organizational system have extended from mere participation in the Plenipotentiary Conferences with few actors, to the utilization of *voting* to achieve membership of the Administrative Council with increased numbers and diversified structure of actors. Externally, the 1980s was the era when there have been neither furious ideological conflicts (e.g. the East-West) like those in the 1960s nor strong economic dialogues (e.g. the North-South) like those in the 1970s. Instead, as has been reflected within the ITU (Ch.IV.1), international relations tend to have gone *beyond conventional bi-polarization*. In particular, the 1980s was the time when innovations in telecommunications technology have spurred overall telecommunications issues in both R.O.Korea and the ITU (Chs.II,III, & IV.1).

In general, except for a few aspects such as Korean national staff in the Headquarters, R.O.Korea's actions within the ITU's organizational system have improved in the 1980s. This is mainly because of changes within R.O.Korea's *internal* socio-cultural and political environment. Traditionally, R.O.Korea's bureaucratic-authoritarian regime has impacted on Koreans' - especially government administrators' - behaviour. For example, although the hierarchy of posts is the same, internal posts are generally treated as higher than external posts (such as posts in international organizations). In return, the former are preferred to the latter. Furthermore, it is also worth noting that, unlike European countries, R.O.Korea has taken little part in and in turn is inexperienced in international organizations. This is mainly due to its geographical, historical, and even political isolation (Chs. II.1 & III).

In these conditions, some interviewees say that the Government's recent efforts to expand or seek posts in international organizations (e.g.ITU) are primarily aimed at solving internal (domestic) problems such as the number of employees who expect to be promoted.[175] They imply that although expertise in technical, regulatory and econo-political issues is needed for better utilization of the ITU, such efforts to extend personnel are not particularly intended to train professionals in the Union. Others say that a bureaucrat who is very competent in international affairs, utilizing westernized manners, is not always guaranteed promotion, unless she/he is also accustomed to internal systems such as bureaucratic-authoritarian ladders of promotion.[176] D.Williams (1987:129-33) argues that, for staff who are nationals of authoritarian regimes, in order to perform their job in an international organization, independence and impartiality has been out of the question. In order for R.O.Korea to perform more efficiently within the ITU, changes of conventional attitudes among individuals towards international organizations including the ITU, as well as changes of overall personnel management systems within its infra-organs are urgently needed.

In conclusion, as many structuralists argued (Ch.II.2), the reasons underlying R.O.Korea's changing behaviour within the ITU's organizational system stem from both R.O.Korea's unique domestic structure and the ITU's

own changing organizational structure. The ITU has been of significance to R.O.Korea, especially in relation to its foreign policy. Although ITU membership offers R.O.Korea its technically oriented functions such as frequency allocation (e.g.HLA-HMZ)[77], R.O.Korea has wanted the Union for purposes other than pure international cooperation for technological links. As S.D.Krasner (1985) argues, its intention has been to use the ITU as a way of establishing *legitimacy* and upgrading its status. However, S.D.Krasner's thesis is not able to explain the specific reasons why R.O.Korea should like to achieve legitimacy through the ITU, or why it has changed its agendas through the ITU systems over time.

That is, in the 1950s, achieving membership of the ITU as a UN Special Agency could be used for enhancing domestic stability as well as for justifying its existence in the world community. Thereafter, until the 1970s, it had used the ITU as an arena where it could articulate its foreign policies, in particular relating to North Korea. In the 1980s, upgrading its status through being an elected Member of the Administrative Council within the ITU can be used as an alternative to membership of the UN. It may also suggest R.O.Korea's 'victory' over competition with N.Korea in international relations.

However, as R.O.Keohane (1986) and many others argue, these structure-centred discussions can not fully explain R.O.Korea's behaviour concerning given 'issue-areas' of the ITU. In practice, R.O.Korea's agendas particularly relating to N.Korea have faded away within the ITU in the 1980s. This is because R.O.Korea is utilizing the ITU as a 'specialized' organization offering specific functions or regimes relating to telecommunications issues, rather than as a political arena for ideological issues. From this point of view, the following Chapters (V to VIII) will discuss the *methods* and *reasons* underlying the interlinkage between R.O.Korea and the ITU focussing on four major ITU functions.

PART THREE: ISSUE-STRUCTURAL APPROACH

Chapter V.
Interlinkage Between R.O.Korea and The ITU Through ITU's Operational Function: A Case of Technical Co-operation & Assistance

Although D.Witt (1987) suggests that the ITU has been "reluctant to act as an operating agency in the field"[1], it has been entrusted with **›operational functions‹**[2] in delivering development assistance to developing countries in the telecommunications field through technical co-operation as well as technical assistance activities. According to R.E.Butler's (ITU's Secretary-General) view on these activities, the ITU has undertaken 'traditional' co-operation and 'tailor-made' co-operation. The former, which dates from the inception of the Union in 1865, refers to the co-ordination of practices, technical and operating standards, agreed regulatory responsibilities for the acceptance and delivery of messages, sharing of revenues and sharing of information on new technology. The latter dates back to the late 1950s and the emergence of newly sovereign countries has "aimed at improving telecommunication equipment and systems in the developing countries through the dissemination of information, the provision of advisory service, the localized transfer of skills, the establishment of institutes, and the strengthening of national self-reliance in those countries."[3]

The term operational function, that this research deals with, mainly refers to the tailor-made co-operation. However, there needs to be further clarification of the various terms: 'technical co-operation', 'technical assistance', and 'telecommunications development'. Elements of **›technical co-operation‹** have been the prime responsibility of the Technical Cooperation Department (TCD) of the ITU General Secretariat, which was established in 1960. Much of the work consists in executing telecommunication projects within the framework or finance of the United Nations Development Programme (UNDP). The term **›technical assistance‹** to developing countries refers to a function adopted by the Convention (Nairobi) in 1982, sponsored by voluntary contribution and mainly implemented by the newly established Centre for Telecommunications Development (CTD). Whilst, the term **›telecommunications development‹** is used to refer to the convergence of these two similar functions under the

new Telecommunications Development Bureau (TDB) instituted in the Constitution of 1989.[4]

Although the terms differ from one another, they have similar objectives such as supporting the development of telecommunications infrastructure in the Union's Member States. From this point of view, this Chapter will discuss: how has ITU's operational function impacted on R.O.Korea's telecommunications infrastructure ? Or, how and why has R.O.Korea used ITU's operational function ? In order to examine these questions, firstly, *implications of various operational functions within the ITU* will be looked at. On this basis, discussions will focus on *methods and reasons underlying interlinkage between R.O.Korea and the ITU through the operational functions*.

1. Issues of Operational Functions within the ITU

1.1 Evolving Operational Functions within the ITU

Operational functions have altered in both what S.D.Krasner categorises as *'processes'* (identifying actions making decisions or regimes) and *'consequences'* (identifying implementation of the decisions or regimes in the local field). The alteration in the **'processes'** traces back to the late 1940s and the early 1950s. It was a time when "the ITU made its contribution, as a UN Specialized Agency, to the work undertaken by the UN, by the part it played in world telecommunication services and in the Technical Assistance Programme."[5] Thereafter, increasing requests concerning 'technical co-operation' issues from Member States - especially developing countries - have been reflected in the Union's regimes.[6] They are demonstrated in Table 5-1. In particular, resulting from increasing demands, the function of 'technical assistance' to developing countries was adopted as one of the Union's major purposes by the Convention (1982)[7], and in turn enhanced by the Constitution (1989) which further created a new body to carry out the function.[8]

Table 5-1; Evolution of Decision-making on Issues of Operational Functions

Years (Plenipotentiay)	Decision-making
1947 (Atlantic City)	- 11 Resolutions appended to the Convention
1952 (Buenos Aires)	- 34 Resolutions
1959 (Geneva)	- Technical co-operation first made its appearance in the name of a committee
1965 (Montreux)	- 46 Resolutions & there was a separate committee for relations between the ITU and the UN technical co-operation
1973 (Malaga Torremolinos)	- 48 Resolutions
1982 (Nairobi)	- 76 Resolutions, 1 Recommendation & 3 Opinions ; There was a committee devoted to technical cooperation but relations with the UN were relegated to the status of a Plenary Assembly Working Group ; It modified Art,4 to include technical assistance to developing countries as one of the three primary functions; Decisions taken to fund a certain amount of technical assistance through the ITU' regular budget and to create an Independent Commission for World-wide Telecom Development,
1989 (Nice)	- Art,11A of the Constitution creates the Telecommunications Development Bureau, *et, al,*

(Source ; G,A,Codding (1983:320-1); & *Finanl Acts of the P,C,, Nice, (1989)*)

The way in which each Member and the ITU implement the decisions - i.e., ›consequences‹ - also has changed, depending on characteristics of the operational functions. ›Technical co-operation activities‹ have been enacted by the Union's various projects since the 1950s. These can be largely categorized into three areas: "the development of national and regional telecommunication networks; the strengthening of telecommunication technical and administrative services in developing countries; and the development of the human resources required for telecommunication."[9] These represent around 25%, 35% and 40% of the total value of the programme respectively.[10] This proportion shows that the ITU has placed emphasis on the development of 'human resources'. Also, within the framework of UNDP projects, the Union has assisted in the establishment of world-wide telecommunications facilities. The implementation also comprises the development and dissemination of training standards, the organization of international seminars on training standards, and the development of a system of sharing in telecommunication training.[11] All in all, the ITU has been ready to support and assist those administrations who wish to improve their telecommunications operations.

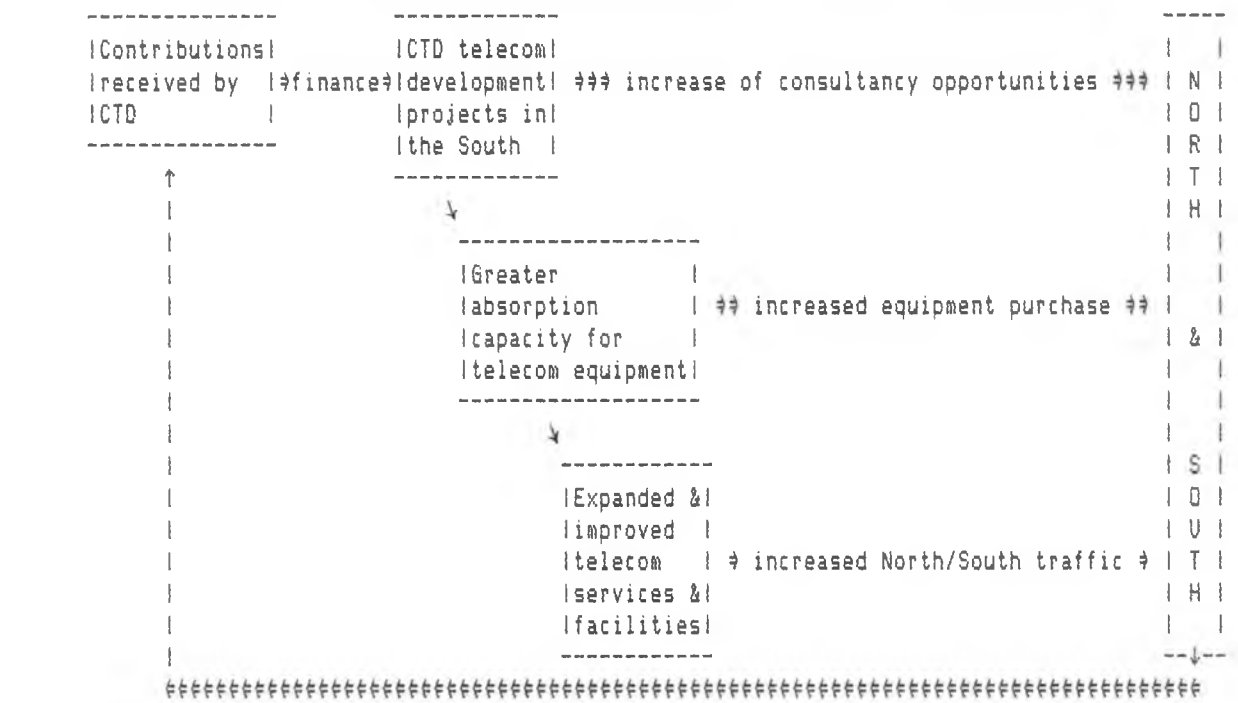
With respect to ›technical assistance activities‹, the Special Voluntary Programme was established in 1984 through Resolution No.19 of the Plenipotentiary Conference (Nairobi,1982). It aimed to provide additional support facilities to developing countries in whatever form required to meet their assistance needs more effectively. Thereafter, four specific projects have been carried out.[12] In addition, an Independent Commission for Worldwide Telecommunication Development (ICWTD) was established under Resolution 20 of the Nairobi Convention. Its mandate included the examination of the totality of actual and potential future relationships between countries in the field of technical assistance and the transfer of resources in telecommunications.[13] In turn, the Independent Commission was set up under the Chairmanship of D.Maitland in 1985. It submitted a report entitled "*The Missing Link*" in January 1985, with a variety of recommendations.[14] The major emphasis of the Report lies in the significant and measurable economic impact of aggregate efficiency gains associated with telecommunications due to cost savings. Moreover, it focusses on "self reliance"[15] so that "effective and expanded telecommunications within and between countries will make the world a better and safer place."[16] In particular, the major focus of the Report was on the need of countries to be aware of benefits of telecommunications.

Moreover, one of the most significant outcomes of the Report was the establishment of a Centre for Telecommunications Development (CTD) in July 1985. Since the Centre was approved in April 1987, it has been working in close co-ordination with the complementary activities which lie in the domain of the ITU's Technical Cooperation Department (TCD). According to the Administrative Council's review, the progress made in the implementation of its activities have been concentrated on the main priorities composed of field-oriented assistance and mobilization of additional resources.[17] Yet, it is also worth reminding the reader that such implementation is still based on *requests* from relevant countries. Responding to requests received, the Centre has organized evaluation and sectoral study missions to identify, jointly with the telecommunications operating authority, the specific area where assistance would have the greatest impact. It is now proceeding to implement projects and to render

services for technical assistance in various priority areas at national, regional and global levels.'[8]

Overall, the Centre intended to reduce the gap in telecommunication facilities between the North and South. This is based on a belief that the narrower the gap, the more benificial for both the North and South, because the growth of the economy in the South and North-South telecommunication traffic and trade flows increase, as seen in Figure 5-1.

Figure 5-1; Centre (CTD) Contribution Cycle - Benefits to North & South



(Source : CTD, *telecommunications an avenue for North-South cooperation*)

These various operational functions are about to be merged into the ›role of new Telecommunications Development Bureau‹, which aims to fulfil the overall purposes of the Union as embodied in Art.4 of the Constitution (1989). These shall be to :

> "raise the level of awareness of dicision-makers concerning the important role of telecommunications in the national *socio-economic development* programme, and provide information and advice on possible policy options; promote the development, expansion and operation of telecommunication networks and *services*, particularly in developing countries; enhance the growth of telecommunications through cooperation with regional telecommunications organizations and with development *financing* institutions; encourage participation by *industry* in telecommunications development in developing countries, and offer

advice on the choice and transfer of appropriate *technology; offer advice, carry out or sponsor studies on technical, economic, financial, managerial, regulatory and policy issues*, including studies of specific projects in the field of telecommunications; collaborate with the International Consultative Committees (CCIs); and provide support in preparing for and organizing development conferences."[19]

To sum up, the ways in which the ITU has undertaken its operational functions have changed from that of a mere mediator to an active initiator especially in the 1980s. No longer do demands for technical co-operation come from the developing countries themselves, but they also arise from various programmes of the ITU itself. Here, one may ask why have such changes appeared in the 1980s ? In part, it is attributable to the recognition of telecommunications as an integral element of developmental strategy and planning in a rapidly evolving world telecommunications order (Ch.II.3). The ITU's studies also witness that "the existence of an adequate telecommunications infrastructure is seen to be absolutely necessary for economic and social progress."[20]

Yet, R.E.Butler (1989d) argues that all development activities can only be initiated and nurtured internally: they cannot be imposed from outside. External help, be it bilateral or multilateral, can only valorize what is genuinely being attempted at the national level.[21] Here, what the Union has endeavoured to do is to encourage Member States - especially developing countries - to recognize and develop an internal telecommunication infrastructure as a vital impetus of socio-economic development. Indeed, the development of telecommunications in its poorer Member States through field operations is to date one of the major functions as well as at the centre of debates in the Union. The more the demands from the developing countries for such operational functions, the more the conflicts among the Members. However, apart from changes in the formal statement of the ITU's aims in Constitution, Convention and Resolutions, vital issues concerning the efficient implementation of the ITU's operational functions are still unresolved.

1.2. Limits of the Operational Functions within the ITU

1.2.1. Overlap of Activities between the Telecommunications Cooperation Department & the Centre for Telecommunication Development

Many interviewees - especially staff in the Headquarters of the Union (Geneva) - consider that the technical co-operation and assistance activities implemented by the Department (TCD) and the Centre (CTD) to some extent overlap. Mr.R.E.Butler (Secretary-General) himself has suggested "avoiding a partizan position to support one structure or another just because it exists. [Further], the question of merger does not mean the loss of uniqueness of one or the other of the Technical Cooperation Units of the Union."[22] This view seems to be primarily concerned with the Union's efficient management. But, these issues are unlikely to be resolved, as long as the South forms the majority of the Union's membership and the gaps of telecommunication development between the North and the South grow wider and wider. Moreover, although there has been notification that "the operationalization of the new Bureau (TDB) is to use the staff and resources of the Department (TCD) as nucleus"[23], it is not yet known how the Bureau will replace the two overlapping activities, and what implications can be further occurred.

1.2.2. Deregulated Telecommunications Infrastructure

In its field operations, the ITU traditionally has acted mainly as a 'broker', providing experts who can administer projects. The practical operation has been done by experts recruited from each Administration (or operating agency) of developed countries. These experts not only suggest programs to build or improve telecommunications facilities, but also develop 'personal relationships' with the telecommunication administrators in these countries. In this circumstance, "as long as these entities have regularly been under the control of Member-States, the political aims behind assisting developing countries had been in harmony with the aims of telecommunications administrations." However, "this conformity is likely to be diminished as the number of private entities in a *deregulated* environment increases, since private undertakings do not rank development

aid with their organizational objectives."[24] As a result, there may be increasing difficulties in engaging qualified experts for development programs, without involving commercial interests. Indeed, some countries (chiefly the US) view the ITU (*inter alia* its technical assistance function) as a *means* to gain "the perfect market entrance into developing nations."[25]

1.2.3. **Difficulties of Financing the Operational Functions**

One of the major limiting factors on the operational functions of telecommunication development concerns their financing. The traditional technical co-operation projects handled by the Department (TCD) have mainly been financed by the UNDP (83% of the total number of projects) and funds-in-trust (15%) rather than the ITU regular budget.[26]

Whilst, the Centre (CTD) in principle offers its services free of charge (except for local expenses where appropriate) and thus relies for its activities on *voluntary contributions*, in cash and in kind from both developed and developing countries. Contributions have been received from governments, telecommunication administrations, agencies, operating authorities and the telecommunications industry: At present, the main sources of the Centre's funding are 45% from industry, 45% from administrations. The rest come from bilateral aid agencies.[27] This is the first time that industry has been in a position to have a direct influence, through a multilateral mechanism, on the evolution of the world telecommunications market. Although the amount of contribution has increased, yet, there has been "no meaningful gesture from the principal private sector participants."[28] In addition, it is also difficult to "convince banks and other sources of finance to invest in telecommunications, although it is a basic requirement for economic progress. The dilemma of aid agencies and planning authorities is partly due to the unfavourable international economic environment in general as well as a drastic increase in external debt, interest rates and debt service costs.[29] In this context, many agree that the Independent Commission has actually failed "to attract the scale of finance and support from both industry and governments in the developed world to make it successful."[30]

That is why some of the industrialized countries, who were the traditional associates of the Department (TCD), were not so keen on the creation of the Centre (CTD).[31]

Against this background, debates on 'how to finance' development assistance have been one of the most heated issues at each Plenipotentiary Conference since Montreux (1965). The Malaga-Torremolinos Conference (1973) created a Special Fund, although it amounted to very little real resource mobilization. The Nairobi Conference (1982) gave birth to the Special Voluntary Programme for financial contributions. Although neither has been a prime source of income[32], the Nairobi Convention at least led the Administrataive Council to finance operational functions on the basis of Resolution No.18. That is, the 1982 Convention altered the list of operational functions which could be funded from the *ITU's own resources*. It ruled that increases in demands upon the regular budget of the Union which would occur from the expansion of technical assistance activities should be found by effecting economies elsewhere in the budget.[33] A more substantial way of financing these functions has come from a decision made by the Nice Conference (1989), which resolved that the costs of the Bureau should be financed from the ITU's regular budget.

In order to seek alternative sources of finance for the operational functions, furthermore, the ITU has made efforts in various ways, ranging from exhibitions such as FORUM 87 to symposiums such as Telecom 89. The Centre also has been involved in the Pan-African Telecom Network, the Middle East and Mediterranean Telecom Network etc., in association with the UNDP.[34] However, these alternative sources of finance whether regional or global exhibitions can not be expected to be the major resource provider.

In view of the limitation on financing for these activities, Mr. R.E.Butler argued that after an initial push from outside, the telecommunications sectors in developing countries could be self-financing. However, constraints on development and investment come from a lack of priority compared with basic goods, housing, education, health etc. within the developing countries concerned. Furthermore, "increasing the level of capital investment is also not of itself a panacea for the

telecommunications problems of the developing countries, because there are a number of obstacles to tackle. For example, "PTT administrations themselves are often ill-equipped for the task. Management continuity is lacking, salaries are low and appropriate skills are in short supply. All in all, a great deal of money is lost simply due to lack of basic data about the network and its performance. In addition, tariffs are often kept artificially low for political reasons."[35]

From a management point of view, Mr.R.E.Butler also argued that "a new artificial distinction (between the Centre (CTD) and the Department (TCD)) would bring extra expenditure, delays, inefficiencies, lack of continuity and enlarge bureaucratic overheads.[36] Indeed, developing countries themselves in association with the Soviet Union have requested that the technical cooperation programmes should be managed more efficiently. As raised in the WATTC-88, developing countries do not want to spend money merely to run the Centre, but to develop telecommunication facilities *per se* within countries concerned. In particular, developed countries are reluctant to spend more money on these activities, which appear to have little overt benefit for them. All in all, *how to finance* the various and evolving operational functions has been one of the most sensitive and arduous tasks the Union has faced for a long time.

However, many of the developed countries seem to miss the important point. That is, most money from the ITU' technical cooperation programmes has gone to the industrialised countries. Although private companies and administrations of developed countries are reluctant to contribute to the cost of operational functions, the major benefit has in practice gone to the private entities or administrations of developed countries through the purchasing of equipment and the paying of wages to send experts, as Table 5-2 illustrates. For instance, equipment was ordered from suppliers in the US (48%), the F.R.Germany (13%), Japan (6%), the UK (5%), France (5%), and Switzerland (5%) in 1987. In addition, expert man/months were recruited from 70 countries - mostly developed countries - in 1986.[37]

Table 5-2; Summary of Expenditure of ITU Technical Cooperation Programme (1983-1988)

		1983	1984	1985	1986	1987	1988
Expert missions		583	477	584	602	563	591
Expert man-months		2525	2170	2287	2148	1890	1850
Fellowships individual		381	375	439	390	444	477
Fellowships Group		446	254	395	663	387	399
Projects UNDP		151	136	130	135	146	135
Projects F,I,T		50	34	46	47	45	53
Equipment	Expenditure	5643999	4004819	7212617	6239810	8395050	12224168
	Purchase orders	853	844	1031	807	730	935
Contracts (US$)		2977686	3048295	1113146	1847537	955755	2677696
Contracts (projects)		13	14	21	17	13	19
Total expenditure (US$)		28335851	23558312	26272040	27233504	27433269	31387692

Notes; 1984-1987 missions include those undertaken by short-term specialists under Res,18
F,I,T, - Fellowships Individual Training
(Source; Administrative Council, ITU (1989;272))

1.3. Issue-Structure: Arguments Concerning the Operational Functions within the ITU

On the basis of the agreement between the ITU and the UN, the Union's objective has been to seek to translate the newly-acquired "political recognition of communications for development into the appropriate priority, investment and adaptation of telecommunications technology, consistent with the national objectives and aspirations of individual countries."[36] This objective has been implemented through its operational functions. As R.O.Keohane and J.S.Nye (1977;1987) and others argue, these activities can be seen to build international *interdependence* through developing world-wide telecommunications infrastructure.

However, debates on the ITU's operational functions have shown signs of *structural conflicts* - typically between the North and the South. In particular, the increasing numbers of decisions (Table 5-1) demonstrates that, as S.D.Krasner (1985) argues, the South wants to gain economic well-

being through altering the ITU regimes. They want the ITU to allocate more programmes and finance to support the development of telecommunications infrastructure. Yet, their wishes are not just to be better-off through changing the international regimes, but to *minimize* the existing gap through multilateral arrangements such as the ITU regimes. Due to their coherent voice and majority of votes, they have achieved the adoption of operational functions as one of the ITU's major purposes at a normative level. As a result, the decisions have been implemented by the Union's infra-organs in a variety of ways.[39] All in all, both the increasing numbers of decisions made in the processes of the ITU regimes and the implementation (management and finance) of the decisions in the field are reflections of demands from Members adjusting to a competitive or deregulated contemporary telecommunication environment.

Nonetheless, it is possible to argue that development resulted from the operational functions under the Union's auspices may lead the South (or periphery) to depend more upon the North (or core). Further, *dependencia* perspectives would point out that most of the expenditure of technical co-operation programmes has been spent on equipment, as seen in Table 5-2. In particular, they may be sceptical about the new Bureau's functions, especially "to encourage participation by industry in telecommunications development in developing countries, and offer advice on the choice and transfer of appropriate technology."[40] It is also arguable that developing countries can not develop telecommunications without investment. Conventional wisdom says - 'growth will occur as a result of investment'.[41] These arguments have not yet surfaced, since there is both a near absence of general theory on the contribution of telecommunications to socio-economic development, and it is difficult to know what development of telecommunications will cost. For example, it is difficult to know what it costs to install a telephone in individual countries, what its revenues in the form of subscription charges and communications fees are likely to be, and so on.

It is also worth noting that although many envision that the controversial ideological dialogue such as new international economic order (NIEO) has faded away, the numbers of decisions or regime changes

concerning its operational functions have increased within the ITU in the 1980s. The way in which decision-making concerning its operational functions has taken place within the ITU, further, seems to reflect trends in the privatization of international telecommunication infrastructures. The interests concerned in its operating functions have become more and more complex, diverse, conflictual, and commercial. Hence, the Union's operational functions are no longer mere 'goodies' offered by the nationally-controlled telecommunications corporations.

Negotiations on the ITU's operational functions have involved the interests of each Member. For instance, some like L.Milk and A.Weinstein (1987) envision that "the ITU technical assistance functions [may] result in greater benefit to industry [of the developed countries] than to the Third World countries", since they provide "the perfect market entrance" into the latter. This view may be derived from bearing in mind the *commercial* character of the functions. Others would argue that the developing countries gain most due to the ensuing financial support as well as the development of facilities and human resources in telecommunications. Others further see the ITU's operational functions as being cost-beneficial for both sides, especially in the longer-term. In part, this is due to the re-cycling of overall costs between developed and developing countries. Against this background, a possible query is whether such a cost-benefit analysis can be applicable to middle power or newly industralizing countries (NICs), who have little involvement in selling equipment and sending experts. According to R.E.Butler (1986), the NICs especially in the Asia and Pacific region gain "overall benefit".[42] Although each NIC differs from another, his view may in part be explained by the case of R.O.Korea which has received direct support from the technical co-operation activities.

In conclusion, since developing countries will always be one-step behind depending upon the developed countries and their support, there still remain some questions to be asked about the ITU's operational functions: Why should the developed countries have always been expected to offer contributions without feed-back or despite criticisms. Nevertheless, there is consensus that the operational functions have

offered Members *reciprocal* interests within the ITU. The development of a developing country's internal and external telecommunications infrastructure is still unlikely to depend on multilateral arrangements through the ITU *itself*, but is subject to its "local capability".[43] As S.D.Krasner (1983) suggests, an individual Member (especially the South) can use multi-lateral arrangements concerning operational functions through the ITU regimes as an internal source of power. Although various internal and external structural variables may hinder such efforts, the efficient utilization of the ITU's operational functions may help them to achieve development of telecommunications fields.

2. Discussion: Interlinkage Between R.O.Korea and The ITU Through the Operational Functions

2.1. Methods of R.O.Korea's Behaviour Concerning ITU's Operational Functions

As discussed in Ch.III, although R.O.Korea's telecommunications (telegraph) history goes back to 1885, its development had been disturbed and its existing facilities had been destroyed by internal reasons such as the Korean War. In order to recover and develop domestic telecommunications facilities, the Korean Administration wanted to use the Union's technical co-operation programme in the 1960s.[44] Against this background, "an agreement was reached between the R.O.Korean Government and the UN Special Fund (Now the UNDP) for the organization of a Telecommunications Training Centre in Seoul in 1961."[45] In return, the Centre was established in 1963. Its basic aim was to develop human resources required for telecommunications. To this end, the Centre was responsible for teaching vocational knowledge and skills, embracing all branches of wire and wireless telecommunications. Particular attention was given to maintain, train and enlarge the existing Korean teaching staff. Indeed, it was important to enable Koreans themselves to continue and expand the teaching work after the departure of the ITU experts"[46] as recalled by K.D.Deutrich (an ITU expert).

Furthermore, there were a number of experts, who were *individually* contracted by the ITU as consultants.[47] Their missions ranged from supervisors, project managers, team leaders, to instructors in outside plant.[48] These individual consultants themselves were able to develop personal relationship with the administrators in the countries concerned, which enabled the consultants' corporations to obtain long-term contracts.[49]

After the consultants' departure, the Korean Administration further expanded the training centre into a large training complex equipped with up-to-date facilities. Trainees from this Centre form a body of skilled manpower in both the Government and the private sector, thus playing key roles in the country's communication development. More recently, this Centre receives both domestic and overseas trainees under the direct control of the KTA.[50]

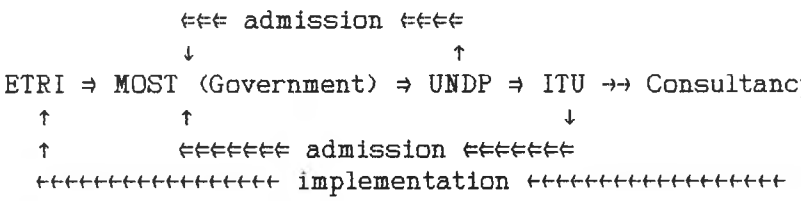
Overall, requested by the Korean Government (MOC), this Centre was launched by ITU "to assist the Korean Government in *technical training* and in the *supply of the equipment* for speedy telecommunication development."[51] This demonstrates R.O.Korea's behaviour concerning the ITU's operational functions in the 1960s, as characterised by a *manpower policy* to develop telecommunications skills and part of the *industrialisation* policy to replace its destroyed facilities. From this point of view, the ITU offered R.O.Korea the opportunity to enhance *self-reliance* in its domestic telecommunications. Even so, its telecommunications sector was still in its infancy and needed further development to its overall infrastructure in the 1960s, before progress could be made.

Real developments were not made until the 1980s. Here, R.O.Korea again utilised the ITU's operational functions. There are currently two projects undertaken by R.O.Korea in association with both the ITU and other entities. The first project was initiated in November 1987 with a contract between Duncan M.McIntosh (Co-Chairman of Spectrum Planning Inc., US) and

Secretary-General of the ITU (R.E.Butler).[52] This project is known as »technical co-operation for research facility (ROK-84-004)«. The other project is in conjuction with the Asian countries consisting of China, India, Indonesia, Pakistan, Singapore, Srilanka, and Thailand, which is called a »UNDP-ITU regional project (RAS-86-121)«.[53] Looking at these in turn:

1. The purpose of **»technical co-operation for research facility (ROK-84-004)«** is to improve telecommunications equipment and systems in R.O.Korea. This is in line with the desire of R.O.Korea to expand its network and further develop its research facilities to support local manufacture of telecommunications equipment and related products.[54] The project comprises various actors as shown in Figure 5-2: Entities (e.g., Korean Government, UNDP, and ITU) initiating the project differ from those (ETRI and Consultancy Office) implementing it. It is worth noting that it was not the Ministry of Communications (MOC) but the Ministry of Science & Technology (MOST) who requested this project. Furthermore, its implementation has been executed by the *internal* research institute (ETRI) and an *external* private company (Spectrum Planning Inc.: USA).

Figure 5-2:
Process of Admission & Implementation of the Project (ROK-84-004)



Compared with that in the 1960s, this project covers a more sophisticated and high-tech orientation of subjects consisting of: quality-reliability engineering for the development of a telecommunication system; frequency spectrum management; R&D management; design of Gigabit rate optical fibre transmission systems; design of optical fibre subscriber systems; design of submarine optical fibre transmission systems; design of digital video codes; digital microwave transmission systems; satellite communication system design and technology.[55]

In contrast to those individually contracted by the ITU in the 1960s, the consultancy office (Spectrum Planning Inc.:USA) which was selected by the ITU assists and/or recommends to ETRI on each subject. How and why has SPI been selected ? It was chosen among seven bidders[56] on the following criteria: financial and commercial conditions; the technical competence of the experts proposed; the training programme proposed; and the overall requirements of the services to be provided."[57] However, it was not due to the fulfillment of some or most of these criteria that SPI was chosen. It was due to its total price, being the lowest among other bidders.[58]

Based on this 'sub-contract to SPI', several obtacles have prevented efficient implemention of the project. For instance, there have been delays due to disagreements between ETRI (Korea) and SPI. Also, according to interviewees, some experts who were selected from the company (SPI) often did not match those standards required by ETRI. In other words, experts with relevant qualifications were reluctant to accept the offer due to unsatisfactory payments. A prime reason for the dispute over payments tends to stem from the cost of commission itself, which was paid to the company. Against this background, some may argue that it would be better if the ITU directly intervened or operated this project through selecting individual experts, as it did in the 1960s, rather than the private company (consultancy office). In this way, the high cost of commission that the private company charges can at least be saved. Furthermore, because of the pace of development in both telecommunication technology and R.O.Korea's telecommunications infrastructure, the initial requirement has become outmoded while the project has proceeded.

2. The **UNDP-ITU regional project (RAS-86-121)** aims to promote technical co-operation among developing countries and to strengthen their collective ability. To this end, "the project was augumented with the acceptance of the offer of *R.O.Korea to host this regional project* along with contributions in kind and cash." In return, "it was approved and signed in December 1987 and commenced in June 1988 with the ITU Project Coordinator joining the duty station at R.O.Korea (ETRI)."[59]

Modality of this project includes: "exchange of information and experts concerning telecommunications test and development; and sharing of capital intensive testing facilities or calibration facilities." In addition, considering the current telecommunication environment where the market becomes larger and the consequent development could become viable and costs lower, the eight regional participating countries began to acknowledge "the advantages of having *common standards or practices*." Such acknowledgement was seemingly derived from not only the ITU's infra-organs (International Consultative Committees) but also from the European Conference of Postal and Teledommunications Administrations (CEPT) and its work.[60]

There are three sources financing the project: the ITU, the UNDP, and R.O.Korea. The ITU is in charge of exchange of information and activities relating to those of the ITU Project Coordinator which are covered by the relevant provision in the project budget. The UN Development Programme (UNDP) inputs cover fellowships for study, tours, seminars, training; consultants for specific study, investigation, training; and subcontracts for specific investiation or development. Whilst, R.O.Korea contributes cash to cover seminars, workshops and other technical hosting expenses. Under these sectoral responsibilities, budget provisions are as follows: "UNDP-project total is $631,000 and R.O.Korea contribution is about $684,932."[61] It is also worth clarifying that this project does not envisage the setting up of any new institution, but has a small provision for equipment to help any existing institution in taking up work of common interest.

Although the ways of implementation have differed over time, overall, R.O.Korea has actively used the ITU through its operational functions since the 1960s. According to S.D.Krasner's (1983) arguments, R.O.Korea has generally used *consequences* (implementation of the existing regimes in the local fields) rather than *processes* (actions setting the regimes). Regarding this behaviour of using the consequences concerning the ITU's operational functions, **developmentalists** such as T.Smith (1985), and F.C.Deyo (1987) may argue that the ITU's operational functions contributed to developing R.O.Korea's domestic telecommunications infrastructure. In

contrast, **dependencia** theorists such as Amin (1977) may challenge R.O.Korea's development of telecommunications infrastructure through the ITU's operational functions: R.O.Korea may depend more upon its *core* countries (e.g.,countries where individual consultants or companies belong), because it needs know-how, experts, and capital to maintain or operate all the new stages of development of transferred technologies and facilities. In particular, as discussed above, the more the private entities (e.g.,SPI) are involved in a deregulated environment, the more difficult it is to engage qualified experts for development projects without involving commercial interests.

Considering the problems that R.O.Korea has faced (Ch.III), both developmental and dependencia perspectives do not fully but partly explain its domestic telecommunications infrastructure. When looking more closely at the negative effects such as dependence resulting from transferred technology, they have been mainly derived from bi-lateral arrangements rather than from multilateral intervention such as the ITU's operational functions. Moreover, dependencia perspectives can hardly explain how the operational functions have offered R.O.Korea's telecommunications sectors *local capabilities* through improving manpower. In practice, R.O.Korea currently ranks about the 10th in the world telecommunications markets[62] in accordance with its overall market economy. Furthermore, the upgraded Union's operational functions such as 'offering advice on the choice and transfer of appropriate technology' included in the constitution (1989) will help R.O.Korea dilute the difficulties it faces in bi-lateral arrangements.

In the light of R.O.Korea's behaviour in the processes of the ITU's regimes, it has hardly raised any particular demands for the operational functions, as most developing countries have done. Nor have R.O.Korea's general actions resisted demands from developing countries, as the developed countries did. That is, R.O.Korea has not involved itself in the *structural conflicts* such as North-South dialogue, as demonstrated above. Instead, it has tended to narrow the widening gap between the developed and developing countries, by adopting a neutural or mediating role. This

attitude is well illustrated by the statement of the Minister of Communications at the Nice Plenipotentiary Conference (1989):

> "We are fully aware that technical cooperation performed by the ITU [...] have made a material contribution toward the preservation of peace and narrowing the development gaps between the developing and the developed countries."[63]

R.O.Korea's mediating position is further enhanced by its implemention of the project (RAS-86-121), which aims to improve technical and socio-economic aspects of telecommunications for other developing countries in the region. In particular, the modality of R.O.Korea's implementation of the regional project in the 1980s demonstrates that R.O.Korea is no longer a pure recipient from the programme, but is contributing to it in cash and in kind. Moreover, as the Minister of Communications (1989) has stated,

> "R.O.Korea is now [not only considering increasing its current contribution unit for the ITU's expenses but also] prepared to donate a certain amount of development funds to assist the establishment and operation of the Centre for Telecommunications Development."[64]

2.2. Reasons Underlying R.O.Korea's Behaviour Concerning ITU's Operational Functions

A prime reason for the ways in which R.O.Korea has used the ITU through its operational functions comes from *R.O.Korea's domestic telecommunications policy under the evolving bureaucratic-authoritarian regimes* (Chs.II.1 & III). For instance, R.O.Korea's actions in the 1960s were in line with internal policy such as the medium-term (Five-Year Economic Development) Plan (1962-1966), whose goal was to secure basic telecommunication facilities."[65] Similarily, the reason why there was no feasible interlinkage between R.O.Korea and the ITU through its operational functions in the 1970s is also explained by its domestic policy. That is, the 1970s was a time when the Government placed emphasis on export-led economic policy through developing heavy and chemical industry (Chs.II.1 & III). As a result, the telecommunications sector, which was entirely run by the Government for providing public goods, was hardly recognized as an economic infrastructure or tradeable good. Inasmuch as telecommunications

and its infrastructure were less recognized by the Government as an economic trigger, so its development was often delayed or blocked by various internal factors, such as low investment (Ch.III). Such overall domestic policies resulted in the ITU's operational functions being less recognized in the 1970s.

Influenced by various internal and external variables, in the 1980s R.O.Korea's domestic telecommunications issue-structure has been restructured on a large scale. Such reforms go hand in hand with macro policy such as the long-term Telecommunications Development Programme (1985-2001) together with a series of medium-term 5th (1982-1986) and 6th (1987-1991) Economic Development Plans. Mobilizing these various development plans which have been vital instruments of the bureucratic-authoritarian regimes in order to promote its socio-economic development, the Government gave an impetus to improve telecommunications infrastructure and to activly participate in the ITU and its functions (Ch.III).

Furthermore, influenced by the restructuring of internal telecommunications infrastructure, various new born infra-organs were able to undertake ITU's operational functions. This is particularly so in the 1980s. The reason why the infra-organs such as ETRI and the Ministry of Science and Technology (MOST) execute the projects rather than the Ministry of Communications (MOC) also stem from R.O.Korea's recognition and implementation of telelcommunications infrastructure as a high-technology-centred strategic area. For this reason, furthermore, the projects (e.g.ROK-84-004 and RAS-86-121) in the 1980s cover more high-tech-oriented research facilities and applications. In particular, the project concerning regional co-operation (RAS-86-121) is in line with R.O.Korea's external policy such as 'internationalization' through strengthening regional and international co-operation.[66]

It is also worth noting that the R.O.Korea Government ifself is aware of unexpected effects such as dependence. That is why the Government has enhanced active pacticipation in the ITU. In this context, the project (RAS-86-121) is expected to offer R.O.Korea together with other participating regional countries mutual assistance and self-esteem, and to

enable them to avoid or lessen their vulnerability, as many dependencia theorists such as Amin (1971), Sinha (1976), R.Gilpin (1981), and Archer (1983) argue. Also, due to R.O.Korea's lack of membership of regional organizations (e.g.,ASEAN), the project perhaps provides R.O.Korea with a diplomatic prize for regional co-operation. In addition, it possibly gives R.O.Korea chances to export indigenously developed telecommunications technology (TDX) and its equipment to extended regional markets.

In the light of structural arguments between the North and South, R.O.Korea is in theory anticipated to demand more authoritative rules and financial support through altering the ITU regimes, as most developing countries have done. Yet, it has in practice been rather remote from the structural conflicts. This is mainly because R.O.Korea has made use of the existing *technical co-operation* activities themselves in local field (consequences) rather than involved itself in the setting regimes (processes) concerning *technical assistance* activities, which have often led Members into conflicts (Ch.V.1). Another reason stems from the view that R.O.Korea has developed "too far, too fast."[67] It is in transition at an econo-political and telecommunications level, so that it is no longer a less developed country as in the 1960s, nor yet a developed country in the 1980s. Rather it is a newly industrialising country (NIC). That is why R.O.Korea's behaviour concerning the operational functions within the ITU have differed from those of other Member States (both the North and South) over time.

Chapter VI.
Interlinkage Between R.O.Korea and The ITU Through Functions of Telecommunications Techology Development: A Case of Integrated Services Digital Networks (ISDN)

Looking at the fundamental *raison d'etre* and the historical evolution of the ITU, it has been concerned mostly with telecommunications technology and its innovation. It aims to develop any appropriate technologies in world telecommunications to interconnect different systems and to facilitate the international flow of information of various types with acceptable performance standards.[1] In a sense, "the subsequent development of technology has reinforced the need for the enlargement of the scope and depth of Union's traditional co-operation. This form of co-operation provides an outstanding example of the transfer of information for technological adaptation and skills," which has enabled countries to benefit from the development of others. For this reason, R.E.Butler (1988 a & b) argues that the transfer of technology through the ITU is certainly one of the most efficient forms of international co-operation.[2] This technical transfer is a prime reason why most Members have wanted to gain membership of the ITU.

There appears to be a consensus that one technological development will have "an enormous impact on all the telecommunication services on our globe, be they telephony, telex, data, facsimile, or telematics: that development is to date known as Integrated Services Digital Network (ISDN)."[3] R.O.Korea's domestic telecommunications facilities (e.g.public telephone network) is being digitalized in order to rapidly realise ISDN. Its domestic service is planned for commercial use at the beginning of 1990s."[4] In order to progress with this plan, R.O.Korea becomes more and more interested in the ITU.

In this context, this Chapter firstly portrays current ISDN development and its emerging issues: What is the ISDN ?; Who are the participants of ISDN ?; What are issues surrounding ISDN ? Further, why and how has conflict arisen between Members within the ITU concerning ISDN issues ? On this basis, it will discuss the *methods and reasons underlying interlinkage between R.O.Korea and the ITU focussing on ISDN issues.*

1. Implications of ISDN Issues within the ITU

1.1. What is an Integrated Services Digital Network (ISDN) ?

The first concept of a universal communication network goes back to around 1965. In 1972, a consensus was reached that "an ISDN [...] might be the ideal world-wide communication network of the future."[5] The term ISDN was in turn identified by the ITU - *inter alia* the CCITT, as follows:

> "a network, in general evolving from a telephony integrated digital network (IDN), that provides end-to-end digital connectivity to support a wide range of services, including voice and non-voice services, to which users have access by a limited set of standard multipurpose customer interfaces."[6]

In principle, the "ISDN represents a technical and operational model for a universal, intelligent, and modular information system that includes as a prominent feature - the transport of information on a global scale."[7] It may also simply mean "universal interfaces for digital communications that apply from the local-area network level to the international wide-area network level" and for connecting various terminal types to network facilities providing "lower cost" circuits than today.[8] Overall, ISDN is a technical *'concept'* or myth for an ideal of future telecommunications.

This 'conceptual ISDN'[9] began to be of significance in the early 1980s when M.Mili (ITU's Secretary General at that time) underscored two problems that would revolutionize the world telecommunication network - sophisticated technology and the huge scale of potential economies. This two-fold impetus for development of the ISDN has been recognized by many.[10] Thereafter, ISDN was the major issue in Telecoms '87 and in a series of telecommunications symposiums. In addition, literature concerning ISDN and its implications has increased in the 1980s.

All in all, ISDN has evolved from a very technological concept to commercially available services in a few countries, today.[11] It offers participants the capacity of transmitting speech, data and images simultaneously; improving information transmission speeds; connecting all telecommunication terminals to a single type of socket; permitting

intercommunication between hitherto incompatible equipments; and developing new telecommunication services.[12]

1.2. Various Participants in the ISDN

There are three sets of participants in ISDN, whose interests may not always concur with one another: telecommunications administrations or common carriers; service and equipment suppliers; and customers.

As discussed in Ch.II.3, historically both national and international telecommunications environments have been relatively stable. Monopolies - whether **administrations or common carriers** - supplied national services, with international services provided by bilateral arrangements between those national monopolies. Here, it is worth clarifying the differences between administrations and common carriers/network operators. Those terms refer to operators which are government-owned administrations (PTTs) as in most countries and privately-owned companies as in the US.

The way in which each administration implements ISDN may differ between each national telecommunications environment. For example, in most countries where a single government agency dominates, ISDN has been adopted in order to enhance the national information economy. Thus, the administration views the concept as a natural evolution of its telephone network. On the contrary, common carriers (e.g. AT&T and Bell Operating Companies) have traditionally provided telecommunications services in countries like the US.[13] Hence, although there may be disputes among common carriers, they are the prime movers in its development as a response to competition. For example, AT&T is backing ISDN, because it sees ISDN as a means of regaining ground in the fiercely competitive post-divestiture market, such as increasing revenues at the expense of local telecommunications.[14] Overall, because they can utilize ISDN to provide new services that should garner added revenues and cut operating costs, the main driving force behind ISDN development has been the administrations in association with common carriers.[15] In practice, they are the major investors in capital intensive high technology - ISDN - for development, installation, operation, and maintenance.

As the ISDN became a commercially available service, many service and equipment suppliers have focussed on its **industry**. The ISDN supply industry is based on convergence of three industries consisting of "the electronics, telecommunications, and computer industries,"[16] covering "'hardware' such as communications facilities as well as 'software' such as information and knowledge"[17] for both voice and non-voice telecommunications. Whilst, the hardware suppliers include "long-distance telephone companies, central office switch manufacturers, customer-premises equipment and private branch exchange manufacturers, data-communication equipment manufacturers, semiconductor companies, and computer equipment companies. They are expected to have the opportunity to compete in a vast market for new and upgraded equipment based on world standards."[18]

In terms of the service industry, the World Administrative Telegraph and Telephone Conference-88 (WATTC-88) allowed not only traditional administrations* but also private operating agencies (companies or persons) to provide special telecommunication services (e.g.ISDN services).[19] However, the question of who will provide the services is subject to each country's regulatory policy: the service providers can be either existing administrations or common carriers, or new entities such as private companies. Nonetheless, it is obvious that the ISDN will give rise to vast ranges of both manufacturing and service industries. In practice, industry has already made a major commitment to the supply of ISDN hardware and software for both trials and implementation: For example, there are several vendors offering ISDN-compatible hardware applications such as terminals and addressing the challenge of creating new, potentially marketable software applications for ISDN.[20]

In contrast to the conventional telecommunication services, the success of ISDN relies on acceptance and demands by **users** or purchase by **customers**.[21] In the short-term, initial users will be more likely medium- and large-sized businesses who have become critically dependent upon international telecommunication services in today's highly competitive environment.[22] These business applications will benefit from improvements in white-collar productivity, on the grounds that the ISDN will offer the

ability to build in network 'intelligence'[23], giving business customers new and high-speed services, and greater involvement in the day-to-day management of facilities[24] at lower costs.[25] The major benefits of the marketing trials will be information on managing an integrated system, marketing techniques, pricing structures, marketability of individual services, economics of various offerings for the operators, hardware and software assessments. The financial viability of the network will be demonstrated to the banking community at large.[26] On the contrary, little consensus appears as to whether there will actually be a demand for residential applications.

Many commentators such as L.M.Wetmore, *et.al.* (1988) place emphasis on "fulfilling the needs of the customer in the best way possible."[27] But, despite the high degree of awareness concerning users' demands and their significance, no one can be certain about exactly what the users or customers will want. Against this background, a research firm surveyed a cross-section of the Fortune 500 companies in the US. The survey demonstrated that :

> "[...] users' demands from their telecommunications [ISDN] services do not seem to have changed. [...] telephone companies are not going to see new services by talking about how users can make money with their products. Customers want to hear about cost savings, network reliability, and network control."[28]

In practice, users themselves may have some difficulty in understanding all the technicalities of ISDN. They need more evidence that they will share these ISDN benefits such as better value for money due to its various functions or possibilities - e.g., cost control from network management information, greater capacity and performance, access to all telecommunications services, and "some opportunity to have choices for the carrier".[29] In order to help their understanding, "to create a strong user voice in the implementation of ISDN and its applications, and to ensure that the emerging ISDN meets users' application needs", a series of forums for users have been actively convened in the 1980s.[30] These all point to the significance of the role of users in the ISDN age, both in improving technical design and in the purchase of network hardware and software.

To sum up, the question of whether or not ISDN is efficiently implemented no longer depends on *a* dominant actor, but is subject to collaboration among various participants. Nevertheless, the question of who will gain most is still unclear. Some commentators such as L.Anania and R.J.Solomon (1988) say that the main beneficiary of ISDN will eventually be the *users*, because they will be able to use the technology to run businesses more efficiently with more choices. Others such as R.W.Cooper (1988) argue that the *monopoly administrations* such as PTTs or common carriers will benefit most, since they can increase revenue. Others say that the *supply industry* will benefit most, because of increased demand for manufacturing and service provision. Although "ISDN may be implemented in a variety of configurations according to specific national situations"[31], it is worth noting that the matter of who benefits most partly depends on how the CCITT standardizes the ISDN.

In particular, all the participants - whether they belong to the North, South, East, or West - can be users of ISDN. However, there may be various interests which can not be always in accord among these participants and it is the role of ITU to allow all participants to have access to the direction of the development of manufactured equipment and the ISDN. Nevertheless, the PTTs of most Members retain ample power to realise ISDN. Some may and will try to preserve the *status quo*, whilst others are hardly able to wait for international standards to be finalised. In spite of the high cost of implementation, because of the long-term advantages and economies offered, many countries (mainly administrations at the moment) have already invested in or implemented ISDN.[32]

1.3. Emerging Issues from the ISDN

Commentators such as D.Cerni (1982) and L.M.Wetmore, *et.al.* (1988) observe that "the evolution and shape of the ISDN will be driven by three major forces. They include technology and economics, along with customer demand."[33] However, issues concerning the ISDN are not merely triple-fold but more likely multi-fold.

1.3.1. **ISDN: Technical Evolution**

There is consensus that ISDN is the outcome of technological development rather than market-demand. That is, ISDN has evolved on the basis of two technological developments - digital transmission of voice signals between telephone central offices either via cables, or microwaves, and later optical fibres. The other is more recent technological breakthroughs materialized in digital switching.[34] In fact, digital technology has evolved from telecommunications infrastructures which utilize analogue technology for switching and transmission to a first-generation narrowband digital ISDN.

What is **narrowband ISDN** ? It can be simply interfaces consisting of 'basic access' and 'primary rate access'. The former is suitable for smaller businesses and residential users. As seen in Figure 6-1, it comprises two 64 kbit/s called 'B' channel and one 16 kbit/s signalling 'D' channel which open the way to a whole range of new services, often called supplementary services, i.e. 2B + D.[35] Each of the two B-channels allows simultaneous transmission in both directions, also to two different destinations. The D-channel transmits the subscriber signaling information required for the two B-channels. The information carried in D-channel is packet-oriented.[36] It will offer essentially two voices and one data circuit over *an* ordinary telephone line *at the same time*, heretofore useful only for a single voice circuit. Essentially it is an enhancement of the existing telephone network allowing various services.

Another type of interface - 'primary rate access', which is of more relevance for large users such as PBX or Local Area Network (LAN) users, offers the flexibility to allocate high speed 'H' channels or mixtures of 'B' and 'H' channels, as illustrated in Figure 6-1. The advantage of this type of setup is that it gives corporate users better control over their private networks - called intelligent networks - and enables them to allocate capacity flexibly according to demand.

Figure 6-1: ISDN Channels & Interface Structures: CCITT Rec. I.412

Channel	bit rate (kbit/s)	interface	gross bit rate(kbit/s)	structure
B	64	basic access	192	2B + D16
H0	384			
H11/H12	1536/1920	primary R.A.	1544/2048	23B + D64 or 3H0 + D64 / H11/H12+ D64
D	16/64			

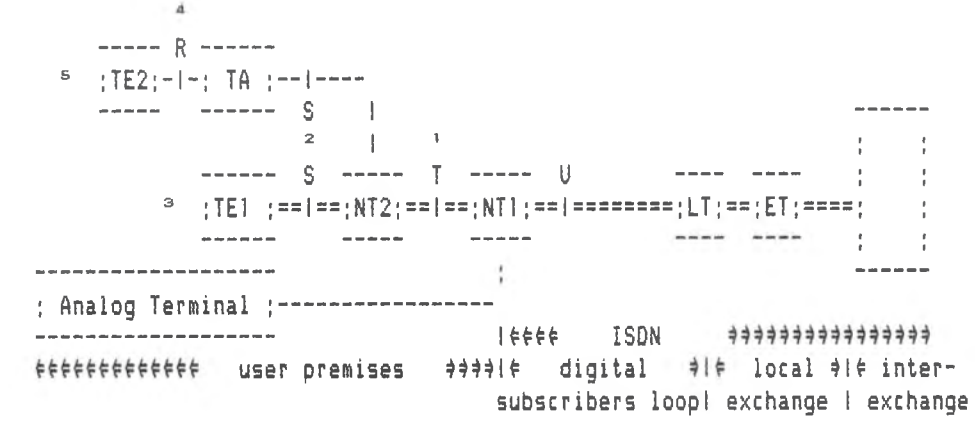
(Sources: R.Handel (1986:94); & CCITT, *Red Book* (1984))

While carrying out its study on how to fit narrowband ISDN into different national systems, user demand for broadband capabilities has hastened CCITT's work in developing **'Broadband ISDN (B-ISDN)'**. This is another step in the further evolution of technology. Discussion within CCITT COM XVIII considers B-ISDN as a variety of "potential interactive and distribution services emphasizing 'high quality'. The Task Group has discussed broadband in terms of services, reference configurations, channel bit rates and interfaces".[37]

In practice, the CCITT has begun to conceive a really all-purpose ISDN that can integrate services with bit rates from several Kbps up to more than 100 Mbps allowing for the possibility of optical-fibre transmission systems. From this technical aspect, the B-ISDN will be based on bearer channel rates between 1.536 Mbit/s up to about 140 Mbit/s.[38] Interface structures are being designed to combine simplicity and cost-effectiveness with the utmost flexibility concerning the use of the available information payload. Additionally, new transfer modes such as fast packet switching have been taken into account to accommodate future technical evolution.[39] The overall technical or physical ISDN consisting of its reference points and networks will be structured, as seen in Figure 6-2.

This technological evolution has benefits as well as limits. Referring to the evolution from an analog technology to a digital one, "a digital network (especially transimission) has far less distortion than a analogue one. This is because in a digital system it is only necessary to recognise

Figure 6-2: ISDN Reference Points & Networks



LT=line terminal ; ET=exchange terminal; NT=network termination
R,S,T,U= ISDN interfaces ; TA= terminal adapter ; TE= terminal type
1 to 5 ; customer access to services supported by an ISDN

(Sources: J.Gantz (1986); & CCITT, *Blue Book* (1988))

the presence or absence of a digital 'bit' to interpret information. In contrast, an analogue sysem can generally only *amplify* a weak or distorted signal and thus also amplifies the distortion. It cannot thus restore the quality of that signal."[40] In other words, a digital system offers the possibility of improving the 'quality', since not only its technology, but also a number of correction methods are available to protect the information flow in the network and to render its control functions more reliable.[41]

Further, the essential benefits of a digital signal include the ability of computer systems to manipulate the signals to provide a myriad of additional related services, to allow highly efficient use of telecommunications facilities for most types of signals, and to give essentially perfect reproductibility. This conversion to digital is furthered by the availability of integrated semiconductor circuits to perform all the digital functions at increasingly more favorable cost/performance ratios.[42] Even though more sophisticated and a larger quantity of chips are needed, several major chip manufacturers are already working towards producing off-the-shelf, single-chip silicon for these applications. However, it is worth noting that because the ISDN technology is still evolving, there is neither complete nor perfect technology.

1.3.2. **ISDN: A Variety of New Services**

Sophisticated ISDN technology primarily aims at providing a range of data services integrated into existing telecommunication environments such as the standard telephone services.[43] With continuing development of telecommunications technologies, ISDN will provide users with more varied and high-quality services. These telecommunications services - called 'basic services' - are divided in two broad families: 'bearer services' and 'teleservices.' A 'supplementary service' modifies or supplements the basic telecommunication services.[44] The classification of telecommunication services can be illustrated by Table 6-1.

Table 6-1: Classification of ISDN Services

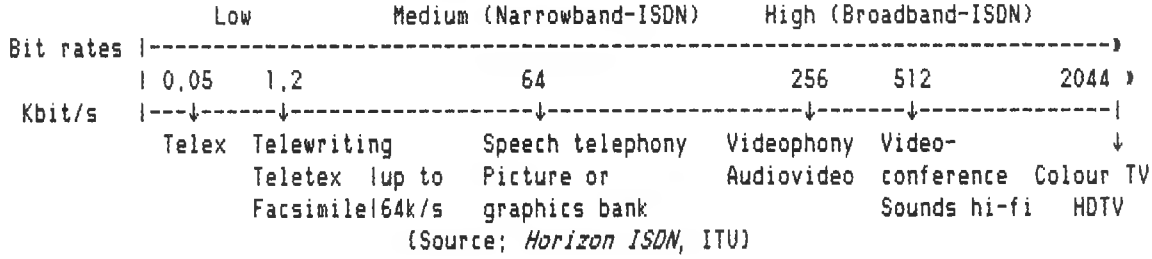
Telecommunication service			
Bearer service		Teleservice	
Basic bearer service	Basic bearer service + supplementary services	Basic teleservice	Basic teleservice + supplementary services

(Source : Rec. I-200, CCITT, *Blue Book* (1988))

Bearer services supported by an ISDN provide "the capability for information transfer between ISDN access points (1 or 2)"[45], as Figure 6-2 shows. They consist of circuit switched data, packet switched data, and virtual tie-line. **Teleservices** supported by an ISDN provide "the full capacity for communication by means of terminal and network functions and possibly functions provided by dedicated centres. It provides the user with the possibility of gaining access to various forms of applications such as two terminals providing the same teleservice attributes at both access points (3 or 5)."[46] These services include telephony, teletex, telex, facsimile, and videotex. The **supplementary services** may further offer user-to-user signalling, sub-address transfer, number transfer, private meter, malicious call trace, and so forth. In addition, a variety of potential interactive and distributive broadband services in an ISDN era are listed.[47]

The difference between narrowband and broadband ISDN services depends on their passband or information transmission rate, as shown in Figure 6-3. Referring to B-ISDN services, they can be divided into communications and distribution (broadcasting) functions. The former consists of dialogue, messaging and retrieval services. The latter provides a continuous flow of information from a central source to all authorized receivers.[48] As a start, the new broadband services will depend largely on high quality and low system cost. As broadband ISDN proliferates and broadband communications become more attractively priced, fully interactive and high speed data and video communications are expected to become prevalent in both business and residential areas.[49]

Figure 6-3; Services & Information Transmission Rate



(Source; *Horizon ISDN*, ITU)

1.3.3. **ISDN: Economic Issues**

Various economic issues also arise in ISDN applications. Firstly, in order to accommodate each country's circumstance, **capital or investment** is required for both research and development (R&D) and the implementation of ISDN.[50] In fact, the overall costs are high for a completely new signalling system between subscribers and local exchanges, new line terminating equipment at both the subscriber's and the exchange ends of each ISDN line, and selective upgrading of local loops to accommodate 144 Kbps transmission. Thus, not only 'technology-push', but also 'market-pull' is a critical element in both the field trials[51] and the implementation of ISDN. So far, because it is expected to accelerate market pressures toward effective technical and operational implementation of various services[52], many commentators see ISDN as enhancing telecommunications markets.[53]

Secondly, a prime purpose of ISDN as an integrated (or multi-purpose) network is a **saving of overall costs**. It is intended to be less costly than separate networks. Efficiencies and economies of scale from an integrated network are expected to allow both range and quality of transmission and processing services to be offerred at lower cost than if they were provided separately. In local distribution, the additional costs of ISDN provision must be less than the sum of the cost of the additional cable pairs.

However, since both trials and implementation of ISDN are still in their infancy, what the overall effect will be on world markets for telecommunication products and services is still unclear. It is possible that the significant question of who benefits from ISDN ultimately depends on the degree of penetration of ISDN usage[54] or participants' demands. It is also still unclear how much penetration is necessary for the development of ISDN. It may differ from country to country. In part, as G.Zeidler (1989) argues, users' acceptance may be determined by *tariff rates* together with the variety of services and its integration into existing communication environments.

In practice, the question of **tariffs** will be one of the most vital issues in ISDN. This is because most administrations now have differing tariffs for the various services and they use a number of different combinations of time, distance and bandwidth/bit rate for those different services. In an ISDN tariff environment, moreover, the ITU does not actually establish tariffs; that is a national matter. What the ITU (*inter alia* CCITT Study Group III) does is establishing 'general principles'[55] in the D-series Recommendations for ISDN tariffs and the procedures for sharing revenue among network providers.[56] However, as K.Habara (1988) argues, "the real difficulty lies in defining the structure and principles on which to base a tariff system". From this aspect, he argues that "historically, tariff systems have been established not only for technological reasons but for political and/or regulatory reasons."[57]

Furthermore, some basic principles of ISDN tariffing can be ascertained. According to the ISDN tariff principle in the ITU, firstly,

ISDN should provide a 'reasonable return' on capital investment involved in the network. The ITU (CCITT) considers that "tariffs will be harmonized". The various charging structures that characterize the telecommunications networks of today will have to be unified in the ISDN tariff structure. This is one of the main driving forces behind the implementation of usage-sensitive tariffing on leased lines. Secondly, it provides, what T.Irmer (Director of CCITT) calls, a 'service independent tariff structure'. The network provider gives the customer lines but what the customer does with them (contents) should not affect the price of service. Telephone traffic will be the bulk of the traffic and so it is logical that the tariff is oriented to telephone traffic.[58]

Thirdly, there is consensus within the CCITT Study Group III that ISDN tariffs should be 'less dependent on distance' than today's rate structures and reflect the natural evolution to 'cost-based' pricing. Further, digital transmission does not allow for differentiation between voice and data usage."[59] The principles also bear in mind the technological transition demanded by "interconnection between the ISDN and the public switched telephone network."[60] In particular, the recent CCITT Recommendations consider that the ISDN tariff principle "should be flexible enough to accommodate the variety of ISDN implementation and regulatory approaches that apply in different countries."[61]

However, such broad principles leave many questions unanswered. The extent to which local and trunk tariffs are rebalanced, the plan for introducing volume tariffing, the size of the service connection fees, and the rental fees are all important questions that require much more detailed tariff proposals than have thus far been published. With reference to the political restraints of ISDN, there will not be the opportunity to make easy profits through cross-subsidization of services or from the sale of spare capacity through leased lines, so PTTs will need either to learn to live on less revenue or to find alternative ways of making profits in the new tariff regime adopted for ISDN. Furthermore, within the monopolized and highly politicized world of European PTTs, the problem of satisfying national social policy through the telecommunication networks and the legal

restrictions placed on value-added services have added complications to the development of an ISDN tariff structure.

In addition, the major fear of user organizations such as multinational corporations is that PTT cost savings brought about by ISDN will not be passed on to the end user in an acceptable form. The end users fear that whilst on the one hand PTTs are justifying spiralling leased-line charges on the pretext of funding ISDN development, on the other they are setting ISDN tariffs at levels which penalize these same organizations even further. Whilst, ISDN will certainly make private circuits obsolete, volume related tariffs will considerably increase the telecommunications bills of private network users. The regulatory bodies such as the CCITT have baulked even at pronouncing on volume-sensitive tariffs, let alone full ISDN structures.[62] The problem of maintaining continuity with conventional tariff structures, thus, makes the task of developing a coherent tariff policy an onerous one. Careful consideration will also be required to include the interests of developing countries, where ISDN implementation will remain slow in the establishment of tariff principles on an international basis.[63]

1.3.4. **ISDN: Policy Issues**

In line with the generally heated telecommunications issues described in Ch.II.3, ISDN involves fundamental regulatory policy questions, which cannot be decided solely by engineers. A clear distinction between policy and purely technical aspect is essential if ISDN is to fulfill its rich promise.[64] Indeed, while most of the early public discussion about the ISDN centered around technological opportunity and the prospect of service integration, later discussions concerned methods of implementation and market management. Discussions are only just starting on many of the 'policy issues' which administrations will face when they consider introducing the ISDN. Administrations will have to decide whether to introduce ISDN ahead of international (or multi-lateral) agreements, with all the consequent implications. It may well be that policy issues rather than technological development will be the dominant factor in determining the rate of introduction of ISDN. In the ISDN policy environment,

numbering, interconnectivity with existing services, the extent to which an operator will provide internal network processing such as format and protocol conversion, standards, and charging.[65] The extent to which private networks can be exploited will depend on the regulatory situation in the country concerned.

Furtermore, much of the value of the ISDN will lie in its ability to provide interconnectivity with other customers served by other networks - telex, teletex, data customers, and the Public Switched Telephone Network (PSTN). This implies a matter of convergence of technology and divergence of participants. Who will provide what services depends on the character of each country's policy. A more contentious policy issue is whether or not the telephone administration will have a monopoly of the services provided on ISDN networks. There are two schools of thought. The one, held by the large user groups, is that the administration should simply provide ISDN capability and let entrepreneurial service providers resell it in any way they choose. The other, held by the more conservative telephone administration, want to offer those new services themselves.[66] This issue is likely to be resolved from country to country, which may lead the Union's Members into conflict with each other.

In order to solve these arduous policy and operational problems in the ISDN environment, a series of efforts have been made by international forums such as the ITU. In particular, "activity in CCITT is aimed at moving the yardsticks to achieve international agreement by the 1990 time-frame"[67] through setting standards.

1.3.5. **ISDN: Standardization Issues**

Universal standards in integrated and international telecommunications systems are of paramount importance to the interests of the various participants. Nonetheless, there are "not yet the common implementation standards necessary for building that global network."[68] Apart from the general implications of standardardization of telecommunications technology and its facilities/services, which will be discussed in the following section (CCITT), a prime reason for universial standards for the ISDN is

derived from the concept itself. Namely, ISDN exists as a set of interconnection standards to operate optimal use among the various participants concerned and efficient international exchange. In particular, it is essential that a set of ISDN standards be provided to permit universal access and to permit the development of cost-effective equipment[69], in competitive telecommunications markets.

Nevertheless, there are several difficulties to the standardization of ISDN. That is, the total collection of standards is incomplete because of the technology itself. Firstly, the full implementation of the interfaces into very large scale integration chips is still impossible.[70] Secondly, many of the technical solutions are unknown or evolving. In addition, 90% of ISDN takes place within the local networks between the digital local exchange and the subscriber's premises, which means that there are hardly any 'international standards', yet."[71] There are further constraints that still need to be breached before ISDN becomes compatible worldwide: different interpretations of ISDN may lead each ITU Member to support different approaches or methods of standardization.[72] In practice, the diversity of interests among participants and Union Members may distort the standardization of ISDN through competition.

Despite these constraints and the need for continuous revision, a series of standards for *narrowband ISDN* have already been adopted by the ITU, as Table 6-2 demonstrates. This series is known as I-Series CCITT Recommendations. It covers "ISDN concept and principles, service capabilities, overall network aspects and functions, user-network interfaces, and internetwork interfaces". ISDN is basically the Recommendations itself - *inter alia* a set of interfaces, which affect all forms of communications media/services.[73]

Turning to *broadband ISDN*, Recommendation I.121 has been created to summarize what has already been agreed and to provide a basis for further work.[74] In practice, the B-ISDN standardizations are still under study. Yet, it is worth noting that a CCITT Study Group XVIII meeting (1985-1988) held in Seoul (R.O.Korea) has reached agreement on a standard for the broadband-ISDN interface, which is the US-derived Synchronous Optical

Table 6-2: I-Series Recommendation Sets

1.100	covers the concept of ISDN, terminology, methods and structure of recommendations;
1.200	defines the service aspects of ISDN: carrier services & teleservices;
1.300	defines particular network aspects : functional attributes, performance characteristics, numbering & addressing;
1.400	defines the basic & primary access rate interfaces for layers 1, 2, & 3 of the ISDN architecture;
1.500	internetwork interfaces (interworking);
1.600	maintenance principals & guidelines for user testing.

(Sources: J.Gantz (1986); & CCITT *Blue Book* (1988))

Network (SONET) interface. It has now officially been adopted as the world standard for the Network Node Interface (NNI) for B-ISDN"[75], which is one step towards the B-ISDN of the future. The future will further bring new work (standardization) in the field of broadband ISDN in the ITU (especially in Study Group XVIII of the CCITT).

All in all, standardization of ISDN is crucial for many reasons ranging from technical concerns for global interconnectivity, economic concerns for mass manufacturing equipment, to users concerns. However, it is worth noting that as long as ISDN is technology evolving from narrow-band to broad-band, its standards are still evolving. While alternate ISDN standards may coexist waiting for marketplace determination or for new CCITT Recommendations, the long-term effect of incompatible ISDN systems will be one of the biggest concerns leading to political conflict.

1.3.6. **ISDN: Other Major Issues**

There are further ISDN issue-areas. Firstly, because analog transmission can be used for full-motion video, premature conversion to a digital solution in the face of more efficient analog alternatives will hurt the competitiveness of the ISDN-delivered services and impact negatively on its future development. Secondly, an intelligent network, as opposed to a transparent network, places constraints on users of the network. One representative of the International Telecommunication Users Group (INTUG)

even noted that 'placing ISDN intelligence within the network is an intrusion in users' legitimate freedom of terminal choice and operation'. Thirdly, high levels of 'bypass' activity, particularly in the US, could slow multinational corporations' efforts to develop or market ISDN-related products and services in some markets. If a telecommunications manager is compelled to choose between bypass and ISDN, his/her choice might depend on the relative costs of each option. This is a threatening notion for public network providers because bypass networks already exist at every level.[76]

Moreover, other problems such as 'privacy', 'sovereignty (or national security)', and a more serious question of unbalanced information flows between the developing and industrialized countries should be considered. On top of these, there are technological alternatives to ISDN. One is satellite technology. The other is private leased circuit networks and services.

(1). **Satellites: A Technological Alternative to the ISDN ?**

Technological improvements are also being introduced in satellites. The establishment of satellite operations would require a global view of telecommunications instead of those of existing networks, restricted as they are to national limits. This global network would mean looking at traffic plans, routing and structures from a new angle and applying new concepts. The ITU will have to adapt itself to working within this environment rather than dealing with telecommunications in 'national' terms.[77] Here, one may raise a question of whether or not satellites are a technological alternative to ISDN ?

In practice, there have been some concerns in the US that the ITU (especially CCITT) will discriminate against satellite systems, because the forum is mostly composed of terrestrial network providers.[78] In practice, ISDN is evolving as a hierarchical, terrestially-based concept shaped from cable, switching or data communications backgrounds. An essential issue is how best to combine satellites and terrestrial transmission media in a dynamic and optimally-designed ISDN network.

Satellites, particularly in association with the International Telecommunications Satellite Organization (INTELSAT) which is a significant participant (not as an ITU member but as an observer) in the ITU's meetings, has an active and important role to play in the evolution of ISDN from concept to reality. For instance, new digital services currently being offered meet a number of ISDN specifications, and allow users with certain telecommunications needs to begin reaping the benefits of digital telecommunications. Also, satellites are inherently 'non-hierarchical'. Here appear a number of system advantages: it offers stabilized satellite traffic loading through traffic aggregation, better maintenance and shared cost of earth stations, and the requirement for a less specialized space segment. Further, there are two key potential advantages. One is the flexibility to provide frequent reconfiguration of networks. The other is the ability to handle a wide range of traffic loads from heavy-route trunks to relatively thin-route links such as in the case of the Olympics. Hence, some argue that compared with fibre, satellites can economically and efficiently carry much lighter loads in situations where the great potential of fibre optics is wasted.[79]

In particular, since satellites offer the level of penetration of the satellite-based network toward the ultimate user or subscriber, and are best suited to digital satellite network, J.N.Pelton and P.J.Mcdougal (1987) see services offered by satellites as helping those provided by ISDN. In addition, satellite transmission would be integrated into the ISDN, although it would be restricted to the provision of transmission trunks on the network side of any network-provided switching facilities because a satellite network by itself has 'no interface' with the user. From this point, the only reason they cannot be considered ISDN is that they do not follows the CCITT's I-series recommendations.

Overall, the fundamental requirements of a telecommunications infrastructure to serve the future global information society are a unified global network for voice, data and image which is interconnected and accessed from anywhere in the world at uniform real cost with appropriate technology. Through the use of smaller, less costly earth stations, more powerful satellites, and eventually on-board switching

capabilities, satellites could prove to be a major force in ushering in the era of ISDN to the developing countries.[80] Therefore, collaboration rather than conflict between these two technologies tends to be more efficient or practical, particularly in the broadband ISDN era.

(2). **Private Leased Circuit Network: An Operational Victim of the ISDN ?**

Private leased circuit networks and their services, in the beginning, aimed to "prevent excessive erosion of the telephone administration's revenues for basic services from cream skimming." At present, they also aim to "protect value-added suppliers from unfair competition from the dominant voice carrier."[81] In terms of users' concern, B.C.Cullen (1983) explains that the reasons for choosing to rent leased lines are low costs based on a flat-rate charging principle, better guaranteed privacy and security requirements compared to public switched connections, better assured quality, reliability, access and performance."[82] All these offerings can be undermined in the ISDN environment.

According to the 'general principles' adopted by the Rec.D-Series of CCITT's Red Book (1984), the international telecommunications private leased circuit service consists of making one or more international telecommunications circuits available to a customer for his dedicated use on the terms and conditions which may be set out in a leased agreement between the customer and the Administration of the country at each terminal of the circuit. In providing this service, account should be taken of the particular service arrangement; the desirability of facilitating the advance of technology and the use of modern methods of operation and management; and the need to meet the specific requirements of customers.[83] In particular, Rec.D-Series of CCITT's *Blue Book* (1988) notes that "Administrations reserve the right to provide specialized networks to meet specific requirements of customers."[84] In other words, they have the right to withdraw a private leased telecommunications circuit if this is required in the public interest.

The establishment of a private leased circuit network is subject upon demand to provision of the following information to all Administrations concerned:

a. technical equipment to be installed for the operation of the network and the mode of operation of the network, with all the necessary details in order to ensure its proper technical operation;
b. the list of international circuits forming the network to be leased by the customer;
c. the scope of usage for which the circuits are required.[65]

Referring to the Recommendation, several questions need to be taken into account in terms of private leased circuit services and networks in the ISDN environment. ISDN technology and services can cover most functions offered by services of current private leased circuit networks. As a result, through new ISDN technologies such as Centrex and Virtual Private Networks, the operating agencies of the ISDN (especially PTTs) may redraw the lines of the network and stave off competition from 'leasd circuits'. But, private leased circuit service providers are unlikely to be willing to lose control of their own private networks to the PTTs.

A further conflict surrounds the pricing issues. For example, in 1983 W.Germany's PTT, Deutsche Bundespost modified its 'tariff' structure in preparation for the digital network. The Bundespost says that the tariff change is necessary to protect its investments in the public network. Otherwise, large companies will use private leased lines for the bulk of their traffic and send only the occasional overflow via public networks. This kind of 'cream-skimming' would put the Bundespost at a great disadvantage. This illustration is in general the position of other European PTTs. Because most applications will eventually depend on the cost, pricing leads to a conflict both between ISDN and private leased circuits and between PTTs and private circuits.[66] Large end users may acquire the subsidized transport service, if it is at a lower cost than current leased line service.[67]

To sum up, although no assurance has been so far given as to whether the flat-rate tariff principle will be retained, assurances have been so far

given at the CCITT that private leased circuit services will not be discontinued."[88] However, the question of whether or not ISDN will undermine private leased circuit networks is not entirely subject to the Union and its decisions, but to its Members and their regulatory policy. Further, a question remains as to what extent permission should be given for the special systems (both ISDN and private leased networks) which could be detrimental to common systems. For this reason, some argue that these questions must be decided at the political level.[89]

1.4. Issue-Structures: ISDN Issues within the ITU

There appears to be overall consensus concerning ISDN, as the Independent Commission for Worldwide Telecommunications Development says,

> "the advantages of a wholly digital network are overwhelming and every telecommunications planning decision should now be made with the creation of such a network in mind. [...] A world network free from the old restrictions and limitations of high quality at less cost, flexible, supporting freedom of choice and innovation, giving business a tool of immense power to increase efficiency and the residential user an alternative service which can offer him as many additional benefits as he is prepared to pay for."[90]

For many reasons, however, ISDN has found itself at the centre of political conflict between the majority of Administrations (PTTs) and private entrepreneurs (chiefly American). Certain types of conflict or coalition have been formed within the ITU, especially in deciding its regimes (standards or principles). For example, the **choice of 'reference point'** (Figure 6-2) represents something of a battle ground between network providers (administrations or common carriers who favour the NT2 interface) and terminal suppliers (manufacturing industry who favour NT1). The US (Federal Communications Commission) has declared the ISDN reference points (NT1 processor and the S, T, and U interfaces) to be the customer-premises-type interface: They (especially manufacturers) want to have the intelligence located *outside* the network in their equipment. In that case, the manufacturers of this equipment will profit and the sphere of influence of the public networks will be diminished. The Administrations (PTTs) see the reference points as existing wholly within

the PTT's ISDN network, so that they want to have most of the intelligence *inside* the network. By so doing, they believe they will be able to defeat the centrifugal forces that enabled private networks to encroach upon the public telecommunications networks.[91]

Major conflicts over the 'reference point' or 'internetwork interfaces' come from the possibility of incompatible equipment markets especially between Europe and the US. The conflict is basically derived from different 'regulatory' or 'policy' implications, due to commercial interests. For its part, the ITU (CCITT) has also been reluctant to standardize the U interface because of the varying quality of the local-loop characteristics in many countries. The problems of specifying an interface that has traditionally been embedded as proprietary in national PTT networks would be too difficult to overcome. It is therefore adopting a *laissez-faire* attitude on this issue in the hope that *de facto* standardization will come from industry.[92] As T.Irmer (Director of the CCITT) says: "I expect we will get a form of standardization of the U-interface, but not through the CCITT; but, rather via products offered by the semiconductur manufacturers if they meet the network providers' requirements."[93] Indeed, he is waiting for the US-based T1D1 Committee's[94] recommendations for the U-interface: the marketplace is preferred to standards making bodies for a U-interface solution.

Conflict also comes from **pricing** within the ITU. For instance, some service vendors may want pricing primarily on the basis of cost, i.e., "most Bell Operating Companies (BOCs: USA) favor setting prices according to what the market will bear". On the one hand, there is no longer "a social pricing system" (emphasizing low prices to encourage universal use) in the liberalised telecommunications context.[95] On the other, vendors may be reluctant to accept the ITU's regimes which gives rights to Administrations, which especially in competitive contemporary telecommunications markets most Administrations would like to retain.

Arguments continue from the **users**'s point of view. Many users are concerned that ISDN may be used by PTTs to stem the tide of liberalisation and enable them to claw back their receding monopolies.[96] They fear that

'ISDN could turn out to be simply another way of spelling monopoly'. INTUG argues that once networks have been fully converted to multi-functional digital systems, they will operate with all the sophisticated services - enhanced or value-added - substituting for those private leased circuits now in use. This is precisely why European PTTs are working as fast as they can to develop ISDN, so as to maintain their 'monopolies'. Thus, the users argue that breaking the PTT monopolies is necessary if they are to get the most up-to-date information processing equipment. Otherwise, as some argue, European suppliers may suffer from enormous technological lag, due to their close links to the national PTTs.[97]

However, the danger in the ISDN era is not whether ISDN services are offered by PTT monopolies or by deregulated private vendors, but whether users (whichever country they belong to) are stranded by creating incompatible implementation of ISDN. Although there have been heated arguments between Members, they know they need to negotiate within the ITU. For example, the Synchronous Optical Network (SONET)[98] specification is based on an agreement which has established a very flexible interface where two divided factions can be met: The first group favours the B-ISDN to "allow complete flexibility of bandwidth assignment and allocation based on the needs of the user to carry a 140-Mbps signal for high-definition TV services." In contrast, the second group (e.g.the US and Canada) wants to use the B-ISDN to "carry services such as dynamic allocation of bandwidth. In addition, the synchronous frame would be able to accomplish tasks it does best - transmission and network management functions". The SONET interface 150-Mbps seems to share a common framework to minimize the conflicting positions.[99]

In relation to the different theoretical perspectives on the ISDN issue-areas within the ITU, it is worth noting that the conflicts and coalitions above are to some extent in line with **neo-realism**, because the major debates concerning the ISDN issues result from an 'economic choice approach' in global telecommunications. However, the ITU's experience over ISDN does not conform to S.D.Krasner's (1985) views about conflicts between North and South. As a matter of fact, a danger in an ISDN

environment is that its issues are too highly technological and expensive for the *have-nots*. In return, the South has less input concerning ISDN issues and consequently North-South debate is muted.

Nevertheless, as neo-realists such as R.O.Keohane (1982) and S.D.Krasner (1982) argue, high-tech ISDN issues are the vital drive in Members' use of the ITU as an information channel. As R.O.Keohane (1982:348) argues, such an information channel can be a form of capital investment with potential economies of scale under conditions of complex interdependence. Moreover, as S.D.Krasner (1982:506) argues, once the ITU's regimes (e.g. Recommendations or Principles for the ISDN) are established, their *feed-back* may make it easier for Members to gather information. This factor is particularly important in a situation such as ISDN where rapid information exchanges are vital. From this point of view, it should be the developing countries rather than the developed countries who need the ITU and its function of high-tech development, since they have less internal resources to those of the ITU than do industrialised countries.

Conflicts and coalitions in the ITU concerning ISDN issues may also be in line with **neo-mercantilist** views. This is mainly because such conflicts or coalitions arise from the North itself, due to commercial interests. By setting the regimes of the ITU, the US and European countries (or their relevant entities) would like to improve their competitive position in the forthcoming ISDN era.

Yet, whoever benefits from the ITU concerning ISDN issues may not mean that the winner(s) from the battle can implement its services or applications better than the losers. For example, as I.Dorros (1989) argues, "the process of evolving public networks has become particularly complex in the US environment, with many local and inter-exchange carriers and the now well established policies of equal access and multiple vendors of equipment."[190] Furthermore, "the ISDN trials (and possibly nationwide implementation) have proceeded slowly due to a lack of universal standards and the state of deregulatory policy in the US".[191]

All in all, the Northern hegemonies (the US, Europe, or Japan), which already have the advanced technology but also have a number of incompatible systems, may delay the full or speedy implementation of ISDN. Instead, countries like Singapore or even an African country which determines to implement ISDN may actually be able to realize its implementation earlier. Inasmuch as they are smaller sized countries or do not yet have proper telecommunications facilities, their current disadvantageous position can become an advantage in the ISDN environment, because they have less barriers to earlier implementation. However, from the **dependencia** perspective, commentators are sceptical about the implementation of ISDN in the developing countries. They lack technology, know-how, and capital. In addition, they argue that becuase ISDN needs high-technology together with high investment and expertise for its establishment, maintenance, and operation, such implementation of ISDN will be dangerous.

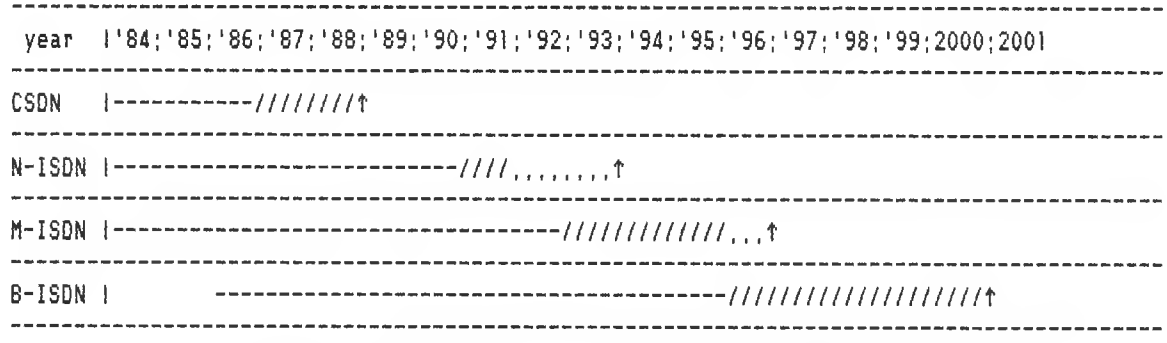
In this context, one of the most important tasks for the successful implementation of ISDN is the subject of country's *capability in managing ISDN and its applications*, particularly in association with the *efficient usage of the ITU regimes*.

2. Discussion: Interlinkage between R.O.Korea and the ITU through the ISDN

2.1. Methods of R.O.Korea's Behaviour Concerning ISDN within the ITU

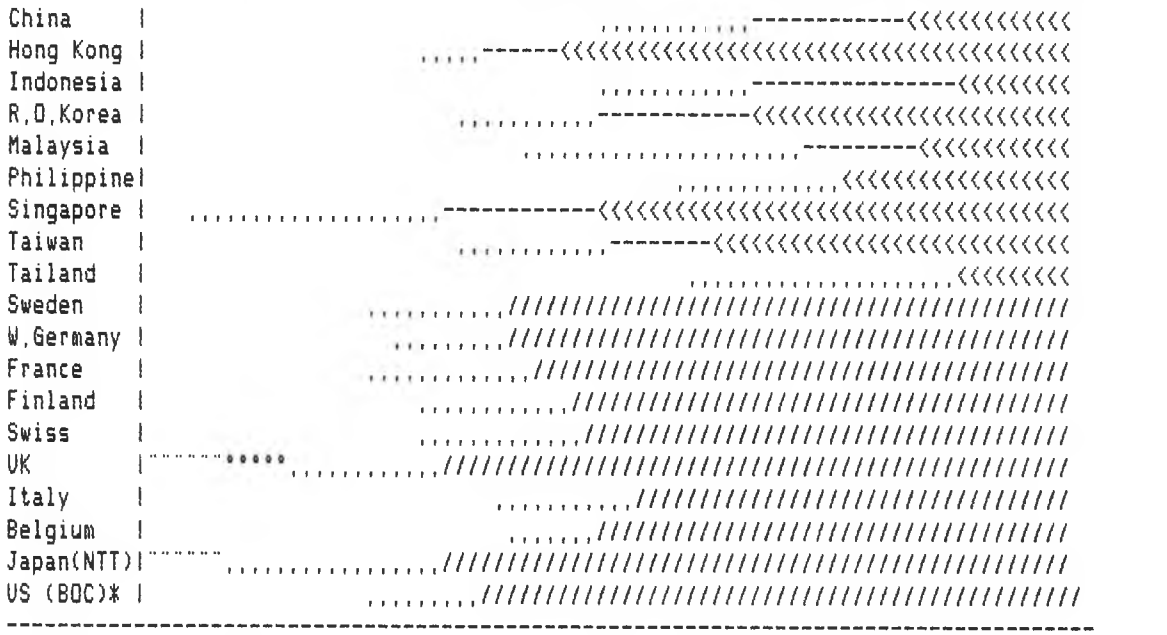
The Korean Government launched a four-stage development plan for ISDN, which is due to be completed by the year 2001. The first stage of this plan is to develop a circuit switching system technology (CSDN) applicable to the existing communications network and to commercialize its use after 1989. In the second stage, the narrow band ISDN technology will be developed by 1991. It will be on an experimental basis with commercial use beginning after 1994. The third stage plan is to develop medium-band ISDN technology by 1995, and to commercialise the technology after 1997. In the final fourth stage, it plans to offer unified or multiple services without any restrictions on the channel bandwidth. It will then be able to integrate the existing narrow and medium band ISDN into a

Table 6-3; Long-term Plan of Developing Technology for ISDN in R,O,Korea



CSDN ; Ciruit Switched Digital Network N-ISDN ; Narrowband-ISDN (64 Kb/s)
M-ISDN ; Mediumband-ISDN (2 or 1,544 Mb/s) B-ISDN ; Broadband-ISDN (2 or 1,544 Mb/s)
------ ; ISDN studies, developments, and trials
,,,,,, ; ISDN field trials, ////// ; -- + ,, ↑ ; Starting service,
(Source ; KITE (1987) & P,D,Cho , I,Y,Jeong & J,H,Yim (1987))

Table 6-4; World ISDN Plans



"""""""""" | Trial stage (B+D) °°°°°°°°° | Commercial usage stage (B+D)
,,,,,,,,, | Trial stage (2B+D) --------- | Limited services (2B+D)
<<<<<<<<< | Completed services (2B+D) ///////// | Commercial usage stage (2B+D)
* The time division is slightly different depending on each Bell company,
Note; Both terms completed services and commercial usage, which are differently used by each country concerned, may be similar states,
(Sources; ITU; Pyramid Research; KITE (1987); & DACOM (1988))

broad-band ISDN. This experiment will take place from 1996 to 2000 and will be available to general subscribers by the year 2001[102], as illustrated in Table 6-3. This Government-led 'Basic Plan for ISDN Development" implies that ISDN is recognized as the key element (or strategic instrument) of the age of the information society.[103]

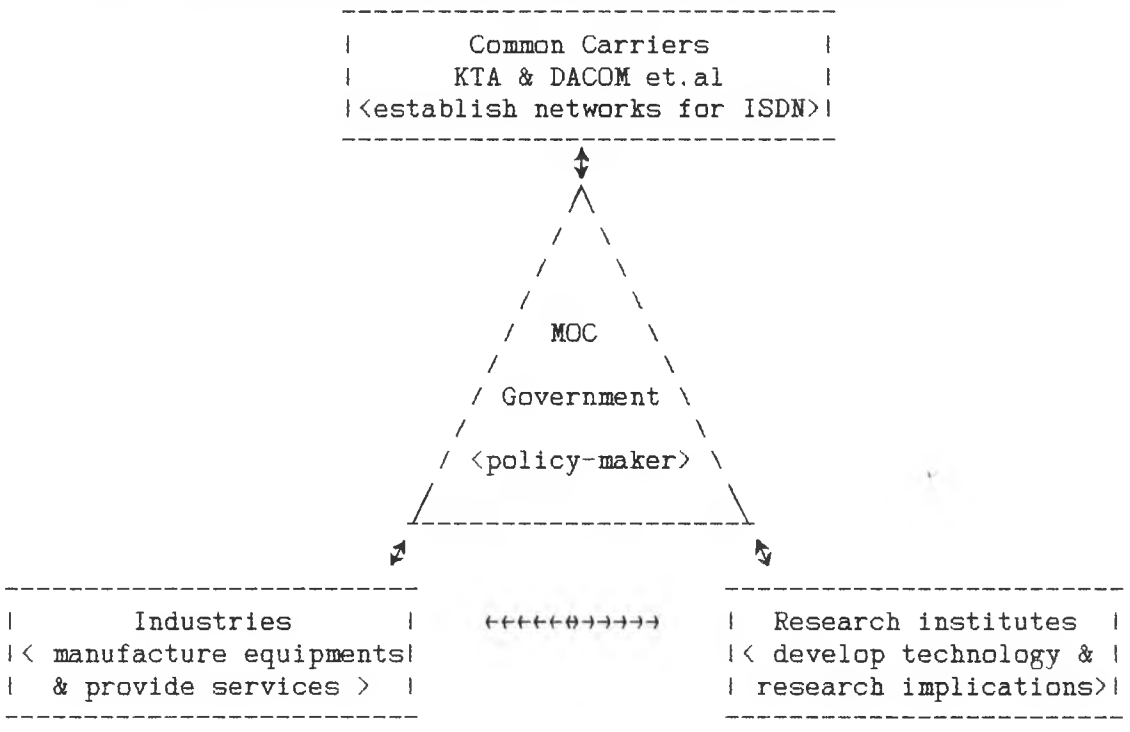
Externally, the Government plan is still behind those schedules of other advanced countries, especially the UK and Japan, as shown in Table 6-4. It is also worth noting that the NICs (or NIES) in Asia are relatively early in initiating their trials and implementation of ISDN, which could be attributable to increasing volumes of trade in the Asia-Pacific regions.

Internally, several infra-organs participate in the plan in order to realize ISDN in R.O.Korea's telecommunications infrastructure. However, in contrast to those discussed above (Ch.VI.1), R.O.Korea's **participants** are *corporatist* arrangements rather than in conflict with one another. For example, supported by Government-initiated investment, research institutes such as ETRI have been studying and developing technology such as CCS No.7 system based on the ITU regimes (Recommendations) since 1984.[104] Common carriers (KTA) have decided to use the No.7 system, manufactured by local industries.[105] These corporatist relationships illustrated in Figure 6-4 are often strengthened by funds: KTA has sponsored ETRI and further plans to allocate 3% of its yearly revenue to ETRI for continuous ISDN **research and development (R&D)** projects.[106] According to Dr.C.H.Yim (ETRI), about 10% out of a total investment amounting to about US $ 100 million (about 7 billion won) is allocated within ETRI to the development of ISDN, such as digitalization of switching systems and optical fiber communications.[107] As yet there has been no organized opposition from users, such as INTUG.

Based on such corporatist relationships, a variety of **activities** have been carried out in order to develop ISDN. For example, in 1988, the Korean Government sponsored by KTA and ETRI hosted the CCITT Study Group XVIII Meeting dealing with ISDN.[108] Research has also been carried on by KISDI on the social implications of ISDN. KTA's Research Center (KTARC) either on its own[109] or collaborating with foreign telecommunication operators such as British Telecommunications (UK), is

also actively studying plans for transition towards ISDN.[110] Nevertheless, R&D projects for ISDN have still been dominated by technological issues. According to some comentators such as P.D.Cho and others (1987), moreover, these technical-centred researches are rather fragmented and unsystematic.[111]

Figure 6-4: Structure of Infra-organs Implementing ISDN in R.O.Korea



However, owing to its active R&D on **ISDN technology**, R.O.Korea has developed and produced many ISDN-like systems such as indigenous TDX-1 and TDX-10 systems.[112] The TDX-1 system has operated for 400 subscribers in a rural area (e.g. Songjeon) since 1982. However, due to its *imcompatible* characteristics, this system is unlikely to have any major impact on ISDN transition plans in the short to medium term. For example, this system currently supports none of the existing facilities and interfaces such as X25, ISDN 2B+D, and SNA. This is mainly because it was developed to meet Korea's domestic demands, rather than to be compatible with any other internationally recognized system. In addition, it still has small capacity up to 10,000 lines which is suitable for small scale rural, but nation-wide implementation. Yet, it is to be expanded to 24,000 lines in 1985 and 189,000 in 1986.[113] In order for R.O.Korea to

gain more benefit both at domestic and international markets, this system needs further development not only to increase its capacity, but also to be compatible with CCITT standards such as 2B+D.

It is also worth noting that without the development of **local industries** indigenous technology can not be fully beneficial. Although the domestic telecommunications industry has become more capable of producing telecommunications equipment such as switching systems and semiconductors, about 60% of high-technology oriented equipment such as ISDN-like equipment is still imported mainly from its *core* countries.[114]

From this aspect, **dependencia** perspectives would argue that ISDN issues may lead R.O.Korea's telecommunications infrastructure to be more dependent upon its *core* countries. Certainly the more ISDN needs high technology, high cost, and highly qualified experts, the less chance for R.O.Korea to be interdependent with - or independent from - its *cores*. This dependency can be enhanced by econo-political pressure. That is, the *cores* will not wait until R.O.Korea reaches a stage to compete with them from an equal state. Instead, they - chiefly the US, Japan, and some European countries - seek a way of blocking such fast growth in R.O.Korea's economy along with technologies which are competitive in commercial international telecommunications markets. In practice, developed countries have already become more reluctant to transfer technology - especially high-tech oriented ISDN - to R.O.Korea, which is a potential competitor.

In this context, as R.O.Keohane (1982) and S.D.Krasner (1982) argue, what R.O.Korea would need from the ITU concerning ISDN is primarily **information**, *inter alia*, on high-technology. R.O.Korea needs and wants to use the ITU in order to reduce vulnerability to economic coercion, to lessen the degree of dependence upon the developed countries (or their multinationals), and to exchange information on rapidly evolving telecommunications technology in the ISDN era. According to Dr.C.H.Yim (ETRI), in practice, "domestic development of the ISDN (mainly its technology) was hardly transferred or supported by its *core* countries, but mainly attributable to both internal resources (e.g.,manpower) and the ITU

regimes - especially CCITT Recommendations (I-Series)."[115] Multilateral arrangements are therefore assumed to offer R.O.Korea more cost-benefit - whether it is cash or safety measure - than bi-lateral arrangements. However, this assumption is subject to how R.O.Korea uses the ITU regimes in terms of both *processes* and *consequences*.

Turning to the way in which R.O.Korea behaves concerning ISDN issues within the ITU, it is at present not merely implementing the outcome of regimes in the local field (consequences), but also acting in the decision-making of the regimes (processes). Indeed, it is no longer merely receiving information (regimes), but contributing it within the ITU. This can be witnessed by the CCITT Study Group Meeting (Seoul), where it proposed three contributions including 'Amendments to Annexes of the draft recommendation on operation and maintenance for the ISDN Basic Rate Access."[116] In particular, recognizing the necessity of both technological development and regional cooperation regarding ISDN issues, R.O.Korea joined a new regional organization called Asian ISDN Council (AIC).[117] The membership of regional organizations (AIC) is assumed to offer R.O.Korea a way of raising coherent interests with collaborating regional Members within the ITU (Ch.II.2).

However, in contrast to those Members - mostly developed countries - which have formed coalitions or conflicted with one another on the basis of commercial interests when setting the regimes relating to 'control over intelligence' and 'pricing' of the ISDN within the ITU (Ch.VI.1), R.O.Korea has hardly put forward any demands in the ITU concerning either market-oriented or authoritative rules. In contrast to the theoretical argument, furthermore, the new mebership of AIC has not yet offered R.O.Korea any substantial opportunity to raise collective interests. All in all, although R.O.Korea began to partake in the *processes* of setting the ITU regimes, its overall methods of using the ITU are still dominated by the implementation of the outcomes of regimes regarding domestic implementation of ISDN.

2.2. Reasons Underlying R.O.Korea's Behaviour Concerning ISDN in the ITU

Reasons underlying R.O.Korea's behaviour concerning ISDN in the ITU can be looked at in terms of both the processes and consequences. Each can be also explained by both an internal drive and external influences in the competitive ISDN era.

Influenced by liberalisation of domestic infrastructure, it is possible that various infra-organs *internally* have different interests in the advent of the ISDN. Nevertheless, the reason why R.O.Korea has hardly utilized the **processes** of the ITU - *inter alia*, setting its regimes - firstly lies in its perception of the regimes as guidelines (consequences) rather than as negotiating means (processes). Despite development of the indigenous ISDN-like systems (TDX), a reason why it did not (or more accurately, could not) raise its voice is partly due to its being in an insufficiently advanced technological state at the international levels. Also, it is because of the various co-existing ISDN-like systems transferred from different countries with a lack of universal compatibility already present in R.O.Korea's domestic telecommunications infra-networks.

Furthermore, R.O.Korea's private companies such as Samsung and Lucky-Goldstar have neither recognized the ISDN issues in the ITU, nor participated in its processes. This is in contrast to counterparts such as IBM of the developed countries which not only actively participate in the ITU, but also have relative power even with *de facto* standards (e.g.,SNA) both at home and within the ITU[116]. The Korean companies' failure is *internally* due to *corporatist* relations among infra-organs under the Government stewardship, rather than *pluralist* relations on an equal power base. Externally, being a governmental-international organization, the ITU does not yet appear to be easily accessable to private industry - at least for Korean industries under the bureucratic-authoritarian Government.

In particular, the current distinction between voice and non-voice telecommunications services provided by separate common carriers (e.g., KTA and DACOM) can be no longer meaningful in the ISDN era. However, enjoying the current monopolies, they are unlikely to want international *market-*

oriented rules, particularly in the ISDN environment. Although they were not particularly in favour of *authoritative* rules through the ITU, they would certainly want the ITU regimes to protect vulnerable domestic telecommunications - especially ISDN service - markets. In this context, R.O.Korea - especially the Government - faces dilemmas between its internal liberalisation in order to encourage competitive telecommunications markets, and its desire for external authority in order to protect its domestic markets.

In terms of R.O.Korea's behaviour in the **consequences**, due to the far-reaching impact of ISDN on equipment and service trade, the Korean Government provides a reasonably specific policy framework or plan. Empowered by overall development and liberalisation of internal telecommunications infrastructure (Ch.III), various infra-structures initiated by the Government are able to undertake a variety of activities concerning ISDN. However, it is again worth noticing that, influenced by *corporatism* under the Government initiative, R.O.Korea's implementation of ISDN is more *policy-pull* by the Government than technical-push by industries or markets.

Government recognition and initiative on ISDN leading to active implementation have also been influenced by *external* variables. That is, the ISDN issues are recently the major topic in virtually every telecommunications forum and community (Ch.VI.1). Furthermore, as Table 6-4 illustrates, under the premise of its own telecommunication system and technological standards, each nation approaches ISDN through field trials, i.e., IDA (integrated digital access) in the UK, INS (information network system) in Japan, RENAN in France, Televeriet project in Sweden. Also the US and W.Germany approach ISDN on the basis of their own independent systems.[119] In particular, although there have been less demands for ISDN from domestic users so far, so just as the Packet Switched Data Network (PSDN) service was introduced in 1983, R.O.Korea may be developing ISDN or its compatible facilities primarily in order to meet external demand. The PSDN service was initiated to provide overseas service rather than domestic service, which followed later in 1984.[120]

In addition, because national telecommunications services may be different from those set by the ITU regimes in feature and quality, R.O.Korea carries on R&D for ISDN adapting it to its own system rather than simply using the ITU regimes (consequences), as they are. Similarly, the telecommunications services provided in R.O.Korea have to be precisely specified and the protocol specifications for those services must be prepared for themselves. Furthermore, the national telecommunications environments are also different from the international ones (e.g. exchanges of various kinds, transmission system, size and architecture of communication system, numbering system, interworking with existing networks). In particular, the ITU regimes have many options and are too general to accommodate the specific characteristics of each country. These can be illustrated by the "general principles for collection charges for the ISDN" set by the ITU (Ch.VI.1). Therefore, R.O.Korea needs to research and develop not only mechanisms for ISDN technology but also its socio-economic (e.g., charging) and political implications in internal and external telecommunications structure.

Chapter VII.
Interlinkage Between R.O.Korea and The ITU Through Standardization Functions: A Case of International Consultative Committee of Telegraph and Telephone

Formulating Recommendations for the world-wide standardization of telecommunications is one of the main functions of the ITU, *inter alia* a primary output of the the International Consultative Committee of Telegraph and Telephone (CCITT).[1] With the tremendous changes in the telecommunications environment which have impacted on the world's information transport networks, the CCITT has become the most vital ITU infra-organ, engaging in the greatest volume of work.[2] In line with this, most interviewees agree that one of the main reasons why R.O.Korea has actively participated in the ITU is because of CCITT Recommendations (standards). However, due to the various issues and interests concerned, the ITU's standardization functions to date have become complicated and controversial. In this context, how and why has R.O.Korea used the ITU concerning the CCITT and its complex standardization ?

In order to look at the question, firstly, this Chapter investigates issues emerging from setting standards within the CCITT. The CCITT can be looked at as two-tiers. One tier is the formal Plenary Assembly and Study Groups, as the *'mediums'*. The other tier encompasses the *'duties'* of studying and issuing recommendations (standards).[3] On this basis, I will further examine *methods and reasons underlying R.O.Korea's behaviour concerning CCITT standardization within the ITU.*

1. Implications of CCITT Standardization within the ITU

1.1. CCITT: As The Mediums

1.1.1. Infra-organs of the CCITT

As an ITU infra-organ (Ch.IV.1), the CCITT comprises a Director who is elected by the Plenipotentiary Conference; a Plenary Assembly which is held every four years; and fifteen Study Groups which work to produce Recommendations on the bases of technical or operational questions drawn up

by the Assembly. The CCITT Study Groups are the working groups which provide for the development of the Recommendations. They prepare and undertake all the actual study programmes. Powered by the merger of telecommunications and computer technologies, their work becomes increasingly demanding and sophisticated. Resulting in part from technological integration of an ISDN era as well as functional efficiency, the VIIIth Plenary Assembly (1984) reduced the Study Groups from seventeen to fifteen. Most of their work can not be separated since it relates to the smooth functioning and maintenance of telecommunication networks and their flexible interworking with other networks.[4]

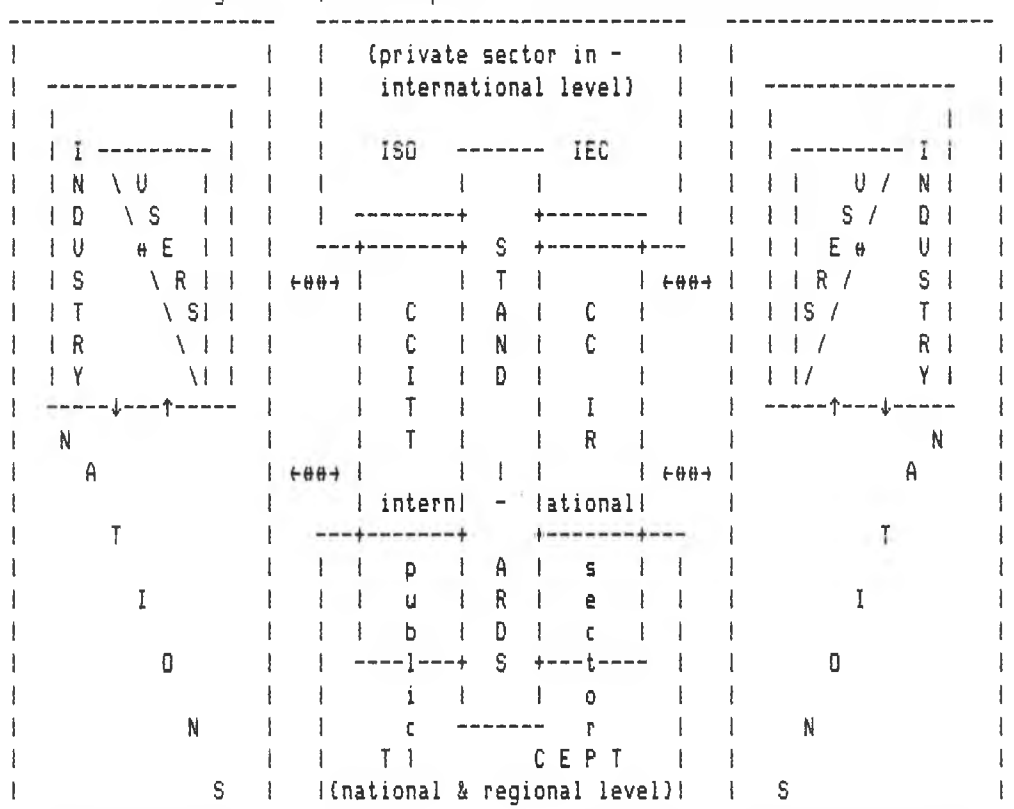
The CCITT also has had an experimental laboratory in operation since 1927. In addition, there are three Joint Study Groups and two Joint Working Parties (CCITT/CCIR), such as "the World Plan Committee and the four Regional Plan Committees (Africa, Latin America, Asia and Oceania, Europe & the Mediterranean Basin). Their work is to study topics of common interest to the Consultative Committees' (CCIs) five Plan Committees. These Committees develop a general plan for the international telecommunications network, with a particular concern for developing countries. In particular, the World Plan Committee set up in 1973 is to "develop a general plan for the international telecommunications network so as to facilitate the coordinated development of international telecommunications services. It is controlled by CCITT. But, this Committee can only take a technical view of its terms of reference. Whereas, some of the subjects now require non-technical consideration such as liberalisation of monopolies.[5]

Further, some of six Special Autonomous Groups (GAS) are one of the media through which the CCITT provides technical assistance to developing countries.[6] They deal with broader questions such as the economic and technical aspects of the choice of transmission systems and the economic and social problems relating to telecommunications development.[7]

1.1.2. **Participants of the CCITT**

According to Article 11 of the Nairobi Convention (1982), membership in the CCITT is offered in full to Members of the Union, ranging from administrations* to private operating agencies, and international and regional telecommunications organizations. That is, "the CCITT is fully prepared to welcome a variety of participants in its discussions, and all the private operating agencies already existing or planned in a particular country."[2] Furthermore, users have made efforts to represent their interests on setting standards within the CCITT through International Telecommunications Users Groups (INTUG).[3] These various participants can be seen in Figure 7-1.

Figure 7-1: Participants of Standardization within the CCITT



It is also worth noting that especially in the 1980s the number and pattern of participants in the work of the CCITT have changed. Participation by industrial organizations has increased from 146 to 164. There is a growing interest in the work of the CCITT, especially in Study

Groups VII, VIII, XI, XV, XVII and XVIII[10] which are all related to ISDN. These changes reflect the current telecommunications issues (Ch.II.3).

Overall, B.C.Cullen (1983;1985;1987) suggests that the greatest strength of the ITU is the CCITT because it is unique in combining global yet non-political international cooperation, effective working procedures, and an excellent support organization, with the non-legal instruments through which decisions taken can be implemented worldwide.[11] Hummel (1979) also observes that "the distinction between CCITT standardized services and customer-defined services and applications preserves the advantages of the CCITT standardized services for the public at large and enables a maximum of innovation by both customers and administrations to satisfy new and emerging needs in the domain of non-speed services."[12] However, in reality, due partly to its various infra-organs and the character of participants, and due mainly to its complicated *duties* of formulating standards, the CCITT as the *medium* is often the forum for conflicts.

1.2. CCITT: The Duty - Standardization & Its Emerging Issues

Universal interconnectivity of telecommunications facilities and services, and the full benefits of economies in telecommunications can not be achieved without world-wide standardization. This standardization is what the CCITT under the auspices of the ITU has been working towards for over half a century.

1.2.1. What are CCITT Standards ?

The objective of CCITT standards is international compatibility in terms of interworking and performance, the goal being always to ensure high quality in international connections for the end-to-end user. The Recommendations (standards) can be grouped under the following three-layer classification:

a. **Network interworking** that ensures the interworking compatibility of different national networks;
b. **Equipment performance** that leads to the resultant performance of complete international connections which meet agreed overall objectives;

c. **Economies** through greater interchangeability that give ease of provision, simplification of maintenance, and flexibility of interconnections.[13]

With the exception of the general tariff principles (SG III: D-Series), the Recommendations have been generally influenced by engineers who know how to operate these complicated technologies rather than by considering policy and regulatory issues[14], as Table 7-1 illustrates.

Table 7-1: Series of CCITT Recommendations

Study Groups	Recommendations
A	Organization and working procedures;
B	Means of expression such as definitions, vocabulary, symbols, classification;
C	General telecommunications statistics;
D [SGIII]	General tariff principles;
E [SGII]	Telephone network and ISDN;
F [SGI]	Telegraph and mobile services, telematic, data transmission and teleconference services, message handling and directory services;
G [SGXII, XV XVIII]	General characteristics of international telphone connections and circuits;
H & J [SGXV]	Line transmission of non-telephone signals;
I [SGXVIII]	ISDN;
K [SGV]	Protection against interference;
L [SGVI]	Construction, installation and protection of cable and other elements of outside plant;
M [SGIV]	General maintenance principles;
N [SGIV]	Maintenance of international sound-programme and TV transmission circuits;
O [SGIV]	Specifications for measuring equipment;
P [SGXII]	Telephone transmission quality;
Q [SGXI]	Telephone switching and signalling, functions and information flows for services in the ISDN;
R & S [SGIX]	Telegraph transmision;
T [SGVIII]	Terminal equipment and protocols for telematic services;
U [SGIX]	Telegraph switching;
V [SGXVII]	Data communication over the telephone network;
X [SGVII]	Data communication networks, services and facilities, interfaces - Open System Interconnection;
Z [SGX]	Functional Specification and description Language (SDL).

(Sources: CCITT, *Red Book & Blue Book*, (1984;1988))

These Recommendations have been published in different colours every four years as a rotating series of books - called *CCITT Handbooks*, which are based on Plenary Assembly proceedings, as shown in Table 7-2. It is

a requirement that these Handbooks are published and put on sale. It is also worth noting that most private operators and manufacturers are dependent on them for the design of CCITT compatible services and equipment.[15]

Table 7-2: The CCITT Recommendations - *Handbooks*

Year of Assembly		Location	Color of Book
1968	IVth	Mar del Plata	White
1972	Vth	Geneva	Green
1976	VIth	Geneva	Orange
1980	VIIth	Geneva	Yellow
1984	VIIIth	Geneva	Red
1988	IXth	Melbourne	Blue

1.2.2. **CCITT Standards: Legal Issues**

In contrast to the Constitution, Conventions, and Regulations which have "the binding force of international agreements"[16] as international treaties, the CCITT Recommendations are not transacted at the international treaty level. They are not binding on Members but do form a very desirable basis for bilateral and multilateral agreements. Furthermore, the Recommendations can be revised much more easily than the Regulations which can only be changed by a World Administrative Telegraph and Telephone Conference (WATTC), and the Convention and Constitution by a Plenipotentiary Conference.

In general, there are two arguments concerning legal issues. One argument concerns legal status. The other concerns vagueness due to compromise and consensus. According to G.D.Wallenstein (1977), "the state of CCITT Recommendations reveals relative vagueness in some cases and even perplexing alternative choices in other".[17] Whereas, Mao and Hummel (1981) argue that although "countries are not bound legally by an International Treaty to apply CCITT texts, they are strongly advised to do so."[18] That is, the authority of those Recommendations is 'legislative', due to their recognized moral authority and due to the implicit constraints derived from the consensus reached in their formulation.[19] Yet, from a legal status

point of view, standards provide merely a 'guidance' on technical possibilities rather than a 'guarantee'.

In this context, arguments concerning the scope or degree of Members' obligation to the Recommendations often lead to conflicts. Unlike *national standards* set by government decrees which have the force of law and must be followed by manufacturers and service providers, *international standards* are based on the Members' agreements on procedures for the interconnection of national networks through the ITU.[20] For example, the Telegraph and Telephone Regulations (1973) states that: "In implementing the principles of the Regulations, Administrations* should comply with the CCITT Recommendations, including any Instructions forming part of these Recommendations, on any matter not covered by the Regulations".[21] However, the term 'comply with' raised heated debates in the World Administrative Telegraph and Telephone Conference in 1988 (WATTC-88). The final decision made in 1.6 and 1.7b) of Article 1 of the new International Telecommunications Regulations (1988) states :

> 1.6. "In implementing the principles of these Regulations, Administration* should comply with, to the greatest extent practicable, the relevant CCITT Recommendations [...]"
>
> 1.7.b) "The Member concerned shall, as appropriate, encourage the application of relevant CCITT Recommendations by such service providers.[22]

These changes in wording reflect conflicts between those wanting rigid/authoritative rules through the ITU (especially the CCITT) and those wanting market-oriented rules. The effects of the decisions concerning the degree of strength of Recommendations made in WATTC-88 depends on each Member's interpretation. However, the implication of the change in wording is a movement towards less strong Recommendations.

Overall, in the light of the legal status of the Recommendations, it is important to determine whether these are strong enough to bind Members of the CCITT to the Union's basic role - universal interconnectivity. Otherwise, Members do not particularly need to take notice of what the CCITT sets as standards. For this reason, the new Constitution established by the Nice Plenipotentiary Conference (1989) added a new Union purpose,

"facilitates the world-wide *standardization* of telecommunications, with a satisfactory quality of service".[23]

On the one hand, this decision in the constitutional provisions obviously reinforces the significance of universal standardization in the current global telecommunications market. On the other, it might be intended to upgrade the ITU itself through strengthening its function of standardization. However, the degree of compliance in practice depends on the interpretation and willingness of Member States (substantially their manufacturers) in deregulated telecommunications environments.

1.2.3. **Necessity of CCITT Standards**

The purpose of standards is in essence "helping to achieve the desired degree of uniformity to permit systems to function beneficially for both provider and users."[24] In the field of telecommunications, the aim of standardization is based on the limited use and resulting isolation of a national telecommunications network which is not integrated into the global system; the harmful interference to other nations which could result if even one nation ignored the regulation; and the limited world market, if equipment did not conform to CCITT standards. Today's technological breakthroughs and policy changes also urge the "task of standardization in rapidly growing fields such as data communications (e.g.,ISDN), which involve a most delicate compromise with the continuously changing state of the art, and the desirability for interconnection and end-to-end compatibility".[25]

The advantage of standardization is thus to assure a large market for a particular piece of equipment or software, thereby encouraging mass production and the use of large-scale-integration techniques. In turn, those techniques result in lower costs. Standards also provide universal access to communication network interfaces, thus allowing products from multiple vendors to communicate and giving the purchaser flexibility in equipment selection and use."[26] These concerns are basically economic. That is, standards can reduce the need for a great variety of different techniques or for complex conversion equipment. In return, they cut

manufacturing costs with ensuring benefits for the customer and ensure international compatible equipment for telecommunication authorities.[27]

In particular, 'trade in international telecommunication services' as distinct from the trade in equipment have become prominent international policy issues in recent years (Ch.II.3). In turn, special agreements between governments and between telecommunications operators are inevitable. Conformity with these agreements, which will allow bilateral and multilateral telecommunications cooperation, is dependent on international standards. Moreover, "partly due to lack of common standards"[28], "international telecommunications markets are regarded as 'non-tariff' trade barriers."[29] In this context, the development of a comprehensive framework of technical standards is further seen as a prerequisite for breaking down national trade barriers.[30]

All in all, inasmuch as telecommunications issues become more diverse and complex, so there must be interworking standards. These are "critical to provide for worldwide commercial interaction as well as for international interconnections, common operating procedures, and protocols."[31] That is why "the preparation and establishment of such international standards are vital tasks for the CCITT"[32] especially in the highly competitive contemporary telecommunications environment.

1.2.4. **Constraints of CCITT Standardization**

Inasmuch as standardization is of paramount importance and necessity, so it involves a number of conflicting interests which make consensus on universal standards within the CCITT more and more difficult to reach.

Firstly, no international organization has so far succeeded in achieving **universality**, [even though] certain technical regulations must be made at an international level. Indeed, the many market priorities around the globe are often compounded by the various market, economic and political conditions facing the member countries of the CCITT. Thus, H.G.Schermer (1972) argues that "many regional schemes on standardization are only acceptable because a worldwide approach is impossible".[33]

In practice, telecommunications issues of a global nature are now increasingly being handled on a *'bilateral or regional'* basis between like-minded countries. This trend has two effects. On the positive side, regional co-operation through regional organizations such as the European Conference of Postal and Telecommunications Administrations (CEPT) and the Organization for Economic Co-operation and Development (OECD) based on geographical proximity or united by traditional economic ties has increased. On the negative side, an unhealthy polarization may appear to be developing between those countries with traditional approaches and those with new regulatory ones: administrations (PTTs) vs. those private operating companies powered by deregulation of the telecommunication industry. The traditional lack of universality in international regimes together with regional segmentation can disturb the CCITT's universal standardization.

Another reason for difficulties in standardization stems from the **marriage of the telecommunications and computer sectors**, which have quite different traditions. As illustrated in Table 7-3, the computer industry has developed into a free competitive market.[34] On the contrary, telecommunications industry has traditionally been monopolistically developed under a comprehensive regulatory structure (Ch.II.3). Further, the technological merger raises arguments such as a technological cycle and its implications. In fact, the most critical disadvantage of standards is to freeze technological innovation. Some argue that by the time a standard is developed, subjected to review and compromise, and promulgated, more efficient techniques are possible. Due to fast changes, the course of technological advance is unpredictable.[35] Urged by the computer sector, innovation cycles are becoming shorter in the telecommunications sector, also. In particular, "research and development (R&D) and production costs are rising enormously because of the increasing technical complexity of most products".[36] One way to avoid the high-costs is by introducing standards at the earliest practicable stage. But, if standards are introduced at the earliest stage, technical innovation will be hindered.

These controversies of standardization are enhanced by the **process** or the **time-frame** at the CCITT itself: compared to the pace of technological

development, it takes time to promulgate standards and its application to network and service implementation. For this reason, many commentators criticise CCITT's working methods. That is, the four-year period between Plenary Assemblies is a very long time to wait for Recommendation approval.[37]

Table 7-3: Comparision between Computer & Telecoms Sectors

[TRADITION]	[CHANGES]
Computer industry was characterised by :	" changed to ;
- strong competition ; - absence of large-scale standardization ; - unregulated market structures; - international market-orientation ; - private actors with easy access to capital markets; - relatively short depreciation periods for equipment (5-10 years)	- more standardization as computer-to-computer to-terminal communications needs increase ; - the emergence of information networks at the users level ; - a growing dependence on telecoms infrastructures
Telecommunications service industry featured :	" changed to ;
- little or no competition ; - regulated or monopoly market structures ; - strong tradition of public service & infrastructure aspects (universal service) - national markets for telecoms equipment ; - long tradition of standardization at the national level & for interconnection purposes at the international level ; - government ownership with no or restricted access to capital markets ; - long depreciation periods of equipment (up to 30 years)	- more competition both at national & international levels; - less standardization at the national level & more standardization at the international level; - a danger that the established notion of universal service might be eroded; - more competition might also mean a growing trend towards more by-pass, when large users might prefer to construct & manage their own telecoms systems, with a consequent loss of revenue for the public service providers ; - more international markets for telecom equipment

(Source; Restructured from H-P Gassmann, Paper presented at the VIIIth ICCC, (1986))

Partly due to the length of time involved, the standard-setting activity can work to inhibit competition and the implementation of new services. As a result, some manufacturers simply introduce products without waiting for a standard. Early introduction of a new technology may then effectively increase the pressure on the standard-setting entities in order to 'catch-up'. At the same time, manufacturers try to dominate a market to create a *de facto* standard. There is therefore a continuously vicious cycle between standard-setting bodies and manufacturers. In particular, the

competitiveness of the computer industry may often involve "unhealthy competition between manufacturers, countries and regions - each seeking to have their own particular standard, such as IBM's System Network Architecture (SNA), acknowledged as a *de facto* standard."[38] Such market determined standardization then throws into doubt whether the emergence of new *de-jure* standards recommended by the CCITT will come into effect. If not, should enterprises accept the *de facto* standard of their biggest trading partner or competitor ?[39]

From this point of view, telecommunications carriers have resisted *de facto* market setting by specific manufacturers. They are concerned about the potential development of a market characterized by a web of incompatible systems and offering. They also do not want the diversion of traffic to private leased lines that might result from such inconsistent network standards. A further point of objection is that a *de facto* standard can be set for all countries by a US supplier such as IBM. Because of its dominant market power and know-how, moreover, such a multinational could get significant competitive advantage in designing terminal equipment.

In addition, the **differences between telecommunications tariffs** even for the same distance vary depending on whether the line is in the territory of a national PTT administration or whether it crosses borders and is therefore considered 'international'. This difference leads to the question of whether more competition will take care of minimizing these tariff differentials or if a harmonization of these tariffs under the auspices of CCITT will occur."[40] With regard to rates and tariffs for telecommunications services considered by CCITT Study Group III, tariff barriers applied to transnational flow of data have been imposed by countries such as Japan and France among others. The reasons range from protection of national sovereignty and control over information resources to assistance to fledgling telematic industries and reduction of informational dependence. Due to difficulties in settling these different tariff policies, apart from setting 'general principles'[41], the CCITT has left detailed tariff policies to the national level.

A further concern comes from the **growing involvement of 'governments'** in the standardization process. In practice, even the US (Department of Commerce) whose telecommunications sectors are privately owned and operated on free-market principles began to emphasise "a continuing evaluation of government's proper telecommunications role. [That is, it believes that] *internationally*, Government has inescapable responsibilities, and must be better organized to fulfil them."[42] This is because, on the one hand, telecommunications has traditionally been regarded as a public good which benefits all of the participants in an industry, but which no single participant will want to invest in creating. On the other, governments' interests go well beyond the provision of public goods. The most immediate objective may be to promote the 'interests of the domestic suppliers', relative to those of suppliers overseas. But, attempts to force the pace of standard setting may well lead to technical incompatibilities and segmented national markets as suppliers choose among the vast array of options they face and as each government manoeuvers for protectionist purposes. As long as national (especially economic) interests are involved in the standardization process, political tension or conflicts can hardly be isolated.[43]

Despite these various arguments or constraints on universal standardization within the CCITT, the production of equipment by industrial organizations is to some extent dependent upon the standards laid down by the CCITT.[44] However, in order to meet this need more efficiently in a rapidly changing telecommunications environment, CCITT standard-setting must have a 'shorter life-span' than the standards established in less hectic times. In order to accelerate and improve its international standards process[45], the CCITT drew up new drafts about its working methods and Study Group structures in the IXth Plenary Assembly (1988).[46] Under the new methods adopted as an interim measure, virtually every standard is being persued, pending revision of the International Telecommunication Convention.[47] Overall, it resolved to establish an *ad hoc* Group to enable the CCITT to maintain its pre-eminent world-wide position in telecommunications standardization on the basic principles of "modernization, flexibility, and efficiency in organization and working methods, cooperation, and the production of high quality Recommendations".[48]

1.3. Relations with Other Standards Organizations

There are at present various standards organizations, which have different characters. As seen in Figure 7-1, some are public sector, others are private sector. In the public international telecommunications services sector, the target membership is not only those who work together in each geographical area, but government authorities. The degree of obligation is determined by **treaty** - such as the ITU and the European Conference of Postal & Telecommunications Administrations (CEPT). In the private international sector, standards apply to all legal entities and persons effected by their contents. However, they do not carry any legal obligations. Instead, they act as **guidelines or models**. These *voluntary* organizations include the ISO, the IEC, and several national bodies (chiefly those in the US).

When these standard-setting organizations were originally founded, electricians and telecommunications technicians had few common standardization requirements. They all set up separate organizations for their relative fields. However, technological convergence affects all these regardless of their backgrounds. Apart from technological innovation or convergence, the major goal for most of these bodies is low-cost interchange of information between all participants in any trade transaction at both national and international level. Therefore, these separately developed standards organizations need to cooperate closely.

Yet, "neither the organizations nor their working procedures are traditionally geared towards interdisciplinary cooperation".[49] That is, although these organizations have had an extensive relationship, traditionally decisions have been made separately. For instance, the International Standards Organization (ISO) has developed its own model called the Open System Interconnection (OSI). The European Conference of Postal & Telecommunications Administrations (CEPT) also recently set up its own institute for standards (European Telecommunication Standardization Institute). Against this background, the question is whether these organizations will remain co-operative partners working towards the same goal or become rivals. To answer, this section will look at each regional

and international standards organization focussing on its work and relation with the ITU (especially the CCITT).

1.3.1. International Standards Organization (ISO)

The ISO founded in 1946 is a non-governmental 'voluntary' international organization consisting of 90 national members. 430 international organizaitons have been granted liaison with the ISO. The technical work of ISO is carried out by some 2,400 technical bodies (164 technical committees; 646 subcommittees; 1,585 working groups & study groups). To date, it has published 6,172 international standards.

In the field of *International Technology*, it has been the source of international standards for programming languages, data transmission codes, keyboards, storage media such as tapes and magnetic disks, credit cards, interfaces, Open System Interconnection (OSI), Local Area Networks (LANs), and some aspects of ISDNs.[50] In other words, it has been primarily involved in the development of telecommunications standards, but also has approached the subject of telecommunications standards from the perspective of information systems. The CCITT has directed work from the perspective of telecommunication transmission. Particularly, over the past few years, because of the merging of technology in ISDN and the sharing of common interests, there has been greater overlap between these two organizations.

However, the earliest collaboration between these two goes back to the standards of 'codes' and 'alphabets' agreed 20 years ago.[51] For example, CCITT Recommendation for teletex was the "first functional standard to catalog basic standards on all seven levels of the Open System Interconnection (OSI) reference model into a viable, complete service guideline."[52] Furthermore, with the advance in distributed processing and data communications, the CCITT Recommendation X.75 was developed for interconnection of national X.25 packet-switched networks into an international network. In particular, CCITT Recommendations for ISDN is based on the OSI reference model.[53] The areas, where the ISO tries to effectively liaise with the CCITT, are those of telecommunications and information exchange between systems, information retrieval, transfer, and

management within OSI. In the ISDN era, all these demonstrate close co-operation between the ISO and the CCITT.

1.3.2. International Electrotechnical Commission (IEC)

The IEC established in 1906 is represented by national committees of 44 member countries. Its major task is to develop standards on matters such as high voltage transmission, switch gear, power generation, electrical cabling, safety, electromagnetic interference, Local Areas Networks (LANs).[54] Inasmuch as telecommunications is highly dependent on electronic technology, so the work between the IEC and the CCITT is closely interlinked. How future work in the telecommunications field will be allocated among the various organizations is not obvious. Yet, issues requiring regulation, standards, and official agreement among countries will be of significance to the CCITT. In this context, as Sherr (1985) argues, the division among the CCITT, the ISO, and the IEC will be harder to predict but entails "increasing cooperation and coordination in the future of the communications field."[55]

1.3.3. European Conference of Postal & Telecommunications Administrations (CEPT)

The CEPT, which was created at Montreux in 1959, consists of 26 European countries. It is aimed at establishing close links between administrations and improving technical co-operation. Through the CEPT both Post and Telecommunications Administrations become aware of the need to connect their links so as to form a homogeneous, coherent and efficient system on a continental scale. There are some criticisms levelled at CEPT on the grounds that its member PTTs have previously shown an unhealthy tendency to further their own interests. Its insularity acts against it meeting the needs of the international business community.

The CEPT also has the ability to present an influential lobby at international fora such as the CCITT. In its standardization activities, the CEPT's actions have been supplementary to the action of the CCITT. It is regarded as never competing with nor opposing the action of the

CCITT. Its Recommendations refer systematically to those of the CCITT as well as those of the ISO. Rather than diverging from or contradicting the CCITT or the ISO, the CEPT is complementing them. Because the CEPT is not represented at the ITU, yet, experts in the CEPT's member administrations consult within specialized work groups and make proposals which are submitted to the study committees of the CCITT in the form of contributions presented by one of the European administrations. M.Toutan comments that "this method makes the work of the CCITT easier and quicker, particularly with preparation of the Recommendations of Series I - the ISDN, in which the European Administrations actually play a very constructive part.[56] This European approach is likely to be more persuasive and efficient than challenging the CCITT. By working in this way, the CEPT does not just contribute to the work of the CCITT but also competes with the North Atlantic, Japan and the Third World on standardisation.

Recently, the CEPT has tried to go further with decisions on the establishment within ten years of the full standardization of dialing tones, prefix numbers, call numbers of special services, and the technical characteristics and approval procedures for all types of terminal equipment such as telephone, facsimile terminals, teletex, videotex, and the ISDN, so the subscriber can connect to the network through his telephone line. The European Green Paper which proposes "reinforcement of the rapid development of standards and specifications at national and European level to promote the transition towards a more competitive environment on a Community-wide scale."[57] To this end, the CEPT set up an autonomous European Telecoms Standards Institute (ETSI) in Nice (France) in conjuction with the industry and users. The budget will be shared among the member nations of CEPT and the EC. It will take on the technical pre-standardization and standardization work currently handled by CEPT. In contrast to CEPT, it will be a full-time operation[58], but will not compete with the CCITT.

The Green Paper further emphasised that "the Community should continue fully to support the ITU (the CCITT) in its role as the main body for developing recommendations on international standards in telecommunications. One of the major ways should be substantially to increase the Community's own resources in standardization work, and to

increase European input to the CCITT, in the framework of its co-operation with the CEPT."[59]

1.3.4. Other National Standards Organizations

Apart from regional and international standardization organizations above, there are national standardization organizations (mainly US). For example, Committee T1 Telecommunications (USA) was set up in 1984, in order to establish an industry committee to take on the standards development work performed by the Bell System prior to divestiture. It has six T1's Technical Sub-committees, which are sponsored by the Exchange Carriers Standards Association accredited by the American National Standards Institute. T1 documents are processed and result in US contributions to CCITT.[60] There are also several similar bodies such as the IEEE, EIA and Committee X3 within the USA. In addition to its various publications on detailed communication systems, the IEEE (USA) has already cornered the domain of local data links and is now moving on to consider local voice and video issues.[61]

1.4. Issue-Structure: Standardization Functions within the ITU

The universalisation of telecommunications standards become more and more inevitable for world-wide interconnectivity. In turn, the CCITT's standardization has changed from merely technical-oriented issues to more complex socio-economic ones. The way in which Members have formed coalitions or have conflicted with each other within the ITU (*inter alia*, CCITT's standardization issue-areas) appears to be in line with what **neo-realists** see as 'complex interdependence' focusing on economic concerns.

Indeed, since many interests must be coordinated between parties coming from very different backgrounds, the CCITT's *duty (standardization)* is a highly complex process.[62] Yet, it is worth noting that conflicts or coalitions within the CCITT's *mediums* concerning standardization issues are not merely derived from relations between its Member-States *per se*, but from those between the Union (more specifically speaking, the CCITT's

infra-organs) and the Members, between the polarized Members (both States and non-States), and between the Union and other standards organizations.

1.4.1. Conflicts between the ITU and Members: Dichotomy of Control

At first sight, since any particular infra-organ of the CCITT and its duties do not depend on the Secretariat's (or Secretary-General's) direction, the CCITT seems to be autonomous. Some further argue that "the most important element influencing CCITT work is the specialists assigned to it. Whether and where they are assigned, their expert knowledge and their personal stature are the most influential instruments for obtaining high-quality outcomes in a timely fashion."[63] In the vast majority of cases, the Plenary Assembly approves the Recommendations as presented, or requires only minor changes.[64]

In contrast, others argue that standardization, in principle, starts with the Plenary Assembly. This body draws up a list of technical communication subjects, or "Questions", the study of which would lead to improvements in international communications. Hence, the Plenary Assembly, which is composed of 'state officials' has the power to accept or reject the Recommendations and/or amendments. This argument suggests a *dichotomy of control*. According to G.D.Wallenstein (1977:1983), this "dichotomy of control can produce tension and frustrations"[65], between the actual implementation of work under the control of CCITT's officials and the processing of work under the budgetary control of the political governing board of state officials.

1.4.2. Structural Conflicts between the North and the South

The power to set standards is not yet distributed according to a simple dichotomy. There are also confrontations between North and South, as S.D.Krasner (1985) argues. The industrialised countries (North) have been - and still are - dominating the critical work within the CCITT regarding the standardization of equipment and operation procedures [...] supporting their respective industrial infrastructure.[66] Mainly due to lack of the 'expertise' necessary to participate at a high technical level and

lack of the 'finance' needed for participation in particularly Study Group meetings[67], developing countries have little opportunity to participate in CCITT's work.[68] The more the CCITT requires highly sophisticated technology and experts, the more its work is dominated by ISDN issues, the more exclusively it becomes the province of industrialized countries.[69] The developing countries, thus, are increasingly alienated from the work of the CCITT, an organ which has been constantly called upon to raise its level of commitment to technical cooperation."[70]

In order to resolve this imbalance, the CCITT passed Resolution 3 in the VIIIth Plenary Assembly (1984), as follows:

a. Developing countries should take a more active part in the work of the CCITT by sending 'suitable delegations' to the meetings;
b. The CCITT, with the assistance of volunteering administrations, should help countries who ask for specifications of 'equipment';
c. The CCITT should organize seminars periodically for the benefit of new or developing countries.[71]

This sentiment was re-emphasized by Resolution No.14 in the IXth Plenary Assembly (1988) calling for the CCITT "to take special measures in various areas for providing technical assistance to developing countries."[72]

However, there have been expressions of dissatisfaction levelled against the CCITT by the developing countries. This criticism is two-pronged. First, they charge that the subjects considered are disproportionately those which primarily concern the industrialised countries. Second, they allege that the Recommendations pay insufficient attention to the interests of the developing countries. Often Recommendations 'register' the *de facto* state of affairs in industrial countries."[73]

In particular, what is hardly acceptable to developing countries is that "the CCITT work - so critical to industrial countries - is integrally part of the ITU budget and as this work expands, so will ITU budgetary allocations. In contrast, allocations for ITU technical assistance come from the shrinking UNDP budget, while there is unwillingness on the part of the industrial countries to increase their contributions (Ch.V.1). As a

result, developing countries are reluctant to allow CCITT work to expand while their own urgent needs cannot be adequately addressed."[74] Some developing countries have suggested that there might be a case for cutting back on budget allocations for the CCITT to make available more funds for technical assistance, which is of more immediate relevance to the majority of members.[75]

Furthermore, the term 'standard' is itself differently interpreted between the industrial countries and the developing countries. The former sees "the development of a comprehensive and detailed framework of technical standards as a prerequisite to breaking down national trade barriers"[76], while the latter considers standards as a tool to help exports by "limiting developed nations use of standards as non-tariff trade barriers against developing countries' exports, and to protect against importing incompatible telecommunications equipment from different suppliers." Ironically, the standard-makers as well as trainers in technical assistance are mostly citizens of industrial countries, who favour their representative national interests.[77]

Against this background, one of the major criticisms levelled at the CCITT in recent years is its tendency to *widen polarization* between the North and the South. As far as the activities of the Study Groups are concerned, in practice, they have been dominated by a few industrial countries and their private vendors such as AT&T, IBM, BT, NTT etc.. The advent of the ISDN era especially seems to spur the polarization between the *haves* and the *have-nots*. In return, this raises a question of whether the CCITT is a club for the rich.

However, inasmuch as the CCITT's *duties* - standardization - is a critical element for today's economies, so both developing and developed countries should be able to obtain access to the procedure of the CCITT and its Study Groups. To some extent, developing countries may be more dependent on what the CCITT decides. That is because, as S.D.Krasner (1985) argues, they have a lack of alternatives, compared to the industrialised countries who have national and regional standardization bodies such as CEPT, ESTI, and T1 Committe. In particular, because most developing

countries rely on imported foreign telecommunications facilities, CCITT's universal standards are necessary.

1.4.3. **Conflicts and Coalitions between the North *per se***

Despite the threat of withdrawals from some industrialized countries because the ITU has become politicized, they still remain Members. That is mainly due to the CCITT and its standardization. In contrast to the developing countries, the developed countries (*inter alia*., their multinational companies) prefer the CCITT to devote its activities and investments to ISDN.[78] So it is that Recommendations relating to ISDN are expected to continue to have a high priority.[79]

However, there often appears a polarization or contentious friction among the *haves* themselves. On the one hand, that is because the CCITT work is often that of a gatekeeper through which only few can be selected to partake. On the other, it is due to characteristics of the competitive telecommunications market. As K.Bidlingmaier (1987) says, "standardization efforts in the CCITT are product oriented."[80] T.Irmer also agrees that:

> "[standardization] in a competitive environment is not only a technical task [...] but it is today a highly *'commercial'* matter. [Moreover], standards are more and more strategic tools for network providers, industry and customers in the struggle for telecommunication markets of the future."[81]

T.Irmer and others believe that it would be preferable for the market to decide the issue rather than letting CCITT standards determine the outcome. From this aspect, the EC position may be considered to be very weak in comparision with those of the USA or Japan, particularly when these countries claim reciprocity in their international regulations. For this reason, some have-countries (e.g., European countries except the UK) tend to pursue two-tier strategies: One is to stengthen the shift indicated in the Green Paper, which for the first time put emphasis on the 'commercial undertakings' of the telecommunications sector so as to increase the 'competitiveness' of the European telecommunications industry and service providers.[82] The other effort is to protect each national

telecommunications industry by setting-standards in authoritative international fora such as the CCITT.

However, they (the North) know the neccesity of the CCITT's standardization discussed above. For this reason, the industrial countries form a sort of coalition on both research and industry bases. Yet, it is worth noting that this kind of coalition among the North can not be fully explained by R.O.Keohane and J.S.Nye (1977), since they do not co-operate purely because of lack of power alone.

For instance, in the field of CCITT standardization, the coalition among the *haves* themselves is often formed on the basis of triangular relationships: CCITT ⇐⇒ Administrations* ⇐⇒ Private sectors. A form of coalition among Administrations (especially the European Community) can be illustrated by the Green Paper, which the EC countries produced on the basis of their regional and economic ties in order to compete with the US and Japan.[83] G.D.Wallenstein (1977) also suggests that the economic or prestige value of an innovation may occasionally motivate national delegations in Plenary Assemblies and Study Groups. As a result, an authority might instruct its representatives to assure survival of that country's proposal at the cost of international coalition.[84] The internal needs of one nation may be sacrificed for those of another, possibly more powerful nation.

Another sort of coalition is formed mainly by private actors. For instance, mainly suppliers of electronic messaging products and services such as BT, Hewlett-Packard, Information Technology, Northern Telecom, Philips, Siemens, and Xerox along with the European Commission took part in the X.400 promotion group. Its aim was to ensure that its Members' products and services are tested to interwork in accordance with the CCITT X.400 Recommendations and to bring such products and services on to the market as soon as possible.[85]

O.Myers (1984) argues that telecommunications 'commercialism' urgently needs international standardization to allow universal communication.[86] But, **neo-mercantilists** such as L.McKnight (1987a;1987b)

see the large economic stakes in the outcome of the CCITT's telecommunications standard-setting process as increasing the probability that political factors will be determininative in the formation of coalitions to support the adoption of a particular standard. However, the neo-mercantilist perspective can not fully explain the reflection of developing countries's demands in decisions within the CCITT such as the Recommendations (especially Resolutions) and the Special Autonomous Groups (GAS) discussed above.

1.4.4. Conflicts or Coalitions among Standards Organizations

It is possible for Members of the voluntary standards organizations to use them as alternatives to the CCITT where they can better express what they want, and can enhance or inhibit the process of standardization. In particular, R.E.Butler (1989g) sees the emergence of extremely active and large-scale regional and national standards forums today in different parts of the world as a real danger, if the ITU is not dynamic enough or competitive with other standards organizations.[87] This view is shared by T.Irmer (Director of the CCITT). He says that "if standards were not to come from the CCITT, they would have to come from somewhere else."[88] There is therefore the possibility of competitiveness among the various organizations, leading to fragmentation and further political tensions.

On occasion, when the international standards organizations have been effected by politicization, this has partly been because the CCITT under the ITU's umbrella is an international treaty in which PTTs interests predominate, while the ISO and the IEC are voluntary organizations influenced by private equipment manufacturers. As L.Mcknight (1987 a & b) argues, "friction between the CCITT, ISO, IEC, and others over cooperative standards development may surface because of power struggles between the rival organizations, and the conflicting interests of PTTs and private industry".[89] If each region establishes its own institute for standards, the CCITT is likely to be less influential with its members.

On the other hand, inasmuch as "the lines of demarcation between the ITU (especially CCITT) and other organizations above are becoming

increasingly blurred, so the collaboration became ever more essential."[90] Several cases of collaboration have taken place, in which a good liaison developed between the CCITT and other organizations above. For example, there has been a liaison with the ISO, both at Secretary-General and at working levels.[91] The ISO/IEC Joint Technical Programming Committee has also identified and planned joint operations. Its operating procedures are being developed with participation from the CCITT and CCIR to achieve improved co-ordination, avoid duplication of effort, encourage efficient use of manpower and other resources and arrive at timely results without delaying current projects in the ISO and the IEC.

In particular, at the VIIIth Plenary Assembly in 1984, CCITT Resolution No.7 was passed to establish a new procedure of sending immediately the complete CCITT Study programmes to the Central Secretariats of ISO and the IEC, with an invitation to identify questions of interest to CCITT projects under consideration in their technical committees.[92] This CCITT Resolution advises that Study Group VII's work for data networks and data terminal equipment be done in co-operation with other study groups and the ISO.[93] The IEC fibre optics experts are also co-operating in CCITT transmission studies. Since 1984, further, CCITT representatives have participated in meetings of the IEC and ISO/IEC. A programme of work on generic information technology and links between ISO/IEC TCs and CCITT Study Groups was developed. Recognizing the need to strengthen this collaboration, the IXth Plenary Assembly (1988) adopted a Recommendation "Collaboration with other International Organizations on information technology", which identifies areas of mutual interest of ISO/IEC and CCITT.[94]

Overall, the CCITT is concerned "to make its presence felt in order to uphold the ITU's universally recognized prestige."[95] In fact, the CCITT work has more advantages than any other because it is sponsored actively by all the ITU Members so that the "risk of fragmentation into regional standards or the domination of large and powerful manufacturers can be avoided."[96] Although there appear to be exceptions such as ETSI, "the alternative of establishing a separate organisation outside the CCITT is

not seen as a viable option, since time is limited to address the rapid and costly changes presently being planned and implemented."[97]

To sum up, conflicts and coalitions within the CCITT concerning standardization are not simply demonstrating the conventional polarization, but a *pot-pourri* of relations between the Union and Members, between Members (States and non-States) themselves, and between the Union (CCITT) and other standards organizations. In order to meet all these various challenges raised from the *mediums* and the *duties (standardization)* of the CCITT, the WATTC-88 adopted future action items as the associated supporting role of the CCITT and resolved its controversial working methods. However, it is more significant that each Member and participant concerned together with the ITU itself needs to consider the standardization as not merely technical issues but econo-political ones, which need 'management decisions' in the face of rapidly evolving and highly competitive telecommunications environments.

2. Discussion: Interlinkage between R.O.Korea and the ITU through CCITT's Standardization

2.1. Methods of R.O.Korea's Behaviour Concerning CCITT's Standardization within the ITU

2.1.1. R.O.Korea's Behaviour within the CCITT: As The Medium

R.O.Korea has participated in the CCITT - mainly its Plenary Assemblies - since 1956, when the First CCITT Plenary Assembly was held in Geneva. Despite technical-oriented character of the CCITT (Ch.VII.1), political arguments such as Korea's membership[98] were raised in the Plenary Assemblies parallelled with those in the Plenipotentiary Conferences in the 1950s and the 1960s. At that time, R.O.Korea rarely attended Study Group Meetings. The more the Study Groups dealt with complex technical issues (or less political issues), the less Korean diplomats and policy-makers took part in the Meetings. As a result, there was less information available, and less recognition of the Study Groups and their work.

This behaviour continued until the early 1980s.

Table 7-4: R.O.Korea's Participations in the CCITT Plenary Assemblies

Year	Meetings	Place	Korea's participations
1956	1st	Geneva	2 Korean delegates from MOC & MOFA
1960	2nd	New Deli	-
1964	3rd	Geneva	2 Korean delegates from MOC & MOFA
1968	4th	Mar del Plata	3 Korean delegates from MOC & MOFA
1972	5th	Geneva	7 Korean delegates from MOC & Korean Ambassodor in Geneva (MOFA)
1976	6th	Geneva	-
1980	7th	Geneva	7 Korean delegated from MOC & MOFA
1984	8th	M.Torremolinos	11 Korean delegates from MOC & KTA
1988	9th	Melbourne	17 Korean delegates from MOC(3), KTA(7) ETRI(3), DACOM(2), KISDI(1), OTELCO

Note (-): Data are not available

It was during the 1980s that R.O.Korea participated in various CCITT *mediums* including the Study Group meetings. As Table 7-4 demonstrates, both the pattern and number of Korean delegates have also changed over time. It is worth noticing that, considering the technical character of the CCITT - especially its Study Groups -, newly instituted common carriers (KTA & DACOM) and research institutes (ETRI & KISDI) began to replace delegates from the Ministry of Foreign Affairs (MOFA). Consequently, R.O.Korea began *functionally* to participate in the CCITT through technical experts rather than diplomats.

In particular, R.O.Korea's behaviour within the CCITT altered from just 'participating' in its various mediums, to 'hosting' the VIIIth CCITT SG XVIII Working Group Meeting in Seoul (1988).[99] However, several questions are raised: why did R.O.Korea host the Study Group Meeting ? What did R.O.Korea want from it ? And, could it be cost-effective ? Officially, it was meant to be a part of the World Communications Year (1983) activities organized by the ITU. Yet, as S.D.Krasner (1985) argues, it could be that R.O.Korea desired to enhance its prestige both in the domestic and international telecommunications community. Or it may be that as R.O.Keohane (1982) and S.D.Krasner (1982) argue, R.O.Korean administrations organising the Meeting aimed to exchange 'information' with participating experts.[100] Overall, considering R.O.Korea's circumstances where still only

few administrators have access to the CCITT and the advantages of universal telecommunications standards (Ch.VII.1), such action appears to be a 'top-down' approach introducing the CCITT and its universal standards to domestic telecommunications sectors, especially academics and industry.[101]

However, *pro* and *con* arguments appeared concerning the hosting of Meeting. Apart from the achievement of the administrators' goals, a cost-effective analysis must consider what the SG XVIII Seoul Meeting itself achieved. From this aspect, "agreements were reached on the text of a new Recommendation (I.121) dealing with broadband aspects of ISDN. These new Recommendations are guidelines to the objective of providing more detailed Recommendations on all broadband aspects of ISDN during the next study period.[102] In general, hosting the Meeting enabled the CCITT Study Group as well as R.O.Korea to meet the forthcoming B-ISDN era.

Nonetheless, some interviewees are sceptical about whether the benifits could exceed the costs. They argue that due to high costs of holding the Meeting, it was not *cost-effective* . Others argue that the expense amounting to 255,474,000 won (about US$ 363,960) could be used for direct investments such as R&D. Others further pointed out the volume of foreign debt that R.O.Korea faced (Ch.III).

Referring to the question of whether the Meeting could be the *medium* to promote R.O.Korea's national status at the international level, we can look at foreign participants or delegates at the Meeting. There were about "380 delegates from 25 countries. They consisted of 27 Administrations, 17 RPOAs, 31 scientific or industrial organizations and 2 internationaal organizations."[103] These figures imply that the number of countries (25) represented was relatively small out of 166 Member States. Also most Members were from the advanced countries with a relatively huge number of delegates from the US (82), Japan (54), F.R.Germany (32), Canada and the UK (27), with only a few from developing countries such as Iran (3) and Philippines (2). There were no Eastern bloc countries other than Yugoslavia (1). Also, there were none from African Member States[104], who

might in practice be those to whom R.O.Korea needed to publicise itself and its capabilities.

In brief, within the CCITT as the *medium* R.O.Korea tended to *literally* participate in mainly the Plenary Assemblies until the late 1970s. The participants were generally diplomats or administrators. Since the 1980s, it has *actively* participated in the CCITT's various mediums with an increasing number and diversified pattern of delegates. In particular, the participants in the Study Group Meetings have become more likely to be technical experts rather than diplomats. Also, despite raising *pro* and *con* arguments, it has used the ITU through holding the CCITT Meeting in Seoul. All these actions are in contrast to G.Codding Jr. and A.Rutkowski's (1984) argument that developing countries have little chance to participate in the CCITT.

2.1.2. R.O.Korea's Behaviour concerning the CCITT: As The Duty - Standardization

Another way in which R.O.Korea has used the CCITT is in relation to the CCITT's *duty* - standardization (Ch.VII.1). *Internally*, the Korean Government (MOC) has been in charge of telecommunications standards under the domestic telecommunications law. Despite liberalising internal telecommunications infrastructure and its regulations (Ch.III), the Government's role has not yet significantly changed. That is, the new Basic Telecommunications Act states that the Telecommunications Policy Bureau (MOC) has a right to "set and control standards for telecommunications technology."[105] In other words, there is not a particular body except the MOC which domestically authorizes telecommunications standards. However, it is worth noting that the 'domestic telecommunications standards' suggest that the Government - or the Government agency - has used the ITU regimes (CCITT standards) for domestic purposes.

It has also been of importance to ensure that, despite the Government's overall authority, newly instituted telecommunications infra-organs began to share the CCITT's work. For instance, based on a complete set of

translated CCITT Recommendations (standards) in Korean, ETRI develops technologies in order to enable domestic telecommunications industry to manufacture internally and internationally compatible equipment.[106] Yet, translation of the Recommendations into Korean can be also looked at in two ways. One is R.O.Korea's ability and determination to develop telecommunication technologies and facilities on the basis of CCITT standards. The other is the translating cost. It is ironical that countries like R.O.Korea and less developed countries, whose languages are not mostly the six official ones, need to translate the large volume of Recommendations into their own languages at their own cost. In contraast, most developed countries do not need to spend extra money to do so, because their languages are mostly official ones which are translated by the Union's own regular budget (Ch.IV.1).

Whilst, being a dedicated member, KTA is not only actively participating in the various CCITT's *mediums*, but also plans to establish a wholly dedicated organization for ITU activities to further strengthen participation, to smooth the flow of technological information and to expedite the propagation of information to all sectors of the domestic telecommunication industry.[107] In particular, its own Research Centre (KTARC) is studying CCITT and its standards. For instance, the KTARC published a series of books entitled *Analysis of Technological Trends of CCITT*, which covers CCITT's ten Study Groups and GAS.[108] Furthermore, it held seminars regarding the CCITT's work, where not only the KTA but also domestic telecommunications industries took part. In addition, it has mid- and long-term research plans for studying the CCITT Recommendations, as seen in Table 7-5.

Overall, these actions seems to have used the *consequences* rather than the *processes* of the CCITT's standardization. That is, although R.O.Korea has implemented CCITT standards in its domestic fields through carrying out R&D projects and investments, developing indigenous technologies, and producing equipment, it has not overtly raised any strong interests in setting-standards within the CCITT. In this context, it is arguable that R.O.Korea is not interdependent with, but **dependent** upon, the developed countries (North) which are the major actors of the CCITT's work. This

argument can be supported by the fact that the *de facto* standards of multinational companies (e.g., SNA) hinder the *de jure* standards recommended by the CCITT (Ch.VII.1).

Table 7-5: Schedules of Research Activities Concerning the CCITT (KTARC)

1987 :	- comprehending research systems of ITU and CCITT - analysing technological trends in research areas of the CCITT - informing the latest technologies of the CCITT to the country
1988 :	- establishing a foundation of KTARC studying the CCITT and its activities ; - counterplanning participations in the Xth CCITT SG Meetings ; - analysing research trends of four Study Groups of the CCITT and its applications to the country.
1989 :	- analysing research trends of international organizations ; - expanding the major research areas and specialising in each section (securing professional manpower) ; - establishing complete research systems.
1990 :	- continuing analysis of research trends of international telecommunication organizations ; - upgrading internal technological standards relating to activities of the CCITT , studying international organizations, and achieving advanced stages of participations.

(Source: J.W.Hong (1988:319))

However, influenced by the Government-led policy called *internationalization* (Ch.III), R.O.Korea joined a regional standards organization (e.g.,Asian ISDN Council). This is not only to develop regional telecommunications standards. But also, as C.J.Dahlman *et.al.* (1985) argue, R.O.Korea wants to build 'local capability' through internal R&D and external diversification of its membership of regional and international organizations. Effects of the membership are firstly that R.O.Korea takes the key role as the Chairman of Working Group. In contrast to the CCITT as a governmental-organization under the auspices of the ITU, the AIC also offers easy access to the meeting to many [especially private sector] actors (e.g., SSI, OTELCO, Daewoo Telecommunications, GSS etc.). Furthermore, various infra-organs undertake research and activities concerning various international organizations such as the ISO and IEC.[109] Nonetheless, there is little evidence that those who are responsble for each organization have exchanged their experiences in order to better implement the CCITT's work within either R.O.Korea's or ITU's structure. But, all these actions now enable R.O.Korea to participate in the process of the

CCITT's standardization through presenting contributions [110], rather than purely receiving information (standardization) from the CCITT.

It is also worth noting that, in contrast to **neo-mercantilists** such as L.McKnight (1987 a & b), ways in which R.O.Korea's infra-organs have used the CCITT's standardization are still *corporatist* under the bureaucratic-authoritarian regime rather than conflicting with one another based on commercial interests. That is, the Korean Government has the overall power to control domestic telecommunications standards. These are mainly studied or ammended by the government-owned research institutes on the basis of CCITT's standards, in order for common carriers (still public enterprises) and users to use equipment and/or services, that local industries supply.

2.2. Reasons Underlying R.O.Korea's Behaviour Concerning CCITT Standardization within the ITU

Reasons for R.O.Korea's behaviour concerning CCITT's standardization can be explained by both internal drives and external influences. These can not be easily separated in what is a changing national and international telecommunications community.

Internally, influenced by the liberalisation telecommunications infrastructure, various entities began to implement the CCITT (both the *mediums* and *duties*) more 'functionally'. *Externally*, the ITU itself recommended Members - especially developing countries - to actively participate in the CCITT's work. In particular, the importance of the 'world-wide standardization' was stressed by the Nice Plenipotentiary Conference (1989), where Member States decided on it as a new ITU purpose for entry in the Constitution (Ch.IV & VII.1). Furthermore, as an Government official said, the CCITT standards are more and more required for 'trade' in telecommunications facilities.[111]

In practice, although R.O.Korea improved its technical and operational know-how for telecommunications facilities, a primary reason why it needs the CCITT as its foremost 'information source' is due to its vulnerability

in bi-lateral arrangements: the developed countries are no longer willing to transfer essential technologies to R.O.Korea. Moreover, R.O.Korea's telecommunications infra-networks are interlinked with a lack of compatible foreign systems transferred from different countries. For these reasons, R.O.Korea recognized how vital universal standards are, and consequently sought alternatives in order to develop indigenous telecommunications technology and to obtain technical self-sufficiency. This is well demonstrated by Dr.M.Oh's (Minister of Communications: 1987) speech at the opening of the CCITT Study Group Meeting in Seoul:

> "[...] international standardization is one of the most important tasks we must expedite. [...]"[112]

Nevertheless, the reasons why R.O.Korea did not (or could not) raise its interest in the *processes* of CCITT's standardizations are mainly due to a lack of its own national standards and management skills. In particular, because of the co-existing different (national and foreign) systems in its domestic telecommunications infra-networks[113], R.O.Korea has to consider not only domestic standards but also those of other countries or even companies (i.e., *de facto* standards). In practice, these transferred telecommunications facilities which lack univeral standards effect not only costs of purchase, maintenance, and operation in R.O.Korea's domestic fields, but also its behaviour within CCITT's standardization process.

In addition, R.O.Korea does not have a particular national and regional standardization body dealing with telecommunications, such as the T1 Committee (US) or European Standardization Telecommunications Institute (Ch.VII.1). It is important to notice that the Asian ISDN Council (AIC) consisting of two Working Groups mainly deals with technology, trials, standardizations, planning, and applications of ISDN. It does not set its own standards but just studies the implications of standards which have already been decided by the CCITT and other national and regional organizations (e.g., TTC, T1 Committee, CEPT etc.).[114] Therefore, membership of the regional organization does not provide R.O.Korea with a particular opportunity to form coalitions with other members in order to establish any regional-based standard.

For these internal and external reasons, despite improvement of its methods of implementaion, R.O.Korea is still in a position to observe rather than alter CCITT's standards (*duties*) within the CCITT (*mediums*). Here, it is of importance to acknowledge the complex CCITT standardization issues and to improve management skills in internal and external structures, in order to better and more efficiently utilize them.

Chapter VIII.
Interlinkage Between R.O.Korea and The ITU Through Regulatory Functions: A Case of World Administrative Telegraph and Telephone Conference - 88

Another major function of the Union is to 'make regulations'.[1] The World Administrative Telegraph and Telephone Conference (WATTC) is an ITU infraorgan to operate the regulatory functions. This section will look at the functions and implications focusing on the WATTC-88, which was convened in Melbourne (1988).

The WATTC-88 was one in a long line stretching back to the "Dresden Conference in July 1850, i.e., it was the 25th in that continuum.[2] Many commentators[3] emphasise the significance of WATTC-88 not only for the Union but also for the entire telecommunications community, with regard to the development of national and international telecommunications. Due to a general need to update the regulations[4] and due to the specifically "important new dimension to ISDN work in the CCITT"[5], WATTC-88 was part of the process necessary to establish regulatory rules for cooperation which encompassed the changing telecommunication environment.[6] In this context, the mandate for a new WATTC was formulated at the Nairobi Plenipotentiary Conference (1982), where Resolution No.10 was adopted and appended to the new International Telecommunication Convention. According to Resolution No.10:

> "a WATTC shall be convened immediately after the CCITT Plenary Assembly in 1988, to consider proposals to establish a broad international regulatory framework for all existing and foreseen new telecommunication services."[7]

In anticipation, the ITU sponsored the first legal symposium on international information networks as part III of the 4th World Telecommunication Forum in October 1983. In October 1984, the WATTC-88 preparatory process within the CCITT began at the VIIIth Plenary Assembly meeting at Malaga-Torremolinos[8], with the setting up of the Preparatory Committee for WATTC (PC/WATTC) under Resolution No.15. According to the Chairman of the PC/WATTC, M.Negro (Spain), "there were four meetings for a

duration of twenty days over the period 1985 and 1987, with 84 contributions and 14 reports from CCITT Study Groups I, II and III."[9]

The Committee produced a PC/WATTC draft, which basically aimed to "consider proposals for a new regulatory framework to cater for the new situation in the field of new telecommunications services."[10] Many arguments had surfaced at the PC/WATTC meetings and were evident in its draft. In particular, the US and some European countries argued that the PC/WATTC draft lacked flexibility.[11]

Although it is rather unusual for the Secretary-General to propose any kind of agenda or draft (Ch.IV.1), in order to meet the lack of consensus and the pressure from influential Member-States such as the US[12], Mr.R.E.Butler circulated an informal draft document in May 1988.[13] This draft was regarded as a compromise or alternative to that of PC/WATTC. There were also a number of draft proposals handed by Member-States to the Conference. There were therefore several texts consisting of the PC/WATTC draft, Butler's draft, and each Member-State's proposals, all of which demonstrated conflicting interests.

In general, WATTC-88 can be discuseed from two perspectives. One is that of a *medium*, where various actors form coalitions or conflict with one another. The other is as an *instrument* - the International Telecommunication Regulations - which involves various telecommunications issues. Overall, WATTC-88 intended to draw up a treaty-level international regime, which "will govern the flow of international telecommunications into the next century".[14]

Against this background, in order to look at interlinkage between R.O.Korea and the ITU through the regulatory functions, this Chapter will firstly focus on issues raised by International Telecommunication Regulations among Members within the WATTC-88. In turn, it will discuss *methods and reasons underlying R.O.Korea's behaviour concerning issues of WATTC-88, considering structural variables of both Korea and the ITU.*

1. Implications of WATTC-88 within the ITU

1.1. WATTC-88: As A Medium

There are several aspects to consider in the structure of WATTC-88 as a *medium*. Table 8-1 shows several different kinds of meetings consisting of Plenary, Working Groups A and B, four Committees, and several immediate meetings which were held at the same time. If countries such as developing countries had only one delegate or a small number(s) of delegates, they would not have been able to participate in all the meetings convened. Furthermore, the last few days unscheduled meetings were held until the early hours of each morning, which indicates how difficult it was for WATTC-88 to reach consensus among the actors. Indeed, the actors were divided according to their interests, as follows.

Table 8-1; Structure of the WATTC-88 (As A *Medium*)

	0900 - 1200	1430 - 1730	1730 - » 2000† - » - 0200†
28 Nov, (Mon)	Opening ceremony	Plenary	
29 Nov, (Tue)	Plenary	PL/A PL/B	
30 Nov, (Wed)	Plenary	Plenary	
	COM,3 COM,2 COM,4	PL/A PL/B	
1 Dec, (Thu)	Plenary PL/A	Plenary PL/B	COM,1 »
2 Dec, (Fri)	Plenary PL/A	Plenary PL/B	Plenary »
3 Dec, (Sat)	Plenary		
5 Dec, (Mon)	Plenary	Plenary	
	COM,2 PL/A PL/B		
6 Dec, (Tue)	Plenary	Plenary	COM,1 »
7 Dec, (Wed)	COM,3 Plenary	Plenary	-- Plenary -»
8 Dec, (Thu)	Plenary	Plenary	-- Plenary -»
9 Dec, (Fri)	Declarations / Signing ceremony & Closure		

Notes: COM - Committee ; 1 - Steering COM, ; 2 - Credentials COM, ;
3 - Budget Control COM,; 4 - Editorial COM,
Plenary - The main arena , where the final decisions took place,
PL/A - Working Group A of the Plenary - charging and accounting
PL/B - Working Group B of the Plenary - Resolutions, Recommendations & Opinions
† - These meetings were not originally scheduled, but took place due to difficulties in reaching compromise,
(Source; TT-88/Doc.48, WATTC-88, Melbourne)

1.1.1. **Australia, Spain and the ITU**

The first category of actors is those who took leading roles in either preparing or hosting WATTC-88 such as Spain and Australia. These actors wanted the WATTC-88 to be successful for reasons of national prestige. For instance, Spain, whose Chief-delegate (M.Negro) was the Chairman of the PC/WATTC, was strongly in favor of retaining the text of the PC/WATTC draft.[15] According to M.Negro,

> "the draft not only took three years of difficult debates for the WATTC-88, but also demonstrates the regulatory frame within which international telecommunications were to be considered varied from country to country [with] different interest [...] regarding to international telecommunications and hence regulations."[16]

As a host country of the Conference, Australia would obviously want the WATTC-88 to be successful. Because of changes in domestic telecommunications[17], in contrast to Spain, its initial position was in favour of the minimum necessary scope for the regulations.[18] However, rather than insisting on its own agenda, this attitude changed during the Conference towards one which endeavoured to negotiate the conflicting interests. Australia initiated the ›Melbourne 'package-deal'‹[19] in association with the African countries led by Senegal, the Secretary General and a few others.

The ITU and its Secretary-General (Australian) were also the main actors who needed and wanted the WATTC-88 to be successful at all costs. The Union's interest was to retain its status through strengthening its *instruments* such as the new Regulations and the CCITT Recommendations.[20] On the one hand, it is worth noting that there seemingly appeared a rather uncomfortable relationship between the Secretary-General and M.Negro (Spain), because the former submitted an ›alternative draft‹ to the ›PC/WATTC draft‹. On the other, introducing the alternative draft was regarded as a means of salvaging WATTC-88.[21]

1.1.2. **The North: US & its Allies**

Another important set of actors were the US-UK-corporate alliances. These were joined by New Zealand, the Nordic and some other European countries, known as the North. These actors, chiefly the US, argued that they could not accept key portions of the PC/WATTC draft. The main reason for its stance was obviously grounded in its domestic liberal telecommunications policy. This position was supported by pressure from multinational companies (MNCs) such as IBM and AT&T (USA).[22]

In some ways, the US position appeared to be in line with the Secretary-General's alternative draft which allowed controversial 'special arrangements.'[23]. However, there were significant differences between the US and the ITU's Secretary-General. In contrast to the latter, the US tended to "downgrade the importance of CCITT Recommendations"[24], along with the Regulations.[25] This intention can be illustrated by its formal declaration at the Final Protocol[26] that it was strongly oppose to any form of 'obligation' being attached to Recommenations, but favoured regulations of less status and minimal scope.

Some commendators such as G.Finnie (1988) anticipated that the US even intended to ensure that WATTC failed so that the outcome was expected to be a continuation of the 1973 regulations.[27] In the absence of any new regulation relating to 'telecommunications services (chiefly new and value-added services)', multinationals are likely to specialize in areas of the new services market where the US and its multinationals have maximum advantage and expertise."[28] In particular, such lack of agreement at WATTC-88 would have a serious impact on the ITU, and this was said to be the real object of the US. As Dr.T.Irmer argued, "if the WATTC fails, it would be a disaster for the ITU and it could no longer carry out its functions."[29]

Despite these expectations, in practice, the US tended to support the ITU and WATTC-88 as long as it could get what it wanted without being isolated from the majority. What then did the US want to get from the

WATTC-88 ? In order to promote its national economies through the development of telecommunications services and facilities, the US and its allies wanted WATTC-88 to be based on liberal policy. In order to do so, "any new International Telecommunicatons Regulations must consist of a set of general principles capable of application in varying national regulatory environments, and must not mandate particular domestic consequences as well as telecommunications regimes."[30] As a result, the American Administrations* strongly supported deleting Article 1.7 of the PC/WATTC draft which it regarded as mandating a particular form of domestic regulation. Instead it was in favour of accepting the "special arrangements" provision in Article 9 of the Butler draft allowing special services.[31]

These proposals of the US were supported by a few of its allies. The UK supported the US, on the grounds of their traditioncally close relationship together with similar policies of market-oriented liberalism, i.e., a preference for minimum rules.[32] However, in contrast to the US, the UK placed emphasis on its concern to "allow 'flexibility' to *regional integration bodies* and other groups of Members in similar situations seeking to work closely together on a regional basis to develop their telecommunications markets and to give them a competitive orientation".[33] The UK, as one of the European Community, was concerned about its "obligations under the Treaty establishing the EEC"[34], even though there appeared to be cleavages among Member States of the EEC.

Furthermore, this group consists of actors such as New Zealand whose telecommunications sector was under transition towards liberalisation at that time[35], and Nordic countries including Sweden, Norway, Finland, Denmark and Iceland[36] whose basic position was *pro*-liberalists. According to Dr.P.Tarjanne (Finnish delegate and ITU's new Secretary General), the Finnish telecommunications system is one of the most liberal and open in Europe.[37] Sweden also wanted the Regulations "to reflect the interests of the service provider and the user."[38]

Japan noted that the new Regulations should take into account competitive fairness among different parties.[39] Although it tried not to

exacerbate sensitive issues, due to changes in its domestic telecommunications policy and the implications of international value-added network services, it placed emphasis on wordings such as 'other organization and person' instead of 'administration and RPOAs'.[40]

Canada also shared basic principles (e.g.,liberal policy) with the US, particularly since telecommunication services had been already included in a bi-lateral Free Trade Agreement[41] between the US and Canada. However, because of fear of US multinationals in the Canadian market, especially in special services, Canada proposed that "the new Regulations should distinguish between services 'generally available to the public' and 'services not generally available to the public', with each subject to a different degree of obligation under the various provisions of the Regulations.'[42]

All in all, these actors were basically in favour of establishing 'competitive' rather than 'authoritative' regulatory frameworks through the ITU regimes (*viz.*, the new Regulation). However, each actor performed rather differently depending on its own interest or domestic circumstances.

1.1.3. **The North/West & South: France & its Allies**

France and its allies - some European countries such as Greece[43], Italy and previously French African colonies - formed a strong force against the pro-liberalists. Their main arguments regarding the new Regulations were based on three concerns. Firstly, "the quality and financial feasibility of the public service and the priority given to protection of life telecommunication" should be considered in order to maintain interconnection of international telecommunications networks. Secondly, France was very sensitive to "the international provision of value-added services, because these services are critical not only to cater for business activities carried out on a world-wide basis, but also to reflect the increasing role of telecommunications in modern management and production methods." Therefore, they endorsed the significance of the CCITT Recommendations as well as the new Regulations, stressing that "Member countries should assume some responsibility for their nationals who

offered services in other member countries." In addition, "the new Regulations should apply to services offered to the public, since services which were wholly private lay outside the scope of the ITU's concerns."[44]

France believed it right to include "the possibility of requiring prior authorization for the provision of any telecommunication service, including the so-called 'value-added services', and of subjecting the provision of the latter type of service to certain conditions (e.g., prohibition of the resale of telephone service, application of an added value to simple data transport, compliance with certain technical requirements) laid down by the relevant national regulatory authority." Moreover, "the commercial provision of international value-added services, particularly on leased circuits connected to the public switched network, should be explicitly authorized, and the commercial conditions for these services should be specified."[45] In contrast to the US and its allies, France tended to be in favour of 'the force of international agreements' - authoritative rules laid down by the ITU's regimes.

The third agenda raised by France was rather unique differing from the other industrial countries. It emphasized "cooperation between the various parties that should enable all the countries concerned, particularly the developing ones to benefit from the growth of value-added services offered internationally to the public" or to secure "for administrations and network operators of developing countries a fair share in the growth and diversification of international telecommunications."[46]

In addition, one of the most controversial items France suggested to the Conference was that of an ›access fee‹. This item arose initially because of the new specialised services, which France along with other most PTTs worry about. It wanted to ensure that a Member could reserve the right to charge an access fee in the event of interconnection of leased circuits with the public switched network. The intention was to ensure that the providers of 'value-added services' bore a reasonable share of the cost of operating and developing public infrastructures. France and its allies wanted to ensure *fair competition conditions* within the new EEC competitive frmework. For this reason, it suggested the access fee be

charged in all cases where both ends of an international leased circuit were connected to a public network. Simply it aimed to prevent the nascent liberalised European telecommunications market from being handed over to the UK (e.g. the Cable & Wireless) or to stronger and better prepared American and Japanese companies.

1.1.4. **Between the North & South: Newly Industrializing Countries (NICs)**

There are several groups even in the newly industrializing countries (NICs): One consists of Latin American countries such as Brazil. Another is composed of China and India who have large geographical areas and populations.[47] Another consists of four Far-East countries recently called Newly Industrializing Economies (NIES) including R.O.Korea, Taiwan, Singapore and Hong Kong. These countries face practical dilemmas concerning bi-lateral relationships with a few developed countries such as the USA. In particular, the Asian NICs (or NIES) lack coherence since they have no binding regional community. Culturally, historically, and geographically, regional divisions are far deeper and broader than those in Europe."[48] As a result, unlike the EEC and African/Arabic countries, these actors hardly articulated coherently or overtly what they wanted from the WATTC-88.

Most of all, Brazil's proposals demonstrated a rather ambiguous position/action. Originally, on the matters of ›services in trade‹, Brazil along with India was the very nation which strongly "opposed the inclusion of services right from start" at the General Agreement of Trade and Tariff (GATT). More open trade in services was not regarded as being in its interests.[49] Nevertheless, what Brazil articulated at the WATTC-88 was seemingly in line with the US and its allies. It said that "the new Regulations should not be used to restrict the service provision possibilities made available to governments as a result of technological development."[50]

In contrast to Brazil, India appeared to share its views with developing countries. For instance, India proposed that "it would be desirable to indicate basic telecommunications (e.g.,telephone and telegram)

services in order to be available to the public in all countries especially the developing countries." Unlike the developed countries such as the US, India emphasized that developing countries may not have the necessary resources to introduce higher technology services for quite some time. In particular, "all these (special networks, systems, or applications, value-added services and the related transmission media) cannot be provided by the national telecommunication administration*, it is therefore necessary to authorize organizations of persons to provide these special features to operate them."[51]

China tended to regard telecommunications as a means of stimulating its development, while promoting international cooperation". In its circumstances, "telecommunication capacity and technical standards still fell short of the requirments of its economic, social and cultural development." However, as "China's long-term state policy of reform and opening to the outside world attached great importance to the acceleration of telecommunication development", so not only China but also several others such as R.O.Korea listed telecommunications as one of the industries having priority in development. In return, the Governments were endeavouring to provide new types of telecommunication services in order to create sound physical conditions for international cooperation.[52]

These newly industrializing countries in general wanted the new Regulations to be considered in terms of divergent countries' levels of telecommunication development and systems of administration, so that each country should be free to establish its national telecommunication policies and laws. That is, they placed emphasis on the 'sovereign rights' of Member countries. To some extent, some of them may have technical and economic 'capabilities', which led them to share some views with those of the developed countries. Yet, due to their bi-lateral arrangements and different stages of development, they face differences and difficulties with both developed and developing countries as well as among themselves.

1.1.5. **The South: African v Other Developing Countires**

The general principles proposed by developing countries were in line with other Member states or actors with regard to recognizing the increasing importance of "telecommunication services."[53] Yet, it is in the area of telecommunications infrastructure that the Third World countries are at various stages of development, as Mexico pointed out.[54]

This heterogenity within telecommunications infrastructure of the developing countries divided into two camps at the WATTC-88: First, backed by France, African countries raised strong and coherent voices, which conflicted with those of the US and its allies. They would like to have authoritative rules through ITU's new Regulations, in order to reduce their dependence upon the developed countries threatening their national sovereignty[55] by the installation of telecommunications facilities and provision of their services. They are aware of controversies, as Dr.Bouarfa argued:

> "the problem in developing countries is that we are working with tools that were not made for us."[56]

The other camp was the rest of the developing countries who are mainly located in Asia and America, so that they are very much influenced by or concerned with the USA. Unlike the former, these countries aware of America's influence appeared to be rather silent on their agendas. In a sense, some countries like Indonesia tended to mediate or modify the troublesome issues.[57] Others like Colombia regarded the use of the new services as of importance because these should be directed towards stimulating the development of telecommunications and their extension to the more isolated areas of the world.[58] All these attitudes may reflect their domestic conditions, but mainly seemed to be taking account of the US position.

However, many of both camps feared the multinationals of the developed countries. For instance, Fiji, Central African Republic and many others argued that "their greater difficulties had resulted in various revenue-sharing arrangements with operating agencies which were weighted against

national corporations. An acceptable formula should be devised to guarantee national bodies an equitable return on their infrastructure investment."[59] Due to domestic conditions, moreover, those such as Kenya, Lebanon, and Nigeria wanted to re-examine "charging and accounting procedures and pay attention to the sharing of revenue."[60]

Against this background, they would like to limit access to networks and leased lines, technical requirements to standardize hardware, and the right of Members to disallow foreign operators within their own territories. In particular, Senegal believed that "if telecommunications were left to market forces alone, they might tend to gravitate exclusively towards the more profitable sectors, to the detriment of a harmonious and more balanced international network." Hence, it stated that "it is absolutely essential for States to ensure the orderly promotion of telecommunications, the international component of which still provides a means of generating internal resources to finance the development of telecommunication infrastructures as a whole".[61] These African countries' views were firmly demonstrated in the Final Protocol[62], where they reserved for their Governments the right to "reject any provision of a mandatory nature, particularly in connection with the special arrangements, which are liable to be in any way detrimental to the operation of its own telecommunications facilities and services."[63]

All in all, their major agenda was to "protect the rational use and development of their networks, particularly in a situation where much still remains to be done in the area of traditional basic services, and where international traffic yields perhaps the biggest part of the telecommunication administration's revenue."[64] As most of them often said during the Conference, they did not want 'economic harm' through allowing foreign entities to take-over their major source of revenue without any regulation.

1.1.6. **The East & South: USSR & its Allies**

Eastern countries such as USSR and Bulgaria supported the general outline of the draft Regulations prepared by PC/WATTC, although they wanted

to modify some of it. Because it placed emphasis on "success of the WATTC-88, and the sovereign right of each country to regulate its own telecommunications, its fundamental agendas were in line with those of many other developing countries. With regard to 'special arrangements', it emphasised "the provisions requiring that any entity establishing and operating an international telecommunication network to provide an international telecommunication service must obtain *permission* from the ITU Member and observe the Regulations and CCITT Recommendations."[65]

It is worth noting that, unlike those of the US and its allies and of developing countries, the major agenda of the Eastern bloc consistently appeared to be homogeneous. That is, there seemed to be strong relationships between the *core* (the USSR) and the *periphery* (other communist countries). In particular, these countries tended to be aware of the newly emerging warm East-West relationships: None of them particularly opposed agendas just because they were raised by the West.

1.1.7. **Regional & International Organizations Concerned**

Regional and international organizations, which have directly and indirectly impacted on the telecommunications sector of each Member state, were also significant participants in WATTC-88 as *observers*.

(1). **European Economic Community (EEC)**

The EEC has a binding Treaty, which obligates its 13 Member States.[66] Its position was that unless the new Regulations were compatible with Community law and the principles of EC telecommunications policy, it would not be willing to accept them. What was then its telecommunications policy? Targeting its single market in 1992, the Community wanted to liberalise its market for telecommunications terminal equipment and for value added services.[67] It was pressed by the growing number of joint research initiatives among Member states as well as joint ventures among the larger high-technology companies.[68]

The aim of the liberalisation strategy, which the Community set out in its landmark Green Paper of 1987, was to break up the monopoly powers of national telecommunications administrations. Because the new Regulations will have a major influence on the Community's future external relations in telecommunications, the Paper placed emphasis on fully supporting and strengthening WATTC-88 as the major stabilising factor in international telecommunications. From this point, the Community proposed that the new Regulations should provide the 'necessary rules' that need to be agreed in order to promote universality of public services, without hindering the development of competitive services.[69]

However, although the Community wanted a *coherent position* among its members[70] in order to seek "a high-priority"[71], there was in practice a north-south split within the Community. As discussed above, the more liberal northerners such as the UK and the Netherlands were keen to push for the maximum liberalisation. The more southern member states such as France and Spain were keen to keep a major sector of activity, including data transmission, reserved for their PTTs.

(2). **International Telecommunications Users Group (INTUG)**

One major change in the current telecommunications environment is that **users** create the demands for new services and facilities. These demands depend inevitably on interconnectivity between nations.[72] Inasmuch as the users are recognised as being of significance, so INTUG has a job to do. It has 16 full member associations that have up to several thousand members including domestic and professional users, small companies, and large corporations. Being a member of the CCITT since 1979 as an international organisation, it took part in the meetings of the PC/WATTC.

It believed that "the Regulations should encourage access to a basic telephone service for all users and also ensure the provision of dedicated international facilities for those requiring them and the interconnection of such facilities to public services ... [with] a wide choice of services to be provided competitively, particularly where value is added to a basic service." Also, "they note that such services have developed best where

there has been minimal regulations."[73] All in all, it was in favour of minimal rules being imposed on service providers and users for both basic and value added services.

(3). **Other Regional Organizations**

In contrast to the EEC and INTUG which were more likely to share their positions with those of the US and its allies, some regional organizations such as Pan-African Telecommunication Union (PATU) and Asia-Pacific Telecommunity (APT) tended to demonstrate those of the developing countries and their difficulties. For example, these regional organizations - especially, PATU - proposed that "in view of the critical economic situation still facing the developing Members of the ITU,[...] the **charging and accounting** arrangements should be such as not to overstretch those Members' ability to settle their accounts in a timely fashion." Moreover, they believed that "the new Regulations should recognize the **sovereign right** of each country to regulate its own telecommunications and should be flexible and contain general principles that could be applied without exception to all providers of international telecommunication services and facilities." Overall, they favoured that the Regulations should "protect the interest of the developing countries as regards the basic services", as well as reaffirm the "role of the ITU as the world body responsible for all matters of multilateral telecommunications and the promotion of international cooperation in that field".[74] All these organizations participating in WATTC-88 supported their regional members.

Although some international organizations such as UN Educational, Scientific and Cultural Organization (UNESCO), European Conference of Postal and Telecommunications Administrations (CEPT), the Organization for Economic Co-operation and Development (OECD), the General Agreements on Tariffs and Trade (GATT), the INTELSAT, and the INMARSAT had been invited, they did not attend WATTC-88.

1.2. WATTC-88: As An Instrument - Regulation

The Agenda of WATTC-88 was to consider proposals submitted by Members and by the IXth Plenary Assembly of the CCITT for a new regulatory framework and adopt as necessary new regulations to achieve this purpose. It considered the appropriate steps to be taken for the replacement of the Telegraph Regulations (1973) and the Telephone Regulations (1973), by any newly adopted Regulations. Further, it was to review, and if necessary revise, any Resolution, Recommendation or Opinion adopted by the 1973 WATTC.[75] From this aspect, WATTC-88 is an ITU regime (International Telecommunication Regulations).

Table 8-2: Structure of the Final Acts of WATTC-88 (As An Instrument)

Preamble :	It deals with the matter of sovereign right to regulate its telecommunications conferred on each country
Article 1:	Purposes and scope of the Regulations
Article 2:	Definitions
Article 3:	International network
Article 4:	International telecommunication services
Article 5:	Safety of life and priority of telecommunications
Article 6:	Charging and accounting
Article 7:	Suspension of services
Article 8:	Dissemination of information
Article 9:	Special arrangements
Article 10:	Final provisions

The structure of WATTC-88 as an *instrument* is illustrated by Table 8-2. The structure of the Final Acts of WATTC-88, however, changed from that of both the PC/WATTC draft and R.E.Butler's (ITU's Secretary General) informal draft. For instance, the PC/WATTC draft was composed of Preamble; Art.1 (Purpose of the Regulations); Art.2 (General definitions); Art.3 (International network); Art.4 (Services offered to users); Art.5 (Safety of life and priority of telecommunications); Arts.6 & 7 (Charging and accounting); Art.8 (Suspension of services); Art.9 (Official service documents); Art.10 (Final provisions). Whereas, Butler's was composed of Preamble; Art.1 (Purpose and scope of Regulation); Art.2 (Definition); Art.3 (International network); Art.4 (International telecommunication services); Art.5 (Safety of life and priority of telecommunications); Art.6. (Charging and accounting); Art.7 (Suspension of services); Art.8 (Reciprocal exchange

of information); Art.9 (Special arrangements); Art.10 (Entry into force of the International Telecommunication Regulations).

Apart from the differences between the two drafts in their structures and contents, the major differences and controversies between them lie in Articles 1.7 and 9. That is, according to Article 1.7 in the PC/WATTC draft:

1.7 Members shall endeavour to ensure that any entity, established in their territory, using the international telecommunication network to provide an international telecommunication service:
- a. is so authorized by the Member,
- b. complies with these Regulations, and
- c. to the extent considered appropriate by the Member, complies with the relevant CCITT Recommendations.

But, Butler's draft deleted Article 1.7. Instead, he suggested Article 9, which is not found in the PC/WATTC draft:

9.1 Members may, subject to national law, allow administrations, recognized private operating agencies, and any other organization or person, to enter into special mutual arrangements with Members, administrations, recognized private operating agencies, or other organizations or persons in another country for the establishment of special telecommunications networks and systems, including the related underlying means of telecommunication transport, to meet their own international communication needs or those of others who may use such telecommunications networks and systems.

9.2. In making arrangements acording to Art.9.1, the parties concerned should take into account relevant provisions of CCITT Recommendations.

In fact, it was unusual for the ITU Secretary General to propose any kind of draft, as discussed in Ch.IV. Why should R.E.Bulter circulate such an informal draft document ? The main reason was to meet the lack of consensus and the pressure from influential Member-State such as the US. Indeed, the PC/WATTC draft was regarded as having lack of flexibility especially by the US and some European countries. Therefore, these changes in the Final Acts are evidence of negotiations among the conflicting interests of the various actors, discussed above (Ch.VIII.1.1).

Then, *why did the various actors conflict one another over the WATTC-88 (as a legal instrument) ?* In a broad sease, there appeared a significant "divergence of views concerning the new Regulations"[76], driven by three dominant *structural* variables, as follows:

a. the disappearance of rigid distinctions between services arising from the use of digital techniques ;
b. the provision of international telecommunication services and the establishment of networks by non-traditional operating agencies ;
c. the emergence of complex user communities who have specialized communication and information needs through telecommunications".[77]

These structure-centred arguments can not, yet, fully explain *reasons* why the various actors formed coalitions and conflicted with one another in WATTC-88, without looking at the issues raised by the new Regulations.

1.2.1. **WATTC-88: Legal Issues**

As Table 8-2 demonstrates, WATTC-88 can be seen simply as a set of provisions, which contain several legal issues. Firstly, the new Regulations were intended to replace the Telegraph and Telephone Regulations set in 1973[78], mainly because the latter has "no regulatory provisions covering the telex service, the data transmission service, and any of the Telematic services".[79] Moreover, "since 1973 telecommunications have considerably developed from the technological and regulatory standpoints"[80] of both domestic and international telecommunications[81], for providing or operating better and safer services to the public (users). WATTC-88 therefore was the response to the "absence of regulatory provisions providing adequate coverage for all telecommunication services in the public sector and development of technology, services and the economic situation".[82]

Another prime reason why WATTC-88 has received so much attention was that the Regulations are not merely recommendations, but mandatory rules in the form of a legally binding treaty.[83] What does the term treaty imply ? It "has the force of law when incorporated into national legislation."[84] From the point of legal hierachy, the Regulations are lower than the ITU's

Convention and Constitution, but higher than a Recommendation.[85] Furthermore, the Regulations are of significance in the light of the CCITT Recommendations, since the former states the scope for the latter.[86] Particularly, once the new Regulations are adopted, they will last into the next decade - and possibly the next century, as the previous Regulations of 1958 and 1973 did for 15 years.

In brief, "the new Regulations need to constititute a legal framework applicable by all administrations and covering all services, and at the same time an instrument facilitating the establishment of international telecommunication relations and the provision of services to users."[87] However, considering the legal characteristics of Regulations such as the legal scope over both national and international telecommunications sectors as well as the relative longevity, several controversies arose among the actors.

(1). Controversies over Legal Issues of WATTC-88

An argument arose from the question of whether or not the ITU has a right as a regulator beyond that necessary to facilitate the technical and administrative interoperability of network 'infrastructure'.[88]. In response to the argument, the Secretary General distributed a special document analysing legal rationales[89], which ensure the WATTC-88 mandate for intervention in the 'infrastructure.'[90]

Another argument stemed from a question if "uniform international regulations could effectively limit member rights under the ITU Convention to undertake special bilateral and *ad hoc* agreements."[91] Referring to their *binding force*, some Members were worried that these regulations would effect "domestic law and/or policy either by virtue of ITU membership or simply *de facto* in the name of operational efficiency as occurs with technical CCITT Recommendations."[92] This was the major fear of the US and its allies, because their major operators in telecommunications sectors are private companies which open business on a bilateral base. They have already been released from regulations in domestic markets, and did not want to be obligated under the interntional regulations.

These controversies were specified by looking at a question of **to whom should the Regulations apply ?** Could they be Administrations and RPOAs as seen in Article 1 in the 1973 Regulations ? It is neither a simple nor easily agreed matter. The PC/WATTC draft opened the question with the words 'any entity' in Article 1.7, which caused heated debates. That is because the meaning of 'any entity' could be suppliers of value-added services or service 'retailers' apart from Administrations and RPOAs, who offer international telecommunications services. After long arguments, the troublesome term *'any entity'* was eventually deleted. The adopted term describes entities ranging from administrations* to private operating agencies.[93]

The other potential conflict was engendered by relations between the **binding ITU rules and the competition laws of the Treaty of Rome**. This argument led WATTC-88 to be thrust onto the political stage.[94] In other words, there were many worries that application of the Regulations could prove contradictory with copmpetitive rules such as a General Agreement on Tariffs and Trade (GATT) and the Green Paper in the European Community. Both GATT and the Green Paper based on the Treaty of Rome deal with the same issues such as telecommunication services and trade. Several questions arose: Which organization would have jurisdiction ? And, which treaty would take precedence in terms of telecommunication service and its trade matters.[95]

(2). **Limits of Legal Issues of WATTC-88**

The Union may make regulations in order to maintain and extend international cooperation, to promote the development, efficient operation, usefulness and availability of technical facilities, and to harmonize the actions of nations in the attainment of these two common ends, but no more.[96] That is, the Regulation has limits. For instance, each Telegraph and Telephone Regulation (1973) had little importance in impeding the development of new services, apart from being out of date.[97] "The Regulations may be 'mandatory', but have **no 'penalty'** except a matter of 'prestige' in international relations when any Member breaks the rules, as

commented P.Ravaioli (Principal Administrator in Division IV-B-1: Electronics, Informatics and Telecom of EEC).[98]

Further, referring to No.170 of the Convention (1982), the Administrative Regulations are **conditional** not only as an "annexes to this Convention, but also it shall remain valid until the time of entry into force of new Regulations drawn up by the competent world administrative conferences to replace them as annexes to this Convention." In other words, "as soon as these new replacement regulations enter into force, the 1973 Regulations themselves do not remain valid any more, but become simply invalid and thus no more applicable legal instruments of the Union."[99] Similarly, one day - maybe about 10 years later or even few years later in a rapidly evolving telecommunications environment, new regulations may replace today's new WATTC-88 regulations.

In practice, all types of international laws ranging from International Communications Law to Communications from the Perspective of Trade in Services Agreements historically demonstrate that "if they are irrelevant, inappropriate, unrealistic, or anachronistic, then they are simply ignored by some or all of those who signed them. They do not have the same force as national regulations."[100] Recognition of 'national regulations' was demonstrated by the WATTC-88 itself by repeating the terms - 'subject to national law'. These terms were emphasized by many Members such as the US, R.O.Korea, and Bulgaria.[101] Yugoslavia further raised a similar voice referring to Article 4:

> "Although national laws can *ensure*, 'international laws' can hardly ensure but '*endeavor to ensure*.'"[102]

A further limit came from the characteristic of international organizations. In practice, the ITU is not in a position to impose its will on sovereign governments, because it is sub-servient to the will of member countries.[103] For this reason, the International Telecommunication Regulation under the aegies of the ITU is not a free-standing and independent instrument, but a collelction of sovereign nations who may ignore it if they conflict with national objectives.[104] All in all, these legal issues were one of the main arguments of WATTC-88.

1.2.2. WATTC-88: Issues of Telecommunications Technology and its Applications

Telecommunications technology issues bound the actors in the Conference.[105] In particular, its sophisticated capabilities were the major foundation for two key objectives of WATTC-88 such as "the establishment of an adequate framework for international telecommunication services for the public on a global scale; and the development of suitable arrangements that would foster connectivity for specialised uses".[106] WATTC-88, in this context, aimed to adopt general rules to guide all these new high-technology applications in order to reflect the "key technological advances that have taken place in recent years and to anticipate further service development"[107] in the provision of the new Regulations.

However, there might be a conflict between technological development and any kind of regulation on the question of whether or not the regulations will hinder technological development. Many stressed that the Regulations could "slow the rate of technical change and development, and thereby stifle the development of dynamic new markets. Moreover, detailed Regulations could quickly become technically obsolete especially in today's rapidly changing telecommunications environment, whereas the general Regulations might be irrelevant."[108]

In addition, technological gaps among Member States made the new Regulations difficult to agree. While the industrial countries have developed high-tech telecommunications facilities and services dealing not with telephone and telegraph rules, but telecommunications-based information services."[109] The developing countries still want to keep the 'conventional' telephone and telegraph facilities and services in the new Regulations. Hence, many of them led by the USSR wanted protection from 'technical harm' to the operation of the telecommunication facilities of third countries put in written authoritative Regulations, as seen in Articles 4.3 (a) and 9.1. This led the Conference to confrontations among the *haves* and *have-nots*.[110]

1.2.3. **WATTC-88: Divergent Telecommunications Policy Issues**

According to W.von Dewitz (1987:331), a question of whether the regulation is 'reasonable' depends on its objectives. The new Regulations cover them including "the safeguarding of the prosperity or 'safety of life and priority of telecommunications'[111]; safety of the consumer; the maintenance of the quality of services provided'[112] or the protection of national security or sovereigty.'[113] However, a question of whether the new Regulations would be 'acceptable' is the subject of negotiation between divergent telecommunications policies. In practice, as many delegates such as Belgium, Switzerland, and Sweden agreed, conflicts were basically derived from divergent telecommunications policies - *inter alia*, "a disparity between the regulatory and market structures."[114] A prerequisite for the success of WATTC-88 was, thus, subject to how to negotiate such conflicting policy issues.

Bruce (1986) argued that "in the advent global revolution in telecommunications rules and policies, it is a time when nations are reviewing and revising existing regimes and creating more flexible, liberal and market-based national regulatory (or policy) structures."[115] From this point, many commentators such as Rich (1988) criticised the PC/WATTC draft, since it was regarded as running "counter to the global trends towards a competitive marketplace for telecommunications services."[116] From the liberalist point of view, "one of the negative effects was of the ITU dictation of a particular international telecommunications policy to all ITU Members: its policy tended to rely on rigid regulation and prescription of entry, rates and technical performance parameters rather than on competition, flexible supervision and enlightened entrepreneurialism.'[117] That is why the US proposed that the proper role of the WATTC-88 was "not to dictate national policies, but simply to ensure interconnection."[118] However, such liberal policy is not always a panacea for all aspects covered in every environment. As discussed above, many actors (Member-states and their PTT) wanted to limit the inclusion of foreign competition into their once absolute domains, and to expand their powers into new areas via Regulations.'[119]

The difficulty WATTC-88 faced was that the division was not merely coming from the two camps. As discussed above, between the extreme ranges of national telecommunications policies, there existed those that "recognize the importance of supporting the development of the new telecommunication services, while at the same time they would still like to maintain monopolistic policy as far as possible or practicable in the provision of telecommunications services".[120] At worst, each Member has its own policy or its own stage of evolving internal policy. Indeed, as an Italian delegate said: "Every country would like a set of Regulations to suit its own internal policy."[121] This individual level of policy was raised by many Member States such as the Netherlands, Japan, New Zealand, and African countries, where policy and its stages were different from one another.[122]

Furthermore, countries such as Singapore were unlikely to feel the necessity to liberalise its telecommunications policy, because they are satisfied with the current natural monopoly. Other countries like R.O.Korea have already been 'incrementally' approaching towards liberalisation. In particular, many developing countries are not yet ready for liberalisation of telecommunications sectors. Due to so many other urgent matters to deal with, also, some such as the Caribbean countries were not fully aware of telecommunications policies as a whole.[123] Even within regional levels, there appeared cleavages between the UK and France. All in all, due to the divergent telecommunications policies and their different stages, 'flexibility' of Regulations was essential for the success of WATTC-88.

1.2.4. **WATTC-88: Controversial Economic Issues**

To date, "the difficulty ITU faces is maintaining the traditional autonomy of telecommunications and its regulatory separation from the international economic system."[124] To meet this current challenge, WATTC-88 had to "develop rules for international telecommunications that are compatible with and adequate for market structures".[125] This inseparable correlation between internal policies and economics in growing world interests in telecommunications sectors effected the main debates in WATTC-88.

(1). **Trade in Telecommunications Services**

A reason why the new Regulations were deeply related to economic issues was due to the implications of 'services'.[126] As the Resolution 10 of the Convention, Nairobi (1982)[127] stated, the new Regulations (WATTC-88) were aimed at meeting demands for "the new situation arising from the emergence and introduction of new telecommunications services".[128]

As a delegate from Argentina said, "'characteristics of services' were necessarily concerned."[129] That is because, as M.Negro (Spanish delegate) pointed out, "the key points might lie on some difficult questions: "should the new Regulations be confined to a general part covering all services, or should it also contain parts applicable to each individual service, once these have been listed and defined ? It is difficult to answer questions as these." The majority of the "existing and planned services" repeatedly referred to in connection with the new Regulatory framework will be provided through the ISDN. For this reason, reference should be made to CCITT Recommendation No.I.11, which gives a series of definitions seen more from the standpoint of network utilization than from the particular nature of the services offered to the user."[130] Here, one thing to notice is that the controversies over distinctions of services - *inter alia*, between basic and new/special ones - were not derived from the characteristics of services *per se* as technical devices, but from their implications.

A critical implication of the service issues is economic concerns. WATTC-88 was believed to promote the development of telecommunications services and facilities vital to the future health of their national economies. In both developed and developing countries, the improvement of telecommunication sectors has become inextricably linked to the ability to participate in the growth of the future world economy. For this reason, the WATTC-88 was expected to help shape the international regulatory framework for telecommunications and to promote the opportunities for national telecommunications growth into the next century.

In particular, issues concerning **trade in telecommunication services** affected WATTC-88, that is because the issue concerns the matter of

access to foreign markets in the telecommunications *sevices* along with its equipments.[131] Although the term 'tradeability' of services is still arguable, many believed that the 'service' can be inseparable from 'facilities.' That is to say, as France pointed out, "utilization of facilities is important because 'facilities' are tools and a means to achieve the end - 'service'. Thus, some Members such as Canada and the Nordic countries preferred to put both facilities and services into the Regulation instead of using the term 'facilities' or 'services' alone in the Regulations.[132]

(2). **Who Provides the New Services with What Conditions ?**

A further controversial argument stemed from a question of **who provides what telecommunications services at what prices and under what conditions**, which will significantly determine Member's internal economics. This argument was focussed on Article 4 defining the concept of 'international telecommunications services' and Article 9 adopting 'special arrangement' within the regime of WATTC-88.

Who should provide services ? Because the US and its allies can be better-off with market-oriented rules especially through their multinationals, they strongly wanted the enhanced (value-added) services in telecommunications left out from the new Regulations. A very large percentage of the total *trade in services* really takes place through the internalized networks of multinationals, especially those of the US. In contrast, the PTTs in Europe are the suppliers of information retrieval services, and some European telecommunications enterprises were experiencing difficulties in accessing the American market via trade[133], France and its allies wanted the Regulations to protect their markets. From this point, most host-country governments wanted to control foreign multinationals and protect the domestic service industry. In particular, France favoured a "'level playing field' in a competitive environment, avoiding a situation where the PTT services provider might be bound by an international standard of service quality while a private services provider would be free to ignore any quality standards".[134] All in all, most host

countries wanted to retain their sovereignty over access, storage, use, and control of trade in services for the benefit of their economies.

What kinds of services should be covered by the Regulations ? Focussing on debates of Article 9 ('special arrangements'), the UK supported by the US argued that the Regulation should "promote competition in telecommunications particularly in value-added networks (VANs), and should concern "service providers, operating economics, economic well-being in domestic level, which all came from business activities [...] so that 'underlying means of transport' should be mentioned in Article 9."[135] That is, they wanted to distinguish 'special services' from 'underlying means of transport', so that only the latter could be covered by the Regulations.

However, the 'special arrangements' connotated more than merely 'who' and 'what services'. These proposals tended, as France pointed out, to "cover not just telecommunications services but all telecommunications/transport facilities and services." Moreover, some developing countries such as Mexico worried about *economic harm*, which might be caused by the special arrangements. However, the US argued that "principle of economic harm is not a matter of WATTC. A practical matter in treaty obligation is neither a matter of whether 'α' country causes economic harm to developing countries or not, nor of ITU's aegis."[136]

This arduous question - 'who' and 'what kinds of services' should be regulated or not - was negotiated with the outcome:

> "Administrations, RPOAs, or any other organization or person" will be allowed to provide "the establishment, operation, and use of special telecommunication networks, systems, and services".[137]

All in all, many countries such as Zimbabwe argued that "we are neither ready yet to go to 'special arrangement', nor yet developed enough to go to that state, so that we can not see VANs without balance of their economics"[138], 'special services' together with equipment will be provided by not only Administrations* but also private entities. However, such operations should be done under certain conditions such as 'special mutual arrangements' with Members' counterparts and 'subject to national law'.

(3). **WATTC-88 v GATT over »Trade in Service« Issues**

As far as **trade in service** is concerned, WATTC-88 under the aegis of the ITU can hardly be discussed without looking at recent talks within the General Agreement on Tariffs and Trade (GATT). As G.Feketekuty (1988:19) states, both the ITU and the GATT correlate or overlap in terms of both their membership as well as issues. In particular, J.Aronson anticipated that some industrialized countries (in particular the US) were aiming to resolve trade in services issues outside the gambit of GATT rules through the new Regulations of the WATTC-88, or *vice versa*.

The basic idea traces back to 1980, when "about 46% of world trade was controlled by tariff and non-tariff barriers. GATT concedes that a large portion of traded goods is adversely affected by import restrictions introduced by industrialized nations. However, these nations now find that their trade balances are critically influenced by trade in services for which GATT is not equipped."[139] These concerns relfect the fact that the world market has become more vulnerable to shocks from such commercial policies, in particular 'trade in services', than it has ever been before.

In this context, the WATTC-88 regulations should not, in theory, preempt the current GATT negotiations on trade in services on the basis of the Uruguay round. Therefore, coordination and consistency of position would rest with delegations to WATTC-88"[140] However, in practice, a series of the GATT meetings in Montreal (December 1988) held simultaneously with the WATTC-88 were not able to reach agreements on matters of trade in service. Nonetheless, as one of interviewees in the GATT (Geneva Headquarter) said, any decision made in the GATT can hardly ignore the new Regulation already adopted by WATTC-88. In particular, issues raised in GATT's meetings (Geneva, June 1989) which examined "the implications and applicabiity of concepts, principles and rules - most notably transparancy and progressive liberalisation - for the telecommunications"[141], are in line with those in WATTC-88. These issues include the difference between the basic network and enhanced, value-added services in the new framework of trade disciplines; the implications of telecommunication services such as close relations to

the provision of other services, and security and privacy aspects; and the promotion of development.[142]

(4). **Accounting & Charges: Apart from Politics**

A further heated economic issue was **'Charging and Accounting'** (Articles 6 & 7)[143], together with "collection charges, accounting rates, monetary unit, establishment of accounts and settlement of balances of account."[144] These issues might be rather "innocuous in themselves", as W.J.Drake (1988:255) says. However, "the incurring of financial obligations is inevitably the subject of substantial concern."[145] For this reason, it would not be surprising that conflicts emerged over these issues.

For instance, because the ITU was not an 'accounting authority', some Members (chiefly the US and the UK) proposed to transfer the Article 6 along with Article 7 to the Appendix, leaving the main principle in the Regulation.[146] As they repeated, they have accounting authorities in their countries, which do not deal with recognized private operating agencies (RPOAs)."[147] All in all, they did not want the ITU or the new Regulations to involve these entities in the matter of account and charge. In contrast, others (chiefly developing countries) considered these accounting and charging issues more seriously, because many of them including Kenya "depend on the revenue of international telecommunications." Benin added that "incomes coming from telecommunications sectors are taken away over 70% by foreign-owned operating companies". Nigeria, thus, argued that "the matter of 'charging' is not technical but economic matters, that should be so considered regarding to economic harm apart from technical one."[148]

In addition, France introduced **'access fee'**, which aimed to "be charged in the event of interconnection of leased circuits with the public switched network, in order to ensure that the providers of 'value-added services' bear a reasonable share of the cost of operating and developing public infrastructures. And, in order to ensure fair competition conditions, this access fee, which should be charged in all cases where both ends of an international leased circuit are connected to a public network, would be established in accordance with the principles followed by network operators

providing similar international services." By adopting the access fee, it believed that "all operators might derive equitable benefits from the development of telecommunication services as a whole."[149] Despite long and heated arguments in various infra-meetings of the WATTC-88 (Table 8-1), this proposal was objected to by some countries - especially the US along with Japan, because "the concept was a matter of *national determination* and ought not to be embodied in an international treaty.[150]

There were also several draft Resolutions submitted from one Member or a group of collaborating Members. One of them was **'revenue sharing'** proposed by Lebanon and India on the basis of the *'Missing Link' report of the Independent Commission.*[151] What they recalled was that "Member states consider setting aside a small portion of the revenue from calls between developing and developed countries to be devoted to telecommunications development in developing countries."[152] A similar draft Resolution - 'Concerning the cost of providing international telecommunications services' - was also proposed by group of Members consisting of most of European Countries.[153]

These two Resolutions were based on CCITT Recommendation D.150, which provides for the sharing of accounting revenues on international traffic between terminal countries in principle on a normal 50/50 shared basis. In order to avoid economic losses in changing world-wide telecommunications infrastructures, both recalled a "further study to be conducted." Although the intention or expectation of the result can differ from each other, the draft Resolution was adopted to "provide for sharing in a different proportion - e.g. 60/40 as India suggested - in some cases where there are differences in cost in providing and operating telecommunication services."[154] It was due to be submitted to the Nice Plenipotentiary Conference in 1989.

All in all, various controversies over economic issues enhanced by technical, legal, and policy issues of the WATTC-88 made various actors in form coalitions and conflict with one another.

1.3. Issue-Structure: Regulatory Functions of WATTC-88 within the ITU

1.3.1. A *Pot Pourri* of Coalitions & Conflicts in WATTC-88

The way in which the various actors formed coalitions and conflicted with one another in WATTC-88 was hardly in line with the **realist** perspectives, because the issues were not subject to the high-politics such as military issues driven by conflicts between the East-West - or the two superpowers.[155] Although there appeared fundamental differences in terms of phiolosophy or policy concerning telecommunications between the two superpowers, there was little evidence of conflicts surrounding the conventional two camps (Ch.VIII.1.1).

In contrast, the relations among the various actors appeared to be interdependence in global telecommunications community, where countries (or multinational companies) need one another in order to use, provide, and trade telecommunications facilities and services. Some commentators such as J.B.Quinn (1987) see that "interdependence and diffusion in the service sectors could lead to greater world stability and less disparity among nations".[156] From this point, country behaviour was more explicable by **neo-realists** such as R.O.Keohane and J.S.Nye (1977;1987). In particular, as S.D.Krasner (1983;1985) argued, the developing countries (South) were more in favor of 'authoritative' than market-oriented International Telecommunication Regulation[157], through which they can be better off in competitive telecommunications markets. That is, they reckoned that industrial countries, chiefly the US, would use this opporunity to gain unilateral economic advantage, since, so the argument goes, only they enjoy comparative economic advantage.

However, the divergent actions of the actors indicate limits to S.D.Krasner's (1985) arguments, because the structural conflicts were no longer limited to the North and South in WATTC-88. It was not only the developing countries but also developed countries who shared the general fear about multinational corporations, chiefly those from the US, in telecommunications sectors.[158] Because they are vulnerable in cases of bi-lateral arrangements, most host countries (the South, East, and

some North) wanted to strengthen their governmental authority to allow or prevent telecommunications operating agencies in their territory through ITU regimes (Regulations).[159] As discussed above, there further appeared heterogeneity or fragmentation among the like-minded allies, depending on the country's own domestic telecommunications policy.

On the other hand, as R.L.Rothstein (1988) argues, not only developed countries such as the US, but also some developing countries such as Tonga, Mauritius, Phillippines, Bahamas, and Nigeria [160] have already released telecommunications corporations from full government controls, or have plans to do so. However, it is worth noting that such internal privatization in telecommunications sectors does not necessarily mean that these countries favoured market-oriented rules through the ITU regimes, because they knew their vulnerability when foreign multinationals of the industrial countries have access to their domestic markets.

In a sense, it is arguable that the **neo-mercantilist** perspectives could better describe international relations in WATTC-88, because the issues were more sensitively related to "commercial interests of some of the more powerful players (the North itself)."[161] However, national sovereignty may be challenged by technological innovations in the telecommunications service sectors. In consequence, most Members (the West/North, East, South, and even some NICs) were strongly concerned about the 'sovereign right' of countries, which can be little explained by the neo-mercantilism. For instance, R.Priddle (UK delegate) said: "the need for some form of international regulation to ensure interconnectivity was essential that such regulation should not limit the *sovereign right* of each individual member of the ITU to develop the national regime it deemed appropriate."[162]

Overall, none of these theoretical perspectives (Ch.II.3) can fully depict the negotiations among the divided actors in the *processes* of WATTC-88. Such negotiations seemed to be beyond traditional polarization - the East-West or the North-South. They demonstrated more diverse ways of coalitions and conflicts among the actors concerning the Regulations - like a *pot pourri*. In particular, these complex interests in WATTC-88 gave

rise to a specific method of reaching consensus known as the *»Melbourne package-deal«*. Then, *what is the package-deal* and its implications ? Whose interests were better reflected in the package ? What will be its effect in the telecommunications world ?

1.3.2. »Melbourne Package-deal«: Salvage of WATTC-88

The »Melbourne package-deal« introduced by Australia, Senegal, and a few other Members under the aegies of ITU (Secretary-General) produced a compromise, since there was neither a consensus nor any seeming willingness to arrive at one until the last moment.[163] It can be regarded as a ***means* of negotiation of conficting interests**. However, mainly because of America's rejection of the package, its implementation faced difficulties. In practice, the package-as-a-whole method of procedure was decided by two votes supported by most of Member States except the US, who was alone in favour of an item-by-item method.

The contents of the package included the most controversial issues such as Articles 1.7 and 9 together with Resolution No.PL/2[164]: The central provisions concerned the *scope of the Regulations*, essentially both whether a system of authorization was to apply to new service providers and whether special arrangements could be made to enable service to be provided under less stringent conditions."[165]

It was approved in a form recognizing not only "the right of Members to regulate all agencies operating in their territories, but also the possibility of entering into special mutual arrangements among public and private operators for the establishment of special networks, systems and services."[165] That is, the package established rules, at treaty level, which provide for:

> the cooperation between Member Governments; traditional common carriers who establish the basic international telecommunication network; international service providers be they administrations, recognized private operating agencies or the other new entrants who operate international telecommunication services (e.g.,value added services) in a country; and where allowed and subject to national law, any combination of providers, persons or organizations to reach mutual arrangements

with one of their equivalent so allowed in another country to establish special networks for special telecommunication needs.[167]

Implications of the package-deal firstly stem from the controversial question of 'who got what it wanted'. In other words, who lost the game ? Many would see the US as a loser due to lack of 'leadership' as well as poor perfomance. Further, it did not seem to consent to its own strategies or agendas among delegates, partly because the delegation was composed of various groups - especially gigantic and influential multinational corporations - with conflicting interests. In consequence, the US was totally isolated from the rest of Member States.[168]

Then, did the rest of the world - especially France and developing countries - win ? Apart from a matter of winning or losing, it is arguable that the developing countries, in particular African countries, demonstrated their coherent agendas[169] as well as very strong persuasiveness.[170] As a result, many countries changed their inital positions during the Conference (*process*) towards more understanding of developing countries' positions or difficulties.

Referring to *voting patterns or powers*, because there were sensitive interests involved, there was lobbying in order to achieve more votes. Here, it is worth reminding that due to the characteristics of ITU's '*consensus*' rules (Ch.IV), voting was an unusual way of taking decisions within the ITU. From this point, taking several votes concerning the same matter in WATTC-88 implies how difficult it was to achieve consensus. In particular, although the first voting resulted in favor of the package-as-a-whole method, the reason why the Chairman of WATTC-88 offered a second vote can be interpreted in two ways. First, it might be due to the ITU's general rule based on 'consensus'. Second, it might be due to America's influence and its implications.

Apart from the successful result - achievement of a new set of International Telecommunication Regulation, the game might not fully please any side of the actors. In the light of diplomacy or 'national prestige', the US would be disappointed from the standpoint of both the process and

the consequence of WATTC-88, due to its isolation. Another disappointment for the US was because the Regulation allowed the 'right' of Members to authorize new service providers including private operating agencies. In contrast, although the developing countries were seen to be "neither left out nor rolled over"[171], the rest - *inter alia* African countries - would not be satisfied with the consequence, either. However, on closer examination of the result of the package and its implications, the WATTC-88 Regulations "removed the 'obligation' upon Members to authorize any entity."[172] That is, the Regulation left scope for the interpretation of each Member. Hence, as J.W.Blumenstein (1989) argues, "the focus of activity may return to regional and bi-lateral discussion." [173] For this reason, the developing countries and their allies still have an unsolved question: How will they more effectively use the new Regulations in order to avoid negative effects such as economic harm or dependence upon the *core* country and its multinationals.

Nevertheless, an obvious winner of WATTC-88 was the ITU *per se* as an independent player, as R.O.Keohane & J.S.Nye (1977:25) said. The success of WATTC-88, which owed much to skilled chairmanship of the Australian Chairman (P.Wilenski) and leadership of the ITU Secretary-General (R.E.Butler), allowed the ITU to achieve its job of facilitating the compromise between divergent interests in a treaty level of Regulation. That is, the result - the International Telecommunication Regulations - was a delicate "balance between national sovereignty and global needs with the establishment of basic rules for cooperation between the concerned parties. Furthermore, for the first time, the WATTC-88 Regulations have brought together telegraph and telephone regulations as well as initiated world-wide debate on the new market environment, which the telecommunications world market needs if it is to develop.[174]

To sum up, a more integrated, contemporary, and responsive view of telecommunications and an associated supporting role of the ITU were not only threaded throughout the Regulations, but also explicitly raised as future action items in the Resolutions and Recommendations adopted by the WATTC-88.[175] For ITU *per se*, indeed, "the results of WATTC-88 are of great importance. The new born legal instrument, which will take effect on 1

July 1990, now formally extends ITU's scope of activity to include new services and service providers, and thereby further strengthened its position as the leading forum for global cooperation in the field of telecommunications."[176] All in all, "a stronger and more unified ITU emerged"[177], better equipped to face the next decade - and beyond - of global telecommunications.

2. Discussion: Interlinkages between R.O.Korea and ITU Through Regulatory Functions of WATTC-88

2.1. Methods of R.O.Korea's Behaviour Concerning WATTC-88 within the ITU

2.1.1. R.O.Korea's Behaviour within the WATTC-88: As A Medium

The Korean Government had two major agendas in WATTC-88 (as a *medium*). As R.O.Keohane and J.S.Nye (1977 & 1989) suggest in relation to states' participation in international organizations, R.O.Korea actively participated in the Conference in order to achieve 'information'. However, the information was not limited to merely technology, but to telecommunications issues - particularly rapidly evolving telecommunications policies. This desire was further fulfilled by a decision made about 'the role of the Union' such as:

> "disseminating information concerning international telecommuniction services through General Secretariat available to the public for the reciprocal exchange in the interest of timely information for efficient operation of services."[178]

The other agenda was to 'enhance special relationship with ITU's Member States.' That is, R.O.Korea's interests in WATTC-88 lay not only in specific telecommunications issues, but also in diplomatic purposes bearing in mind a plan to run for obtaining membership of the Administrative Council (Ch.IV.2).

In order to achieve these, R.O.Korea sent a relatively large number of delegates (14), which were as same as those of the UK. They were composed of: two diplomats from the Minister of Korean Embassy in Australia and from the Ministry of Foreign Affairs (MOFA); two administrators from the

Ministry of Communications; six from recognized private operating agencies (e.g., KTA sent four delegates who are in charge of computer, accounting, and international organizations respectively, whilst DACOM sent two); and four advisors from research institutes (e.g., ETRI and KISDI) and myself. With regard to the structure of delegation, the chief delegate, who has many experiences in matters of international organizations such as the UN specialized agencies in New York and Geneva, commented that:

> "Compared with delegates of other international conferences, those of WATTC-88 seem to be better equipped with professionals. It is likely to be due to technical characteristics of the Conference.[179]

Despite such improvement in the delegation, not every entity (or its delegates) seemed to perform as much as it could. Not every delegate tended to comprehend the implications of the complex and controversial WATTC-88 issues (Ch.VIII.1). In contrast to presence of the INTUG and Trade Union (Australia) in WATTC-88, moreover, there was no body representing users and unions, although the Minister of Communications pointed out that:

> "the course of our [Korea's] principal policy will be set to build an user oriented information network system so that we can satisfy the diverse needs of people."[180]

In particular, considering R.O.Korea's vulnerability in trade with the *core* countries in *bi-lateral arrangements* such as the Korea-America Telecommunications Trade Agreement at the very time, WATTC-88 was in theory expected to offer R.O.Korea a coalition with Member States in similar difficulties (R.O.Keohane & J.S. Nye, 1977). It also could provide the rules enabling R.O.Korea to co-operate in the world telecommunications for growth and orderly development of telecommunications services (R.E.Butler,1989d;1989f). The ›Melbourne package-deal‹ was in practice a *means* of negotiations, reflecting power of coherent voices raised by Members, especially African countries (Ch.VIII.1).

Nonetheless, R.O.Korea neither formed any coalition with regional or like-minded countries, nor was particularly involved in introducing the ›Melbourne package‹. Instead, it (especially the Government) still tended

to believe that it has controlled (so will control) uni-lateral or bi-lateral arrangements under the bureaucratic authoritarian regime. This attitude appeared to be that R.O.Korea preferred to solve problems on a uni-lateral or bi-lateral bases, rather than to utilize the multi-lateral forum (WATTC-88) or its regimes in order to solve bi-lateral problems.

2.1.2. **R.O.Korea's Behaviour Concerning the WATTC-88: As An Instrument**

Acknowledging that the new International Telecommunications Regulation would have impacted on internal and international telecommunications in the next century[181], the Korean Government placed emphasis on the importance of WATTC-88. However, unlike other actors such as the US, France, and African countries (Ch.VIII.1), it did not submit any proposal. Compared with other actors, thus, it appeared to be less sensitive regarding the Regulation, especially its controversial issues.

Yet, there were a report prepared by KTA and an official document for the delegation provided by the Government. Both the report and document collected and translated other Members' proposals (especially the US'), the PC/WATTC-88 draft, and the Secretary-General's draft in Korean, with a some comment on the *pros* or *cons*. As the Government itself described its position, it attempted to *mediate* already heated controversies over the issues.[182] Then, *how has R.O.Korea acted concerning the WATTC-88 issues in order to mediate conflicting interests ?*

From the **legal** point of view, like most other Members, R.O.Korea did not want the Regulations to intervene in its 'sovereign right'.[183] However, it is worth noting that each Member's interest differed from one another: Some Members would like to protect its sovereignty through the Regulations from the entrance of foreign entities into vulnerable domestic telecommunications markets. The others wanted to protect it from intervention in deregulated domestic markets as well as giving entrance to foreign markets. Considering R.O.Korea's telecommunications circumstances (Ch.III), it assumed to need the Regulations for both reasons. In practice, it should consider the influx of foreign entities into domestic markets, on the one hand. And, influenced by its diversifying policy and its

industrial capability in telecommunications facilities, it is looking for telecommunications markets abroad, on the other. Hence, R.O.Korea should note which position will be more beneficial in terms of overall cost-effect. Yet, it seemed to be aware of the former rather than the latter, when looking at its position. For instance, although it would not particularly want to be subject to other nation's laws preventing its entities from entering other markets, it was in favour of "subject to national [Korean] laws"[164], when foreign entities enter into its markets in order to provide facilities and services in domestic telecommunications markets. Furthermore, unlike some Members such as the US and Japan, of which private entities are prepared to enter foreign markets, it did not pay any special attention to the term 'any entity' (Ch.VIII.1).

From the **policy** point of view, R.O.Korea realized that any of the divided policies could not entirely accommodate its specific telecommunication policy stage. In practice, the policy of the US and its allies was too liberal and commercial to apply. The policy of African countries backed by France was likely to be the reverse of the current movement of liberalising domestic and international telecommunications. In this context, R.O.Korea articulated its position that "an incremental approach to deregulation is appropriate."[165] Yet, it did not raise any coherent voice collaborating with other Members in similar interests, nor supported any particular interest or policy.

With regard to **economic** issues - particularly concerning 'trade in telecommunications services', R.O.Korea needed to look at not only its relatively developed telecommunications equipment industry which has already been opened to foreign entities, but also its service industry which is still vulnerable and protected (Ch.III). In particular, for the latter, it should consider the case of 'influx of foreign entities' into domestic markets in both the short and long term. Here, it assumed that it needed a certain degree of protection from foreign multinationals through the Regulations. Nonetheless, it did not articulate its positions concerning any particular economic-sensitive issues such as charging and account, access fee, revenue sharing[166], apart from the special arrangements.

Overall, in contrast to S.D.Krasner (1985), it is difficult to say that R.O.Korea was in favour of 'authoritative' International Telecommunications Regulations through the WATTC-88, although its domestic telecommunications infrastructure is still operated under the bureaucratic-authoritarian regime. Also, in contrast to R.L.Rothstein (1988), it was not particularly in favour of 'market-oriented' international telecommunications rules, although its domestic telecommunications infrastructure has been liberalising under the conventional export-oriented policy in order to meet competitive telecommunications. Then, what did R.O.Korea want from the WATTC-88 (as an *instrument*) ? As W.J.Drake (1987:219) argues, R.O.Korean Administrations'* intention would limit the inclusion of foreign competition into their absolute domains, even though its domestic telecommunications infrastructure and its markets would want to be more competitive through currently undergoing liberalisation. In practice, it would like to enhance 'governmental authority' to regulate especially foreign multinational corporations on business practices, through the new International Telecommunications Regulations . From this point, what R.O.Korea achieved from the WATTC-88 was "the reiteration of the recognition of national sovereignty and respect for national law"[187] or "a balance between national sovereignty and global needs for co-operation between the concerned parties".[188]

2.2. Reasons Underlying R.O.Korea's Behaviour Concerning WATTC-88 within the ITU

Internally, undergoing reform of domestic telecommunications regulations (Ch.III) could firstly influence R.O.Korea's behaviour. Yet, the regulatory reform did not take into account 'international telecommunication issues'. In return, it did not give any direction for Korean delegates to gauge or decide how far the new Regulations should be allowed to impact on its domestic telecommunications infrastructure in changing international telecommunications environments. Further, considering the new Regulations as a treaty, none of delegates was in a position to authorize any decision-making in terms of both national and international telecommunications law. Moreover, although they were not exactly 'one-way representatives' (K.W.Deutsch,1968), all they could do was to observe the WATTC-88, and later

to assist or give advice when information was necessary.

R.O.Korea's domestic telecommunications **policy** was also in transition (Ch.III). Parallelled with 'incremental' liberalisation of its domestic telecommunications infrastructure, the stages of liberalising each telecommunications sector are all different: For example, liberalisation of terminal equipment reached about 80%; circuits about 40%; and public networks some 25%.[189] Compared with its equipment industry, its service industry has been neither improved nor liberalised. Further, the term liberalisation of R.O.Korea's domestic telecommunications sectors does not mean to open the special (value-added) service markets to foreign entities, as the US and its allies wanted (Ch.VIII.1).[190]

Furthermore, during the WATTC-88, the influential Minister of Communications, who was the very architect of the dynamic movements towards liberalising telecommmunications, changed in a reshuffling of the ministry. As one of delegates depicts, although changing the Minister could hardly reverse the whole flow of liberalisation of domestic telecommunications sectors, this event would add to delegates' difficulties in articulating clear positions.

Also, unlike the US and some European countries where different interests among delegates (e.g., administrations and industries) were conflicting one another within themselves, R.O.Korea's various entities still seemed **corporatist** under Government stewardship. This could be due to the conventional bureucratic-authoritarianism and/or due to lack of comprehension and confidence within each infra-entity itself. Yet, such corporatism did not necessarily mean that there was no difference in interests among R.O.Korea's infra-entities. For example, common carriers would be possibly in favour of increasing autonomy from the Government[191] and so from the ITU. Certainly, they would not particularly favour 'subject to national laws' in order to provide services or facilities when entering foreign markets. In particular, they can be rivals each other in the ISDN era. Nonetheless, the reason for R.O.Korea's favouring of 'subject to national law' was a reflection of the Government's influence concerned with the 'influx of foreign entities' rather than 'entrance to foreign markets'.

Further, its lack of attention to the term 'any entity' could be due to the fact that private entities providing special services are in their infancy.

In addition, a prime reason why its performance appeared to be invisible might rely on overall **management**. Indeed, none of the delegates participated in the process of PC/WATTC, so that they were relatively less informed about specific or delicate issues. Also, can a graduate engineer better deal with international policy and legal issues ? As some interviewees said, this case often occurred as it did in the WATTC-88. Here, one might argue that he should know both engineering and organizational issues. However, it is worth reminding the reader that Korean telecommunications infra-organs - especially common carriers and research institutes - are relative novices in any case. All in all, the WATTC-88 needed someone who knew legal issues, especially concerning telecommunications and its services in competitive environments, rather than merely technicans or diplomats.

In particular, as J.Jipquep's (Deputy Secretary-General of the ITU) argues, it is of importance to question if the compromises reached at WATTC-88 were adequate to allow R.O.Korea to decide on its own, and if laying out the 'rights' and 'obligations' of all concerned in the regulations protected R.O.Korea from pressures to adopt the national policies of other countries.[192] The answer may in part come from what Dr.T.Irmer (Director of CCITT) told me:

> "the ITU (especialy, WATTC-88) provides Member States with *tools*, but how to use the tools is entirely upto the individual Member's matter."[193]

That is, how to use a complete set of the new Regulations described as *'levels of responsibilities'*[194] is subject to R.O.Korea itself, *inter alia* its management skill.

Externally, complicated and controversial issues raised by the WATTC-88 *per se* would have obviously impacted on R.O.Korea's actions. There were further specific external variables. *Diplomatically*, due to the long and deep relationship between R.O.Korea and the US since the 1940s, R.O.Korea

ought to consider the US, together with other Member States. Hence, R.O.Korea like most other countries could/can not be independent from external force, chiefly that of the US. For instance, according to several interviewees, the US delegates had already visited Korea to consult on Korea's policy as well as strategy for WATTC-88. In particular, R.O.Korea faced the Korean-American Telecommunications Trade Agreement at that time.[195] Here, one could argue that R.O.Korea was depending upon the US, so that the former could not articulate its view due to the latter's influence. However, concerning the relationship, R.O.Korea's positions have changed from simply 'accepting' or 'supporting' the US regardless of its interests in the 1950s to 'mediating' between the extremes in the late 1980s. In particular, apart from its willingness or its different stage of telecommunications policy, a prime reason why R.O.Korea together with other countries could not fully support the US was due to the latter itself and its poor performance and lack of leadership in WATTC-88 (Ch.VIII.1), in line with its current weakening hegemony.

Enhanced by its history and remaining national division (Ch.IV.1), furthermore, R.O.Korea (especially its delegation at WATTC-88) was still occupied with conventional international relations where two superpowers had always been conflicting each other. For this reason, despite the fact that there no longer appeared an ideological conflict between the two superpowers, the Government described its position, as follows:

> "Due to considering the conflicts between the two superpowers, R.O.Korea was supporting negotiated proposals made by Japan and France".[196]

Econo-politically, as some delegates said, "significance of active participations in the ITU - *inter alia* the WATTC-88 - was recognized, due to experiences such as bilateral agreements and trades with foreign companies. That is, they wanted to contract on the basis of International Consultative Committees' Recommendations (standards) and Administrative Regulations."[197] Partly for this reason, the Government placed emphasis on active participation and exchange of information in WATTC-88. Nevertheless, due to lack of recognition of advantages (or cost-benefits) of multilateralism[198], it did not particularly use the WATTC-88 - either as a *medium* or as an *instrument* - in order to meet internal vulnerability. In a

sense, although "uni-lateral actions [could be] especially dangerous"[199] and uni-lateral or bi-lateral arrangements could require high costs[200], they might be quicker and more feasible than multi-lateral arrangements especially when requiring an urgent solution. Moreover, as a Korean delegate says, the Government believes that it is able to control overall telecommunications infrastructure in both uni-lateral and bi-lateral arrangements. However, considering the increasingly complex interdependent world telecommunications as well as the already emerging arguments about weakening the R.O.Korean Government through decentralising bureaucratic-authoritarian regimes, there is a question: how long such Government controls can or will last in its favouring of uni- and bi-lateralisms ?

In addition, despite R.O.Korea's 'internationalisation' encouraging it to diversify its regional membership, a reason for its lack of coalition with the regional members of the APT or AIC can be explained by C.Thongna, Executive Director of Asia-Pacific Telecommunity, (1989).[201] That is, Asia-Pacific region is too heterogeneous ranging from industrialising countries, NICs, to the least developing countries. In practice, R.O.Korea found difficulty in identifying itself even within the NICs, as it did within WATTC-88. For instance, each NIC has its own unique position, apart from different stages of telecommunications policies and development: Taiwan is not a member of the ITU; Hong Kong is still a part of UK delegation; and Singapore insisted on its natural monopoly. For this reason, the NICs aside from other regional members could not organize regular meetings, nor raise coherent voices in WATTC-88.

Due to all these internal and external structural reasons, despite awareness of the importance of WATTC-88 and improved delegation in its numbers, quality, and morale, R.O.Korea could not raise its own interest, nor support any specific interest. Furthermore, unlike other actors such as the US, France, and African countries (Ch.VIII.1), it did (or could) neither form any coalition with regional Members, nor conflict with others concerning the complex regulatory issue-areas in the *process* of WATTC-88 (as a *medium*). Overall, it seemed to stand by itself and consequently to be less visible in the middle of the heated battle. It is now more critical how effectively R.O.Korea will utilise the outcome of WATTC-88 (as

an *instrument*) in its domestic and foreign telecommunications sector (*consequence*). It is not yet known, but needs a continuous analysis in ever competitive and complex global telecommunications structure.

Chapter IX. Conclusions

The essence of this research is to examine dynamic interlinkages between R.O.Korea and the ITU. It has two major ***objectives***: The first is to examine ways in which R.O.Korea utilizes the ITU - both its organizational system and functions - in complex global telecommunications environments. The second is to investigate the possibility of whether or not the ITU would offer R.O.Korea an alternative to bi-lateral or other multi-lateral arrangements, where it faces vulnerability or insufficient solutions.

As a way of approaching the interlinkage, as many commentators such as P.J.Katzenstein (1976;1977;1978), R.O.Keohane (1986), R.O.Keohane and J.S.Nye (1987), and M.Mastanduno, D.A.Lake and G.J.Ikenberry (1989) suggest, I firstly looked at both R.O.Korea's domestic econo-political structure concentrating on bureaucratic-authoritarianism (Ch.II.1) and various perspectives on international organizations (Ch.II.2). This internal-external interaction intended to bridge the gap between the internal and external environments in a systematic way. But, this approach was still too macro to find a common area where R.O.Korea and the ITU have interlinked with each other. In order to better mediate this internal-external interaction, implications of telecommunications issues were discussed in Chapter II.3.

Based on these ***theoretical arguments and empirical field surveys*** (both observation and interviews), this research approached the interlinkages between R.O.Korea and the ITU in two-ways. One was a 〉**structure-centred approach**〈, which in a broad sense involves analysis of not only the distribution of capabilities among state and non-state actors within the ITU, but also R.O.Korea's domestic telecommunications infrastructure and Union's organizational system. In a narrow sense, the 'domestic telecommunications infrastructure' covers driving factors and implications of changes in policy, legal arrangements, and infra-organs under the evolving bureaucratic-authoritarian econo-political structure (Ch.III). The 'organizational system' encompasses organizational purposes, legal instruments, organizational infrastructures, fiscal and personnel management, and method of decision-making (Ch.IV). The main reason for

employing this approach is to bridge the gap between ITU's organizationally dependent capabilities affecting R.O.Korea's (as a member) policy and R.O.Korea's actions (strategies) affecting changes within the ITU.

The other was an ≫**issue-structural approach**≪, which integrates internal and external structures focussing on ITU's four major functions as issue-areas. These include operational functions such as technical co-operation and assistance activities to developing countries; developing telecommunications technology focussing on ISDN; standardization functions undertaken by the CCITT; and regulatory functions undertaken by the WATTC-88 (Chs. V to VIII). The major reason for employing this approach is due largely to the limitation of the structure theory by itself explaining those arguments raised by R.O.Keohane and J.S.Nye (1977 & 1989). According to them, different issue areas often have different political structures. Also, the structure-centred approach largely fails to explain how and why R.O.Korea's actions concerning ITU's functions (issue-areas) have changed in contrast to those of other members. All in all, the issue-structure approach is assumed to provide explanations for particular situations and thus addresses the limitations above.

In the light of the **structure-centred approach**, Chapter III demonstrates R.O.Korea's domestic telecommunications infrastructure under the bureaucratic-authoritarian regime over time. Until the 1970s, its domestic telecommunications sectors underwent modernization under the strong military/centralized bureaucratic-authoritarian regime. In contrast to the early-arriving hegemonic states, for catching up follower states such as R.O.Korea the need was not for *laissez-faire* or free trade but a 'strong state' (S.D.Krasner,1962), not open systems but protectionist barriers (B.Cumings,1984). Nevertheless, in the 1980s, influenced by internal and external forces in rapidly changing telecommunications environment, R.O.Korea's telecommunications sectors have dramatically changed ranging from reform of regulations, restructuring and diversifying of infrastructure, to liberalising policy and market under the liberalised/ decentralized bureaucratic-authoritarian regime.

In particular, bi-lateral arrangements enhanced by the export-oriented policy as well as transferred technology affect R.O.Korea and make it vulnerable to its *core* countries. Unlike industrial countries which possess a range of alternatives (both technology and resources) allowing a cost-effective way of reducing vulnerability (J.Vogler,1984), the danger of vulnerability remains not only in R.O.Korea's fast growing economy, but also in its development of telecommunications sectors. In this context, the R.O.Korean Government has placed emphasis on 'internationalization' through active participation in international organizations such as the ITU as well as through diversification of its trade counterparts.

In contrast to the Korea's pro-internationalization in the 1980s, the international structure was worsened by rapid changes in the political complexity of many important Northern hegemonies, particularly those of the US and the UK (E.J.Kim,1987). The general move by these governments in their domestic policies away from *dirigisme* and towards allegedly free market solutions reinforced opposition to the kind of collective action favoured in UN and its Specialized Agencies (e.g.,ITU) regimes especially since the 1980s. It encouraged a trend away from multi-lateralism and towards bi-lateralism and regionalism such as the EEC (D.WIlliams,1987).

To some extent, this international trend has both directly and indirectly influenced the ITU. However, the structural factor alone cannot explain how and why the ITU's organizational system has altered. As many commentators such as R.O.Keohane and J.S.Nye (1977 & 1989), and G.D.Ness and S.R.Brechin (1988) suggest in relation to international organizations (Ch.II.2), the ITU as an independent organizational variable has its own organizational characteristics such as specific purposes for developing telecommunications of all kinds, various infrastructures, and one-nation-one-vote system based on consensus rules. In practice, empowered by changing telecommunications technology especially in the ISDN era, the ITU has affected the distribution of capabilities among actors. It is of significance to note that in telecommunications negotiations, leverage as products of military and economic power have been replaced by persuasion and argument as products of technical competence and feasible needs

(B.Segal,1983). Indeed, every part of the world (East, West/North, South, and NICs) needs telecommunications systems in order to interconnect physical networks, to trade goods and services, and to communicate from one country (user) to another. This 'complex interdependence' (R.O.Keohane & J.S.Nye,1977;1987;1989) in telecommunications creates a greater need for multilateral negotiations or regimes such as that of the ITU.

In consequence, contentious and arduous negotiations among Members have paved the way for changes in the ITU's organizational system (Ch.IV.1). For example, its purposes have expanded 'to promote and to offer technical assistance to developing countries in the field of telecommunications' (Ch.IV.1.1); its basic legal instruments have been upgraded from the conventional to constitutional level (Ch.IV.1.2); some of its infra-organs have merged, whilst others such as the Telecommunication Development Bureau have been newly instituted, and its membership has increased to 166 States (Ch.IV.1.3); unlike other UN Specialized Agencies, it has several financial sources such as the UNDP and volutary contributions by private companies, so that it has relatively less financial difficulties (Ch.IV.1.4); its personnel have been elected and recruited on an increasingly wider geographical basis (Ch.IV.1.5); and its methods of decision-making have changed from one-nation-multi-votes to one-nation-one-vote system, with an increase of six official languages (Ch.IV.1.6).

Based on both R.O.Korea's domestic telecommunications infrastructure and the ITU's organizational system (Chs.III & IV.1), Chapter IV.2 discussed alterations of methods and reasons underlying the interlinkage between R.O.Korea and the ITU over time. For example, being a divided and newly independent Republican State resulting from the Cold War, R.O.Korea wanted to use the ITU as a political arena for 'legitimacy' of its existence or independence in the international community. However, due to an international structure where high politics such as the East-West ideological game was heated in the 1950s, it faced difficulties in achieving membership of the ITU. In the 1960s, with hard-achieved membership, it tried to prevent its political counterpart - North Korea - from being a member of the ITU. In the late 1970s, when the world tension was transformed to the North-South economic-political conflicts, R.O.Korea's

export-led economic policy needed more extended external markets. Also, it internally emphasized heavy industry, and externally diversified its trade counterparts (e.g., North and South) and its membership of regional and international organizations (e.g., APT and INTELSAT). As a result, the less it recognized the significance of telecommunications sectors and the ITU, the less active and visible its actions were in the ITU's organizational system.

It is in the 1980s, when neither furious ideological conflicts nor strong econo-political dialogues surface that world tensions tend to be beyond the conventional bi-polarization. It is also a time when innovating telecommunications technology spurs change in the internal and external telecommunications environment. At the same time, recognizing the telecommunications sector as the strategic area, R.O.Korea internally undergoes large scale restructuring of its infrastructure under the liberalising bureaucratic-authoritarian regime. Influenced by these internal and external variables, R.O.Korea's actions have changed ranging from increasing contributions, to improving the number and composition of its delegation, and actively implementing contemporary activities in the ITU. Furthermore, its policy towards the ITU such as 'active participation' for the first time won a diplomatic prize to achieve membership of the Administrative Council in 1989.

Overall, the ITU as an international organization - *inter alia* a UN family system - has been of significance for R.O.Korea, especially in the light of its foreign policy. As S.D.Krasner (1985) suggests in relation to states' utilization of international organizations, R.O.Korea used the ITU as a means of legitimating top-level leaders due to internal vulnerability. However, his argument was not able to explain specific reasons of why R.O.Korea would like to and needed to achieve membership and status through the ITU. In theory, like other multilateral organizations, the ITU could offer R.O.Korea areas in which other multilateral relations provide insufficient solutions (F.Mayor,1989). In practice, upgrading its status through achieving Administrative Council's membership in the ITU would not offer 'substantial power' but 'symbolic power' (C.Conrad & M.Ryan,1985). Nonetheless, it is of importance for R.O.Korea both as an 'alternative' to

the UN where it is not yet a Member, and as a 'victory' over competition with its counterpart - N.Korea. All in all, R.O.Korea attempted to achieve political goals from the ITU as an international arena, rather than to use its technical and regulatory functions.

However, this structure-centred approach, in demonstrating Korea's politicized actions in the ITU's organizational system, does not fully describe *how and why R.O.Korea has changed its behaviour concerning the ITU's functions (issue-areas)*. Furthermore, the modality of politicization itself (or ways of negotiations among Member States) in the ITU cannot be fully explained without looking at the implications of its functions. That is, many of its deliberations are highly political because there are important econo-political prizes to be won in the light of the sovereign right to authorize lucrative telecommunications facilities and services in the highly sensitive and competitive telecommunications community.

From this point, an **issue-structural approach** was employed in order to discuss the *methods* and *reasons* underlying interlinkage between R.O.Korea and the ITU focussing on four major functions (i.e., issue-areas) with respect to both internal and external structures. They consisted of operational functions such as technical co-operation and assistance activities to developing countries; developing telecommunications technology focussing on ISDN; standardization functions undertaken by the CCITT; and regulatory functions undertaken by the WATTC-88.

The major structural conflicts between North and South derived from **operational functions** (Ch.V) were dominated by both developmental and dependencia perspectives. However, both perspectives did not fully portray R.O.Korea's behaviour concerning the operational functions of the ITU. The former could not depict a certain degree of dependency through the operational functions, which require technical and operational know-how in order to maintain and operate the new stages of development of telecommunications facilities. The latter also could not explain that, in the 1960s, the ITU contributed to restoration and development of R.O.Korea's poor and destroyed telecommunications facilities after the Korean War

(1950-1953) and to build local capabilities through improving manpower. However, the ways in which R.O.Korea implements the functions in the 1980s illustrate a great deal of difference from those in the 1960s in terms of quality, modality, and executing entities. Furthermore, the current implemention of the regional project (RAS-86-121) provides R.O.Korea together with other regional countries with mutual assistance and in turn mutual self-esteem in order to lessen dependence.

It is also worth noting that R.O.Korea did not share its position with any side (North and South). Unlike the South, it did not demand more financial support and authoritative rules through the ITU and its regimes. Also, in contrast to the North, it did not oppose the demands from the South. That is mainly because R.O.Korea did not particularly want to adopt nor implement the controversial 'technical assistance' activity, which was adopted as a new ITU purpose in 1982. It was the 'technical co-operation' activities undertaken by the Technical Cooperation Department and the UNDP, which R.O.Korea has mainly implemented since the 1960s. Another reason is that R.O.Korea is no longer a less developing country as in the 1960s, nor yet a developed country in the 1980s: R.O.Korea *per se* is in transition in both economic and telecommunications development.

The ITU's functions of developing telecommunications technology (Ch.VI) - *inter alia*, **ISDN** - demonstrate structural conflicts within the North itself due to the characteristics of ISDN. However, unlike most developing countries, R.O.Korea has taken incremental steps towards the realization of ISDN with steady investment and R&D in association with ITU regimes (Recommendations and Principles), in order to accommodate the technology and services to its own circumstances. In contrast to the North, its implementation of ISDN tends to be more *policy-pull* by the Government such as the 'Basic Plan for ISDN Development', rather than technical-push by industries or markets.

Due to its active R&D for ISDN, nevertheless, R.O.Korea has developed and produced many ISDN-like systems such as indigenous TDX. However, due to its *imcompatible* characteristics in the short to medium term, this system is unlikely to have any major impact on ISDN transition plans.

Furthermore, about 60% of high-technology oriented ISDN-like equipment is still imported mainly from its *core* countries. From this point, dependencia perspectives may argue that the ISDN issues make R.O.Korea's telecommunications infrastructure more dependent upon its *core* countries. In order to dilute such vulnerability through development of know-how and regional cooperation, R.O.Korea has joined new regional organizations such as the Asian ISDN Council (AIC).

However, in contrast to the Northern countries raising conflicts regarding 'control over intelligence' and 'pricing' of the ISDN in order to achieve commercial interests in the processes of setting ITU regimes, where R.O.Korea has little demonstrated its particular interests regardless of market-oriented rules or authoritative rules. Despite having membership of the AIC, furthermore, it hardly raised any collective interests with regional Member States. The reasons are mainly due to lack of its own national specifications for ISDN, and due to co-existing ISDN-like digital systems transferred from different countries with incompatibility in its domestic telecommunications systems. In this context, R.O.Korea wanted to use the ITU in order to exchange 'information' (R.O.Keohane,1982; & S.D.Krasner,1982) for rapidly evolving telecommunications technology such as ISDN, reduce vulnerability to economic coercion, and lessen the degree of dependence upon the developed countries (or their multinationals).

The ITU's **standardization functions undertaken by the CCITT** (Ch.VII) demonstrated various forms of structural conflicts between ITU staff and state officials, between Member States (both between North and South, and between North itself), and between standards organizations within the ITU. Because of R.O.Korea's domestic circumstances where various domestic and foreign telecommunications facilities co-exist with little compatible universal standards (Ch.III) as well as various advantages of the universal standards themselves (Ch.VII.1), R.O.Korea mostly needed the CCITT Recommendations (standards).

However, partly due to lack of recognition of its importance and to lack of willingness to be the staff in the Headquarters, R.O.Korea hardly raised any argument about the dichotomy of control. Furthermore, in

contrast to the South (G.Codding Jr and A.Rutkowski, 1984), R.O.Korea has actively participated in various CCITT's mediums, with increasing numbers of delegations composed of various entities especially in the 1980s. It also hosted the Study Group Meeting in Seoul. In particular, unlike most of the South (S.D.Krasner,1985), it neither wanted to alter the ITU regimes (e.g.,CCITT standards), nor demanded technical assistance with financial support by the CCITT. Also, unlike the North, R.O.Korea did not overtly raise any strong interests in the CCITT standardization, either.

In this context, a prime purpose of R.O.Korea's active participations in the CCITT is to get 'information' (R.O.Keohane,1982; & S.D.Krasner,1982), especially for univeral standards which R.O.Korea urgently needs. However, it further wanted to use the CCITT's mediums under the auspices of the ITU to enhance national prestige in the early days (Ch.VII.2). In addition, because there is no one internal standard (e.g., SNA) nor any standard body (e.g., Committee T1) of its own, R.O.Korea - especially its policy-makers - wanted to use the CCITT and its work for domestic purposes. Furthermore, although R.O.Korea diversified its membership and implementation in other standards organizations such as the ISO and the IEC in order to build 'local capability' (C.J.Dahlman *et.al.*,1985), it is arguable whether the work for these various standards organizations is collectively analysed and utilized in order to better implement the CCITT's work. Nevertheless, due to various efforts, R.O.Korea is now able to suggest contributions to the CCITT standardization rather than purely receive and implement its standards for domestic use.

The ITU's **regulatory functions undertaken by WATTC-88** (Ch.VIII) illustrated more fragmented structural conflicts and coalitions among divided actors' groups - like a *pot pourri*. It is of importance to note that the divisions were mainly dependent on different domestic telecommunications policies rather than the conventional bi-polarization derived from North-South or East-West ideological conflicts. Yet, the implicated issues of WATTC-88 were highly political, due to important economic interests involved in the light of the sovereign right to authorize telecommunications (special) services. Thus, many commentators anticipated that the new Regulations together with the ongoing bilateral and

multilateral discussions on trade in telecommunications services would be significant international factors in formulating national telecommunications policies (R.Bruce,1989; *et.al.*).

At the same time, R.O.Korea *bilaterally* faced threats from the developed countries (chiefly the US) to open its domestic (especially special service) markets. From this point, it was anticipated to form a coalition with like-minded countries of similar vulnerability. Also, R.O.Korea itself expected the new Regulations to effect its telecommunications sector in the next century, so that it emphasized active participation in WATTC-88. Nevertheless, unlike some actors' groups such as the US, France, and African countries, it did not strongly insist on its interests in the processes of WATTC-88 and lacked coalitions with other Members. Instead, although its actions appeared to be invisible, it attempted to *mediate* heated controversies.

R.O.Korea'a behaviour could be attributable to its preference for unilateral or bilateral solutions under the bureaucratic-authoritarian regime rather than the multilateral forum or its regime such as WATTC-88. In practice, the US later kept R.O.Korea off the the list of alleged unfair traders named under its new trade law due to Korea's assiduous lobbying through bilateral negotiations (Spring in 1989). This is rather contrary to many assumptions that the multilateral frame such as WATTC-88 could offer countries like R.O.Korea an arena or instrument in order to solve its vulnerability derived from unilateral, bilateral or other multilateral relations (R.O.Keohane,1986; K.W.Grewlich,1987; R.B.Porter and R.Vernon,1989; & F.Mayor,1989). In addition, the reasons underlying its behaviour varied from the fact that its internal telecommunications regulations and policies were in transition, from its lack of comprehension of complex issues in WATTC-88 itself, and inefficient negotiating skills, to external econo-political conditions in the complex interdependent world telecommunications community.

Overall, this issue-structural approach demonstrated *differences* both in political structure among state and non-state members (e.g., the North-South and/or North-North), and in R.O.Korea's behaviour, concerning the

ITU's functions as issue-areas. Moreover, this approach depicted that the methods and reasons underlying R.O.Korea's behaviour concerning each function differed from those of the North, South, East, West, and even from other newly industrializing countries. Nonetheless, R.O.Korea's behaviour showed certain *similiarities*: it has mainly used 'relational power (which attempts to maximize the existing regimes)' in the consequences (i.e., implementation of the outcomes of regimes in the local fields) rather than 'meta power (which identifies changing existing regimes)' in the processes (i.e., actions setting the international regimes in the mediums) of the ITU's issue-areas (S.D.Krasner,1983;1985). In particular, although its domestic telecommunications infrastructure has been overall influenced by the bureaucratic-authoritarian regime, it is difficult to prove that R.O.Korea would be in favour of 'authoritative' rules through the ITU. In practice, it has been incrementally liberalising and diversifying domestic telecommunications infrastructure in line with its export-drive competitive market-oriented policy (R.L.Rothstein,1988; and D.A.Lake,1987). It is also worth noting that it does not particularly want the authoritative regimes of the ITU to intervene in its 'sovereignty' (CH.VIII.2).

Integrating both 'structure-centred' and 'issue-structural' approaches, some commentators would argue 'state power in international organizations' (R.O.Keohane, 1989; and S.D.Krasner,1985). That is, there exists state power in the process of the ITU regime - both in its organizaional system and functions. Yet, there no longer exists apparent hegemony of the superpower in the ITU: the structure of personnel in the ITU Headquarters has altered towards a wider geographical basis. Also, the Secretary Generalship has been influenced by 'middle power' Members (J.Doran,1989) rather than by the superpowers (Ch.IV.1). In particular, although high-technology-oriented issues such as ISDN are still dominated by the North in the CCITT (Chs.VI.1 & VII.1), there are increasingly coherent voices from the South together with the North (mainly 'middle power' countries) reflecting on the processes and consequences of the ITU regimes - both the operational and regulatory functions (Chs.V.1 & VIII.1).

Being a 'middle power' Member ranking the 10th in the world telecommunications market in accordance with its overall market economy, thus, R.O.Korea began to use the *processes* of the ITU. It wanted to narrow the widening gaps between the North and South (Ch.V), to exchange rather than just receive information for telecommunications technologies (Ch.VI) and standards (Ch.VII), and to mediate the extreme interests of actors (Ch.VIII). Due to heterogeneity in the Asia-Pacific region, R.O.Korea's increasing participations in regional and international telecommunications activities and organizations (e.g., RAS-86-121; and APT, AIC, INTELSAT, ISO, IEC, & GATT) still did not offer any particular coalition with regional or like-minded members.

A further *common* behaviour that R.O.Korea has demonstrated in both the processes and consequences of the ITU (both its organizational system and functions) was *corporatism* among various infra-organs under the Government-stewardship, rather than *pluralism* with an equal power base. On the one hand, this *corporatist* behaviour is desirable particularly when it is relatively weak in the competitive global telecommunications community (particularly, special service sector). On the other, neither hard-line regimes nor strong corporatism is likely to be forever lasting especially in competitive national and international telecommunications sectors, where highly lucrative commercial interests are involved.

Overall, influenced by its internationalization policy, R.O.Korea diversified its bilateral and multilateral relations. In particular, corporatist R.O.Korea's telecommunications infra-organs have actively participated in and used the ITU (both its organizational system and functions) under the bureaucratic-authoritarian regime. Hence, Mr. R.Butler (Secretary General of the ITU) and Dr.T.Irmer (Director of the CCITT) said that R.O.Korea becomes one of the faithful Members of the ITU.' Furthermore, being a member of the Administrative Council (1989), R.O.Korea used the ITU in order to 'legitimate' itself to impact on debate concerning its membership in the UN. However, it did not yet demonstrate a possility to use the ITU (particularly its functions) in order to 'solve' vulnerability derived from bilateral agreements. Nor did it use power-resources from the ITU to affect results in another such as GATT, and *vice versa*. Therefore,

despite development of ways in which R.O.Korea used and acted in the ITU, its behaviour is still less efficient than as it could be.

In this context, it is now necessary for R.O.Korea to improve efficient overall management for unilateral, bilateral, and multilateral arrangements such as the ITU in the complex world telecommunications issue-structures. As a way of improving the interlinkages between R.O.Korea and the ITU in both the processes and consequences, the discussions of methods and reasons underlying R.O.Korea's behaviour in both structural and issue-structural approaches (Chs.IV to VIII) can suggest several ***lessons*** learned from past mistakes or experiences, as follows:

From the **structure-centred approach**, which involves analysis of both R.O.Korea's domestic telecommunications infrastructure and the ITU's organizational system where state and non-state actors distribute their capabilities, Chapters III and IV suggest the need for *macro* analysis and comprehension of both internal and external structural variables. At a wider level, with respect to changes in the ITU's organizational system - especially the forthcoming additional Plenipotentiary Conference in 1991 for its structural reform -, R.O.Korea as a member of the Administrative Council needs to carefully monitor the overall ITU's system in order to improve the ITU *per se*, as well as to better distribute its capability in the process of the reform. At a narrower level, R.O.Korea needs to utilize not only the Plenipotentiary Conferences, but also other infra-organs such as the IFRB and CCIs, in a more '*active*' and '*efficient*' than passive way. Furthermore, it should not merely increase financial contribution to the ITU, but monitor where and how well the budget is distributed and used. Finally, although R.O.Korea increased the number and quality of its delegation, it is of major significance that it further improves the overall performance of its staff in the Headquarters as well as its efficient deliverance of agendas.

To this end, the foremost task is to improve overall 'manpower' equipped with not only technical, legal, policy, but also diplomatic knowledge and language skills. In particular, the efficient management - *inter alia*, reform of bureaucratic-authoritarian personnel management -

cannot be just fulfilled by individual efforts or abilities, but by each infra-organ ranging from the Government to common carriers. Furthermore, these management skills will not be achieved, without having full access to the available expertise in relevant sectors as well as experience.

From the **issue-structural approach**, which integrates internal and external structures focussing on ITU's four major functions as issue-areas, Chapter V (operational functions) suggests that R.O.Korea is no longer a less developing country receiving the technical co-operation or assistance activities in the 1990s and beyond, but should restore benefits received from the ITU to other countries in need. It has already implemented regional projects with contributions in cash, and increased its direct contribution in order to finance technical assistance activities in the late 1980s. Indeed, without developing telecommunications facilities of both developing and developed countries, telecommunications cannot be fully interconnected. In consequence, there will be no *reciprocity* in the global telecommunications community. As R.O.Keohane (1989) argues, "interdependence can be managed only if the resources are available, if investments in national power, as well as in wealth, have been made."[2] Here, it would be more cost-beneficial and interdependent, if in the longer run R.O.Korea could improve its overall telecommunications resources and provide less endowed countries with its technology, facilities, and manpower rather than with mere cash.

In a sense, as Chapter VI (functions of telecommunications technology such as ISDN) demonstrated, R.O.Korea's indigenous tecnologies such as TDX systems can be more suitable than other high-tech systems of some developed countries for some developing countries. However, it is also worth noting that the complicated ISDN issues should be further considered in the internal and external issue-structure. That is, technical-centered approaches are today no longer adequate without considering multi-sectorial socio-economic and policy implications of ISDN. In particular, because its current regulatory policy such as distinctions between common carriers based on voice services (provided by KTA) and non-voice services (provided by DACOM) will be virtually no longer meaningful in the advent of the

ISDN, R.O.Korea needs to look at some questions such as what kinds of ISDN services should be provided and by whom[3].

On the other hand, some may argue that capital for development of ISDN could be raised without any great difficulty, because Government investment has increased a great deal in the telecommunication sector. For example, the rate of the total fixed capital formation went from 3.5% during the period of the 5th Five Year Economic Development Plan to 7.5% during the period of the 6th Five Year Development Plan."[4] However, the availability of capital resources[5] should be considered, on the grounds that the amount of R&D spent by R.O.Korea's telecommunications sector is still relatively small compared to that of industrialised countries or their multinationals (Ch.III). Also, the further privatization of the KTA (1989) may leave a possibility of weakening R&D and its investment. In addition, digitalization of the ISDN itself requires high costs of investments, particularly due to co-existing different systems in R.O.Korea's telecommunications circumstances. Therefore, it is worth considering that not just administrations* but also the telecommunications industry needs active involvement for development of ISDN technology and marketability in both R.O.Korea's telecommunications infrastructure and the ITU. Furthermore, countries like R.O.Korea where its policy has been in transition need to closely look at issues like how to manage its incremental liberalisation toward developing ISDN, with careful consideration of issues such as tariffs, trade balances, privacy, and sovereignty, apart from social costs.

In particular, Dr.T.Irmer (Director of the CCITT) personally recommended several possible methods of R.O.Korea's efficient implementation of the CCITT and the WATTC-88. First, "it is impossible for R.O.Korea together with many other Members to follow every work of the CCITT. Namely, there are 15 Study Groups within the CCITT itself, whose meetings have been taken all years of calendars by one group after another. For this reason, the best way for R.O.Korea is to select and concentrate on the utmost areas such as the ISDN, digital technology, optical fibre, digital signalling No.7, whole areas of services. R.O.Korea also needs to use and participate in regional organizations such as ASEAN. In this way, each

country can have benefits as well as raise coherent voices and interests enhanced by coalition with regional like-minded members. [Although it was not the case in WATTC-88], Europe is the good example, where cooperations among EC members have impacted on maximum inputs and outputs of the CCITT work under the auspices of the ITU with *minimum manpower*." As discussed above, these suggestions have been so far practiced by Korea's various infra-organs.

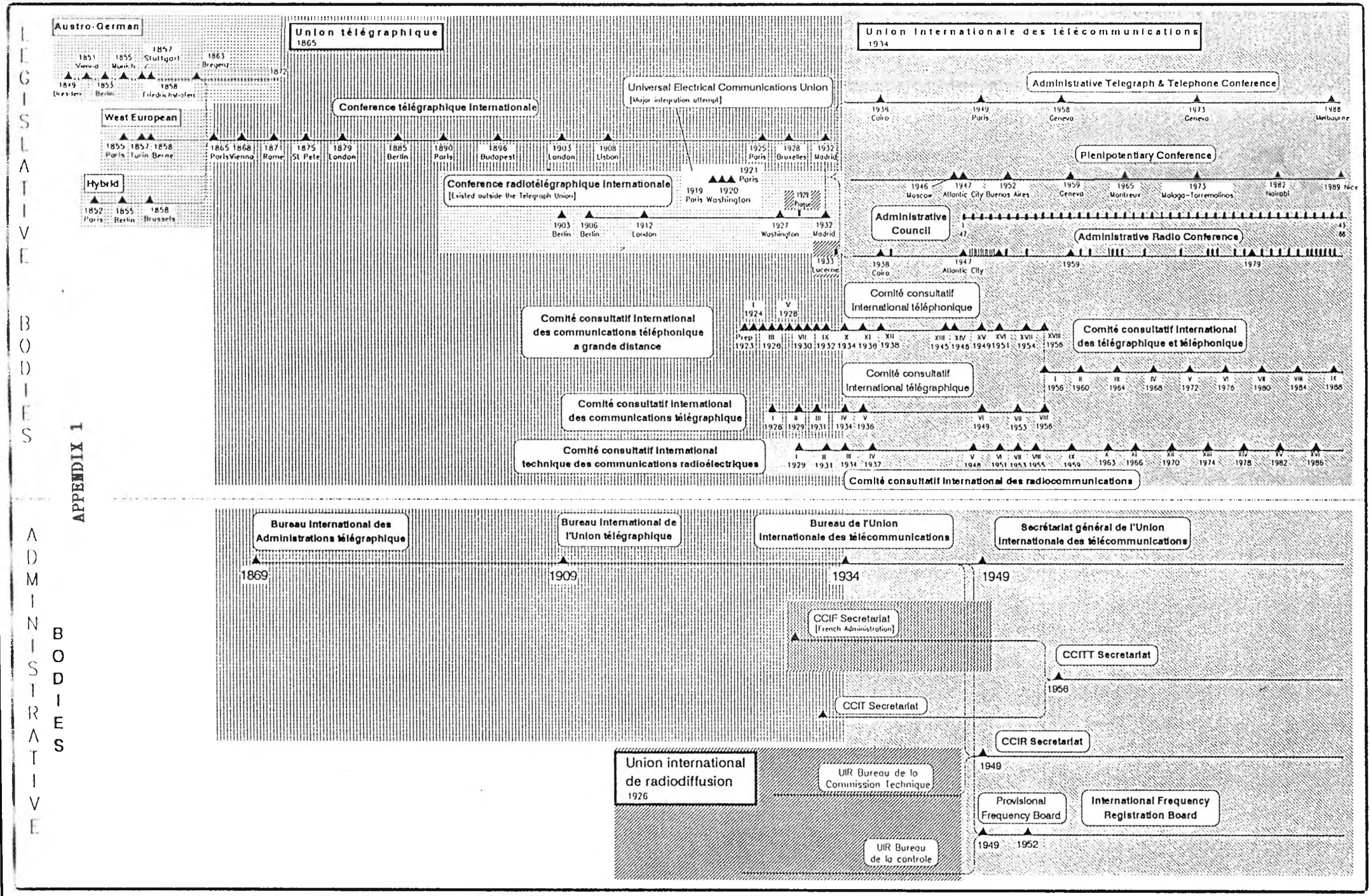
However, as he also said, emphasis needs to be placed on 'continuity'. That is, sending the same delegate(s) to the Mediums (meetings) depending on specific issues is very efficient and important. In addition, the delegate(s)' capability including language skills is also of significance. Otherwise, its increasing numbers of delegates can be wasteful. In other words, if the delegate(s) changed at every Medium, they would be always a newcomer(s) not only to the delegates from other countries, but also to the relevant issues. In practice, as he said, "many decisions - especially arduous and vital decisions - have been often decided in informal personal contacts or negotiations (outside conferences such as coffee-breaks) like those at WATTC-88 rather than formal conference *per se*." To some extent, compromises were possible due to personal acknowledgement in the processes of WATTC-88, where delegates from some (chiefly, industrial) countries were well known to one another because of continously working together in the same fields for a long period.[6] For this reason, to build personal friendships and experiences through regular participation by the same delegate(s) to specific Mediums is one of the most urgent tasks that R.O.Korea should take into account. Indeed, by doing so, delegates themselves can be confident and experts, and consequently acknowledge whom, what, and how they should and can talk. All in all, implications of 'continuity' are vital especially when issues are highly sensitive and controversial like those in the CCITT and WATTC-88.

Most of all, considering the new Regulation due to come into effect in July 1990 for telecommunications facilities and 'services' in competitive global markets and the additional Plenipotentiary Conference in 1991 for the Union's 'structural reform', it is more significant on how to implement the ITU regimes in internal and external telecommunications structure in

the 1990s and beyond. For efficient implementation of its 'rights' and 'obligations', R.O.Korea needs not only to reform its domestic laws taking into account other Members' laws concerning telecommunications issues (e.g., trade in telecommunications services), but also to improve its management (especially, personnel, legal, and negotiating) skills in internal and external telecommunications issue-structures. Otherwise, vulnerability such as pressures to open its markets to foreign entities cannot be avoided, because 'state power' still significantly remains as a crucial variable (S.D.Krasner,1985; D.A.Lake,1987; and R.O.Keohane,1989) in the highly competitive global telecommunications community.

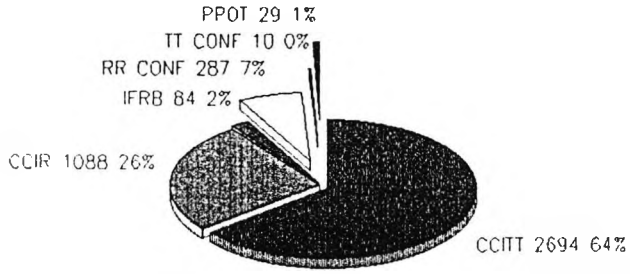
All in all, the foremost task R.O.Korea faces is 'human resource' and 'management skills' to meet the complicated telecommunications issues in the 1990s and beyond: what kind of telecommunications facilities and services are internally and externally offered with what costs, by whom to whom (e.g.,the balance of power or trades between Korea v South, Korea v North, Korea v NIES, and Korea v East particularly considering their telecommunications policies and structures) in both the short- and long-term. In particular, R.O.Korea's unilateral, bilateral, and multilateral actions, which are at present separately implemented by various infra-organs, need to be 'collectively' and 'functionally' used by specific experts (technicians, lawyers, diplomats, and administrators) subject to each issue in the complex internal and external telecommunications structures.

ANNEXES

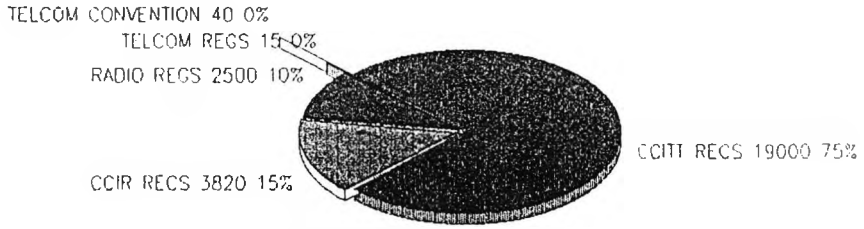

APPENDIX 1
LEGISLATIVE BODIES
ADMINISTRATIVE BODIES
Austro-German
1851 Vienna
1855 Munich
1857 Stuttgart
1863 Bregenz
1849
1855 Berlin
1858
1872
West European
1855 Paris
1857 Turin
1858 Berne
Hybrid
1852 Paris
1855 Berlin
1858 Brussels
Union télégraphique
1865
1865 Paris
1868 Vienna
1871 Rome
1875 St Pete
1879 London
1885 Berlin
1890 Paris
1896 Budapest
1903 London
1908 Lisbon
1925 Paris
1928 Bruxelles
1932 Madrid
Conference télégraphique internationale
Universal Electrical Communications Union
[Major integration attempt]
Conference radiotélégraphique internationale
[Existed outside the Telegraph Union]
1903 Berlin
1906 Berlin
1912 London
1919
1920 Paris Washington
1921 Paris
1927 Washington
1929 Prague
1932 Madrid
1933 Lucerne
Comité consultatif international des communications téléphonique a grande distance
I 1924
V 1928
Prep 1923
III 1926
VII 1930
IX 1932
X 1934
XI 1936
XII 1938
Comité consultatif international des communications télégraphique
I 1926
II 1929
III 1931
IV 1934
V 1936
Comité consultatif international technique des communications radioélectriques
I 1929
II 1931
III 1934
IV 1937
Union internationale des télécommunications
1934
Administrative Telegraph & Telephone Conference
1938 Cairo
1949 Paris
1958 Geneva
1973 Geneva
1988 Melbourne
Plenipotentiary Conference
1946 Moscow
1947 Atlantic City
1952 Buenos Aires
1959 Geneva
1965 Montreux
1973 Malaga-Torremolinos
1982 Nairobi
1989 Nice
Administrative Council
1938 Cairo
1947 Atlantic City
Administrative Radio Conference
1959
1979
Comité consultatif international téléphonique
XIII 1945
XIV 1948
XV 1949
XVI 1951
XVII 1954
XVIII 1956
Comité consultatif international des télégraphique et téléphonique
I 1956
II 1960
III 1964
IV 1968
V 1972
VI 1976
VII 1980
VIII 1984
IX 1988
Comité consultatif international télégraphique
VI 1949
VII 1953
VIII 1956
Comité consultatif international des radiocommunications
V 1948
VI 1951
VII 1953
VIII 1955
IX 1959
X 1963
XI 1966
XII 1970
XIII 1974
XIV 1978
XV 1982
XVI 1986
Bureau international des Administrations télégraphique
1869
Bureau international de l'Union télégraphique
1909
Bureau de l'Union internationale des télécommunications
1934
Secrétariat général de l'Union internationale des télécommunications
1949
CCIF Secretariat
[French Administration]
CCITT Secretariat
1956
CCIT Secretariat
CCIR Secretariat
1949
Union international de radiodiffusion
1926
UIR Bureau de la Commission Technique
UIR Bureau de la controle
Provisional Frequency Board
International Frequency Registration Board
1949
1952

A SUMMARY OF ITU LEGISLATIVE AND RELATED ACTIVITIES, 1982–1988

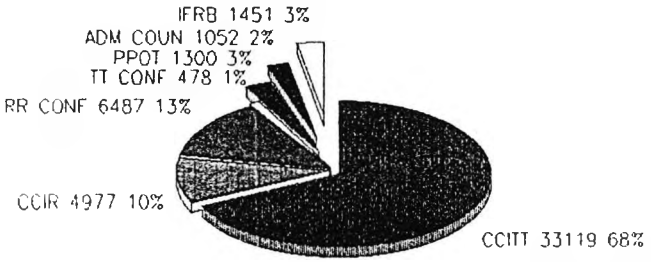
APPENDIX 2



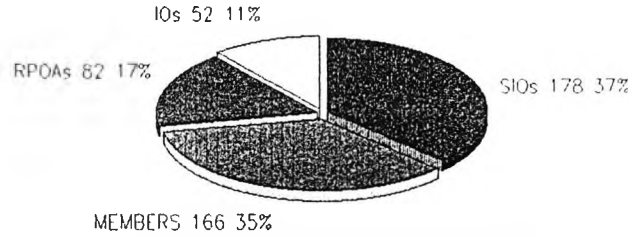
WHAT LEGISLATIVE/MANAGEMENT MEETINGS OCCUR (MEETING–DAYS)



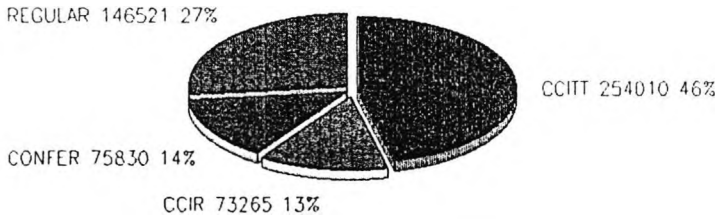
WHAT NORMS, REGULATIONS, STANDARDS ARE ADOPTED (APPROX A4 PAGES)



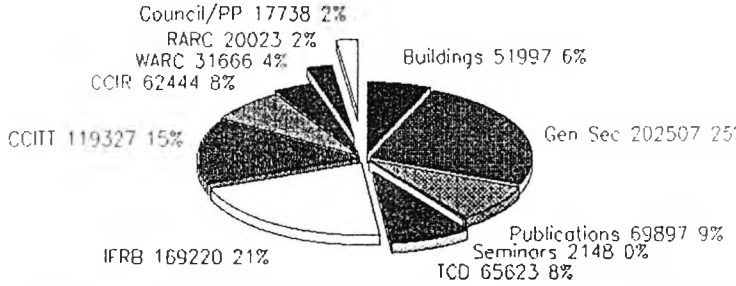
WHERE DO PEOPLE PARTICIPATE (TOTAL PARTICIPANTS)



WHO PARTICIPATES (CATEGORY)



WHAT DOCUMENTS ARE PRODUCED (KILOPAGES)



WHAT DOES IT COST BY ORGAN/SECTOR (1000 SFR, TOTAL 1982–88)

CONTRIBUTIONS OF ITU MEMBERS TO THE BUDGET - 1983

Contributory Unit - 1983 **176,600**

Country	Class of contribution	Contributions (Swiss Francs)
Afghanistan	0.125	22,075
Albania	0.25	44,150
Algeria	1	176,600
Angola	0.25	44,150
Argentina	3	529,800
Australia	18	3,178,800
Austria	1	176,600
Bahamas	0.5	88,300
Bahrain	0.5	88,300
Bangladesh	0.125	22,075
Barbados	0.25	44,150
Belgium	5	883,000
Belize	0.125	22,075
Benin	0.25	44,150
Bolivia	0.25	44,150
Botswana	0.5	88,300
Brazil	3	529,800
Bulgaria	1	176,600
Burkina Faso	0.125	22,075
Burma	0.5	88,300
Burundi	0.125	22,075
Byelorussian SSR	0.5	88,300
Cameroon	0.5	88,300
Canada	18	3,178,800
Cape Verde	0.125	22,075
Central African Republic	0.125	22,075
Chad	0.125	22,075
Chile	1	176,600
China	10	1,766,000
Colombia	1	176,600
Comoros	0.125	22,075
Congo	0.5	88,300
Costa Rica	0.25	44,150
Côte d'Ivoire	1	176,600
Cuba	0.5	88,300
Cyprus	0.25	44,150
Czechoslovakia	2	353,200
Dem. People's Rep. of Korea	0.25	44,150
Democratic Kampuchea	0.5	88,300
Denmark	5	883,000
Djibouti	0.125	22,075
Dominican Republic	0.5	88,300
Ecuador	0.5	88,300
Egypt	1	176,600
El Salvador	0.25	44,150
Equatorial Guinea	0.125	22,075
Ethiopia	0.125	22,075
Fiji	0.25	44,150
Finland	5	883,000
France	30	5,298,000
Gabon	0.5	88,300
Gambia	0.125	22,075
German Democratic Republic	3	529,800
Germany (Fed. Rep.)	30	5,298,000

CONTRIBUTIONS OF ITU MEMBERS TO THE BUDGET - 1983

Contributory Unit - 1983 **176,600**

Country	Class of contribution	Contributions (Swiss Francs)
Ghana	0.25	44,150
Greece	1	176,600
Grenada	0.125	22,075
Guatemala	0.25	44,150
Guinea	0.125	22,075
Guinea Bissau	0.125	22,075
Guyana	0.25	44,150
Haiti	0.125	22,075
Honduras	0.25	44,150
Hungary	1	176,600
Iceland	0.25	44,150
India	10	1,766,000
Indonesia	1	176,600
Iran (Islamic Rep.)	1	176,600
Iraq	0.25	44,150
Ireland	2	353,200
Israel	1	176,600
Italy	10	1,766,000
Jamaica	0.25	44,150
Japan	30	5,298,000
Jordan	0.5	88,300
Kenya	0.25	44,150
Korea (Rep. of)	1	176,600
Kuwait	1	176,600
Lao (P.D.R.)	0.5	88,300
Lebanon	0.25	44,150
Lesotho	0.125	22,075
Liberia	0.25	44,150
Libya	1.5	264,900
Liechtenstein	0.5	88,300
Luxembourg	0.5	88,300
Madagascar	0.25	44,150
Malawi	0.125	22,075
Malaysia	3	529,800
Maldives	0.125	22,075
Mali	0.125	22,075
Malta	0.25	44,150
Mauritania	0.25	44,150
Mauritius	0.25	44,150
Mexico	1	176,600
Monaco	0.25	44,150
Mongolia	0.25	44,150
Morocco	1	176,600
Mozambique	0.25	44,150
Nauru	0.125	22,075
Nepal	0.125	22,075
Netherlands	10	1,766,000
New Zealand	2	353,200
Nicaragua	0.5	88,300
Niger	0.125	22,075
Nigeria	2	353,200
Norway	5	883,000
Oman	0.5	88,300
Pakistan	2	353,200

CONTRIBUTIONS OF ITU MEMBERS TO THE BUDGET - 1983

Contributory Unit - 1983 **176,600**

Country	Class of contribution	Contributions (Swiss Francs)
Panama	0.5	88,300
Papua New Guinea	0.5	88,300
Paraguay	0.5	88,300
Peru	0.25	44,150
Philippines	1	176,600
Poland	2	353,200
Portugal	1	176,600
Qatar	0.5	88,300
Romania	0.5	88,300
Rwanda	0.125	22,075
Saint-Vincent and the Grenadines	0.125	22,075
San Marino	0.25	44,150
Sao Tome and Principe	0.125	22,075
Saudi Arabia	10	1,766,000
Senegal	1	176,600
Sierra Leone	0.125	22,075
Singapore	1	176,600
Somalia	0.125	22,075
South Africa	1	176,600
Spain	3	529,800
Sri Lanka	0.5	88,300
Sudan	0.125	22,075
Suriname	0.25	44,150
Swaziland	0.25	44,150
Sweden	10	1,766,000
Switzerland	10	1,766,000
Syria	0.5	88,300
Tanzania	0.125	22,075
Thailand	1.5	264,900
Togo	0.25	44,150
Tonga	0.125	22,075
Trinidad and Tobago	1	176,600
Tunisia	1	176,600
Turkey	1	176,600
Uganda	0.125	22,075
Ukrainian SSR	1	176,600
United Arab Emirates	1	176,600
United Kingdom	30	5,298,000
United States	30	5,298,000
Uruguay	0.5	88,300
USSR	30	5,298,000
Vatican City State	0.25	44,150
Venezuela	2	353,200
Viet Nam	0.5	88,300
Yemen (A.R.)	0.25	44,150
Yemen (PDR of)	0.125	22,075
Yugoslavia	1	176,600
Zaire	0.5	88,300
Zambia	0.25	44,150
Zimbabwe	0.5	88,300

CONTRIBUTIONS OF ITU MEMBERS TO THE BUDGET - 1990

Contributory unit - 1990 240,000 Swiss Francs
Total Budget - 1990 127,106,000 Swiss Francs
(regular and extrabudgetary sources)
Total number of units - 1990 396 3/4 units

Country	Class of contribution	Contributions (Swiss Francs)
Afghanistan	0.125	30,000
Albania	0.25	60,000
Algeria	1	240,000
Angola	0.25	60,000
Antigua and Barbuda	0.125	30,000
Argentina	3	720,000
Australia	18	4,320,000
Austria	1	240,000
Bahamas	0.5	120,000
Bahrain	0.5	120,000
Bangladesh	0.125	30,000
Barbados	0.25	60,000
Belgium	5	1,200,000
Belize	0.125	30,000
Benin	0.25	60,000
Bhutan	0.125	30,000
Bolivia	0.25	60,000
Botswana	0.5	120,000
Brazil	3	720,000
Brunei Darussalam	0.5	120,000
Bulgaria	1	240,000
Burkina Faso	0.125	30,000
Burma	0.5	120,000
Burundi	0.125	30,000
Byelorussian SSR	0.5	120,000
Cameroon	0.5	120,000
Canada	18	4,320,000
Cape Verde	0.125	30,000
Central African Republic	0.125	30,000
Chad	0.125	30,000
Chile	1	240,000
China	10	2,400,000
Colombia	1	240,000
Comoros	0.125	30,000
Congo	0.5	120,000
Costa Rica	0.25	60,000
Côte d'Ivoire	1	240,000
Cuba	0.5	120,000
Cyprus	0.25	60,000
Czechoslovakia	2	480,000
Dem. People's Rep. of Korea	0.25	60,000
Democratic Kampuchea	0.5	120,000
Denmark	5	1,200,000
Djibouti	0.125	30,000
Dominican Republic	0.5	120,000
Ecuador	0.5	120,000
Egypt	1	240,000
El Salvador	0.25	60,000
Equatorial Guinea	0.125	30,000
Ethiopia	0.125	30,000

CONTRIBUTIONS OF ITU MEMBERS TO THE BUDGET - 1990

Contributory unit - 1990 240,000 Swiss Francs
Total Budget - 1990 127,106,000 Swiss Francs
(regular and extrabudgetary sources)
Total number of units - 1990 396 3/4 units

Country	Class of contribution	Contributions (Swiss Francs)
Fiji	0.25	60,000
Finland	5	1,200,000
France	30	7,200,000
Gabon	0.5	120,000
Gambia	0.125	30,000
German Democratic Republic	3	720,000
Germany (Fed. Rep.)	30	7,200,000
Ghana	0.25	60,000
Greece	1	240,000
Grenada	0.125	30,000
Guatemala	0.25	60,000
Guinea	0.125	30,000
Guinea Bissau	0.125	30,000
Guyana	0.25	60,000
Haiti	0.125	30,000
Honduras	0.25	60,000
Hungary	1	240,000
Iceland	0.25	60,000
India	10	2,400,000
Indonesia	1	240,000
Iran (Islamic Rep.)	1	240,000
Iraq	0.25	60,000
Ireland	2	480,000
Israel	1	240,000
Italy	10	2,400,000
Jamaica	0.25	60,000
Japan	30	7,200,000
Jordan	0.5	120,000
Kenya	0.25	60,000
Kiribati	0.125	30,000
Korea (Rep. of)	1	240,000
Kuwait	1	240,000
Lao (P.D.R.)	0.5	120,000
Lebanon	0.25	60,000
Lesotho	0.125	30,000
Liberia	0.25	60,000
Libya	1.5	360,000
Liechtenstein	0.5	120,000
Luxembourg	0.5	120,000
Madagascar	0.25	60,000
Malawi	0.125	30,000
Malaysia	3	720,000
Maldives	0.125	30,000
Mali	0.125	30,000
Malta	0.25	60,000
Mauritania	0.25	60,000
Mauritius	0.25	60,000
Mexico	1	240,000
Monaco	0.25	60,000
Mongolia	0.25	60,000

CONTRIBUTIONS OF ITU MEMBERS TO THE BUDGET - 1990

Contributory unit - 1990 240,000 Swiss Francs
Total Budget - 1990 127,106,000 Swiss Francs
(regular and extrabudgetary sources)
Total number of units - 1990 396 3/4 units

Country	Class of contribution	Contributions (Swiss Francs)
Morocco	1	240,000
Mozambique	0.25	60,000
Namibia		0
Nauru	0.125	30,000
Nepal	0.125	30,000
Netherlands	10	2,400,000
New Zealand	2	480,000
Nicaragua	0.5	120,000
Niger	0.125	30,000
Nigeria	2	480,000
Norway	5	1,200,000
Oman	0.5	120,000
Pakistan	2	480,000
Panama	0.5	120,000
Papua New Guinea	0.5	120,000
Paraguay	0.5	120,000
Peru	0.25	60,000
Philippines	1	240,000
Poland	2	480,000
Portugal	1	240,000
Qatar	0.5	120,000
Romania	0.5	120,000
Rwanda	0.125	30,000
Saint-Vincent and the Grenadines	0.125	30,000
San Marino	0.25	60,000
Sao Tome and Principe	0.125	30,000
Saudi Arabia	10	2,400,000
Senegal	1	240,000
Sierra Leone	0.125	30,000
Singapore	1	240,000
Soloman Islands	0.125	30,000
Somalia	0.125	30,000
South Africa	1	240,000
Spain	3	720,000
Sri Lanka	0.5	120,000
Sudan	0.125	30,000
Suriname	0.25	60,000
Swaziland	0.25	60,000
Sweden	10	2,400,000
Switzerland	10	2,400,000
Syria	0.5	120,000
Tanzania	0.125	30,000
Thailand	1.5	360,000
Togo	0.25	60,000
Tonga	0.125	30,000
Trinidad and Tobago	1	240,000
Tunisia	1	240,000
Turkey	1	240,000
Uganda	0.125	30,000
Ukrainian SSR	1	240,000

CONTRIBUTIONS OF ITU MEMBERS TO THE BUDGET - 1990

Contributory unit - 1990 240,000 Swiss Francs
Total Budget - 1990 127,106,000 Swiss Francs
(regular and extrabudgetary sources)
Total number of units - 1990 396 3/4 units

Country	Class of contribution	Contributions (Swiss Francs)
United Arab Emirates	1	240,000
United Kingdom	30	7,200,000
United States	30	7,200,000
Uruguay	0.5	120,000
USSR	30	7,200,000
Vanuatu	0.125	30,000
Vatican City State	0.25	60,000
Venezuela	2	480,000
Western Samoa	0.125	30,000
Viet Nam	0.5	120,000
Yemen (A.R.)	0.25	60,000
Yemen (PDR of)	0.125	30,000
Yugoslavia	1	240,000
Zaire	0.5	120,000
Zambia	0.25	60,000
Zimbabwe	0.5	120,000

Note: Namibia is not required to pay its contribution until it becomes independent

NOTES & REFERENCES

Chapter II. Literature Reviews and Research Questions

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These include: periodic adjustment of the exchange rate; tariff exemption on imports of .../

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130 R,O,Keohane, *op,cit,*, 1986, pp,194-5,
131 International Telecommunication Convention, Nairobi, 1982, Geneva; ITU, p,101,
132 D,Longley and M,Shain, MacMillan Dictionary of Information Technology (3rd ed,), MacMillan Reference Books, 1989, p,497,
133 D,Cerni, Standards in Process: Foundations and Profiles of ISDN and OIS Studies, National Telecommunications and Information Administration Report, 1984, p,262,
134 *Ibid,*, *passim*; H,Jones, Information Technology, Chambers Commerce Series , W&R Chambers Ltd,, 1989, p,3; & N,D,Karunaratne, *op,cit,*, 1986, p,83,
135 Rec,I,112 of CCITT Red Book, 1984, See the term administrations* includs recognized private operating agencies according to the ITU's definition,
136 F,M,Negro, "WATTC-88: Broad international regulatory framework for telecommunication services in the 90s", The Washington Round, World Telecommunication Forum, Washington,D,C,, 1985, Proceedings, Geneva; ITU, pp,113-4,
137 D,Longlery and M,Shain, *op,cit,*, 1989, p,531; & J,D,Aronson and P,F,Cowhey, When Countries Talk: International Trade in Telecommunications Services, American Enterprise Institute/Ballinger, 1988, pp,85-102,
138 e,g,, whether to classify electronic and voice mail and storage as basic, value-added, or information services, See J,D,Aronson and P,F,Cowhey, *Ibid,*, p,93,
139 N,D,Karunaratne see innovating telecommunications technologies as having "reduced space and distance by facilitating the cost-effective communication of information in real time," See N,D,Karunarantne, "Information technology and the developing Pacific", Telecommunications Policy, 10 (2), 1983, pp,83-7, Ithiel de Sola Pool observes that "development, along with the development of multiple technologies of communication and of cheap microprocessors , will foster a trend toward pluralistic and competitive communication systems, With hundred-channel cable systems, ISDNs, and network links to thousands of on-line information services, there should be a diversity of voices far beyond anything known today," See I,S,Pool, Technologies of Freedom, Harvard University Press, 1983, pp,226-51,
140 F,Williams, "New communication technology and society ; Recent trends in communication policy", Paper prepared for the World Academic Conference of the Seoul ,,,/

/... Olympiad '88", 1988; R.E.Butler, Forward, The Washington Round, World Telecommunication Forum, Washington,D.C., 1985, Proceedings, Geneva: ITU; & J.W.Young, "Service creation: A telephone company perspective", IEEE Communicatin Magazine, 26 (12), 1988, p.58.

141 R.Priddle, "UK's Views", Paper presented in Telecommunications & The Membourne Meetings, London, March 31 1989.

142 An EEC report demonstrates that the conglomerate sector of the management and transport of information already represents more than ECU 500 billion for the whole world. The world market for telecommunications equipment had reached ECU 90 (18% - telecommunications equipment and transport of information) billion by 1986, of which ECU 17.5 (19.4% - EC:world) billion was accounted for by the Community. In particular, world revenue from telecommunications services was almost ECU 3000 billion, of which the Community represented ECU 62.5 (some 20%) in 1985. See CEC,COM (87) 290 final, 30 June 1987,p.2.

143 D.Roseman, "Towards a GATT Code on Trade in Telecommunication equipment", The World Economy, 11 (1),1988,p.140; & G.Feketekuty, "Telecommunications and Trade: Implications for GATT and ITU", Transnational Data and Communications Report, 11 (5), 1988, p.21.

144 Market File : World Outlook, Telecommunications Indusry Research Centre, Barnham, West Sussex, September 1987, p.1.

145 G.Feketekuty, *op.cit.*, 1988, p.21.

146 R.E.Mansell, "TNS Regulations :Policy environment for network-based services", Transnational Data and Communications Report, 12 (1), 1989, p.21.

147 "Trade Policy", Focus: GATT Newsletter, No.58, 1988, p.4.

148 W.J.Drake, " WATTC-88: Restructuring the international Telecommunication Regulations," Telecommunications Policy, 12 (3), 1988, p.220.

149 The concept 'trade in service' is not yet completely defined in a multilateral framework. Yet, according to the work on definition of the GATT, it involves "cross-border movement of services, consumers, and factors of production where such movement is essential to suppliers." See News of the Uruguary Round of multilateral trade negotiations, GATT, Nur.027 April 24 1989, p.38. Nonetheless, it is in general defined as "services essentially produced by residents of one country and paid for and used by residents of another country". See "ITU-GATT relations: How tradeable are telecom services ?", Transnational Data and Communications Report, 11 (9), 1988, p.5.

150 GATT discussions on services began in 1982 at the Ministerial meeting. The negotiations on trade in services was launched in 1984 at Punta del Este. See "Negotiations on trade in services (I)", Focus: GATT Newsletter, No.57, 1988, p.3. Referring to the EEC, the priority of telecommunications, especially its services, is relatively highly charged. Thus, there are a series of reports published by the EEC. According to the reports, in 1984 the telecommunications sector was slightly over 2% of Community GDP, this proportion may rise to 7% by the end of the century; between now and the year 2000, over ECU 500 billion will have been invested in telecommunications in the Community. Growth and investment in the sector on this scale will have major effects on such crucial areas as data-processing, electronics, software production, the supply of services, and broadcasting. See CEC,COM (87) 290 final, 30 June 1987, p.2. Also see WATTC-88 (Ch.VIII) dealing with service issues.

151 J.V.Langdale, "International telecommunications and trade in services: Policy perspectives", Telecommunications Policy, 13 (3), 1989, pp.203-221.

152 The Committee on Energy and Commerce US House of Representatives, Telecommunications in Transition, US Government Printing Office, Washington, 1981, pp.32-35.

153 J.Hills, "Telecommunication policy: the movement towards liberalization and privatization: Japan and Australia compared", Telecommunication Journal, 56 (3), 1989, p.164.

154 N.P.Barry, An Introduction to Modern Political Theory, pp.63-7

155 The Committee on Energy and Commerce US House of Representatives, *op,cit,*, 1981, *passim*,
156 F,M,Negro, *op,cit,*, 1985, p,109,
157 J,Hills, Deregulating Telecommunications, Competition and Control in the USA, Japan and Britain, Frances Pinter, 1986, p,79,
158 E,Sciberras and B,D,Payne, Telecommunications Industry: Technical change & international competitiveness, Longman, 1986, p,63,
159 J,Hills, *op,cit,*, 1989, p,165,
160 In German, the concept of 'privatization' is 'who owns the shares' ; i,e, a transfer of part or whole shares of public enterprises to private sectors. Whereas, in French , the concept is relying on seeking 'interests of private industries', i,e,, it means to be transferred to 'profit-making'. See S,H,Kong, "Facing tasks for privatization of KTA and take-off," Korean Telecommunications, August 1988, pp,24-7,
161 J,Hills, *op,cit,*, 1989, p,164,
162 Y,P,Song, "How to cope with 'privatiation' ? , Korean Telecommunications, June 1988, p,19,
163 V,Mosco and E,Zureik, "Deregulating telecommunications ; The workers' view", Telecommunications Policy, 12 (3), 1988, p,279,
164 M,Beesley and S,Littlechild, "Privatization: Principles, problems and priorities," Lloys Bank Review, July 1983, pp,1-20,
165 J,Hills, *op,cit,*, 1989, p,165,
166 M,Beesley and S,Littlechild, *op,cit,*, 1983, *passim*,
167 D,Roseman, "Towards a GATT Code on trade in telecommunication equipment", The World Economy, 11 (1), 1988, p,141; & J,D,Aronson and P,E,Cowhey, *op,cit,*, 1988, p,12,
168 J,Hills, *op,cit,*, 1989, p,164,
169 The Committee on Energy and Commerce US House of Representatives, *op,cit,*, 1981, pp,32-35. See the terms; Behavioral regulation means that "governmental rules and conditions directly interfere with the conduct of a specific firm(s) and monitoring firm(s) to ensure that they present appropriate or 'fair' competition. Structural regulation means "the development of new factors in the market, with the intent of altering the economic structure and incentives on which all firms in an industry do business. It permits freedom in decision making within the constraints imposed, but prohibits entry into certain markets,
170 M,S,Snow, "Regulation to deregulation: The telecommunications sector and industrialization - evidence from the Pacific rim and basin," Telecommunications Policy, 9 (4), 1985, pp,281-290,
171 W,J,Drake, *op,cit,*, 1988, p,219,
172 R,E,Wiley, "The End of Monopoly ; Regulatory change and the promotion of competition", in H,Shooshan (Ed,) Disconnecting Bell, Oxford: Pergamon, 1984, pp,23-46,
173 C,D,Long, Telecommunications Law & Practice, Seet & Maxwell, London, 1988,p,10; & Personal communication with Mr,N,J,Hartley, Senior Economic Adviser, OFTEL, London, May 1989,
174 R,E,Wiley, *op,cit,*, 1984, *passim*,
175 G,R,Faulhaber *et,al,*, Telecommunications Access and Public Policy, Norwood: Ablex Publishing, 1984, p,232; The FCC's path to deregulation: Turnpike or Quagmire, Discussion paper No,25, The Wharton School of the University of Pennsylvania, 1987a, p,4; and G,R,Faulhaber, Telecommunications in Turmoil: Technology and Public Policy, Cambridge, MA: Ballinger Publishing, 1987b, p,158,
176 W,V,Dewits, *op,cit,*, 1987, p,328,
177 M,Beesley and S,Littlechild, *op,cit,*, 1983, *passim*,
178 G,R,Faulhaber, *op,cit,*, 1987b, pp,174-5,
179 J,D,Aronson, "Telecommunications negotiations in GATT", Transnational Data and Communications Report, 10 (2), 1987, p,11,

180 J,Hills, *op,cit,*, 1986, p,79,
181 J,D,Aronson, *op,cit,*, 1987, p,12,
182 R,E,Butler, *op,cit,*, 1985, *passim*,
183 D,Roseman, *op,cit,*, 1988, p,142; & E,Arnold and K,Guy, Parallel Convergence: National Strategies in Information Technology, London; Frances Pinter, 1986, p,5,
184 R,E,Butler, *op,cit,*, 1985,
185 L,W,Pye (ed,), Communications and Political Development, Princeton University Press, 1963, p,229; & D,Lerner,"Toward a communication theory of modernization; a set of considerations" in L,W,Pye (ed,), *op,cit,*, 1963, pp,347-50,
186 J,Galtung (1980) warns that if the positive effects of self-reliance are sought then initiative should rest not with the state but with local communities, in M,Smith (ed,), *op,cit,*, 1980, pp,301-312, Also see M,Jussawalla, "The Information Economy & Its Importance for the Development of Pacific Region Countries", Information, Telecommunications & Development, Geneva; ITU, 1986, pp,63-86,
187 K,H,Kim, "Korea in the 1990s; Making the transition to a developed economy", World Development, 16 (1), 1988, pp,7-18; W,,Y,Lee, "Science & Technology Policy in Korea," in K,U,Lee, *op,cit,*, 1986, p,173 ; & S,B,Chung, *op,cit,*, 1984,
188 C,Hamelink, "High-tech transfer, Selling the canoe without the paddle", Development: Seeds of Change, 1, 1985, *passim*,
189 See reports published by the ITU, the ITU-OECD etc, Also see an example; "of the 11 million new jobs created since 1981 in the USA, almost 80% were in the service sector", See "The false paradise of a service economy", Business Week, March 3 1986, p,78, Further refer to empirical or sectoral studies focussing on the socio-economic effects of telecommunications in developing countries carried out by the ITU such as Benefits of telecommunications to the transportation sector of developing countries, Geneva; ITU, March 1988, and Socio-economic benefits of improved telecommunications in developing countries: Results of a research study in Vanuatu, Geneva; ITU, March 1988, etc,
190 J,B,Richardson, "International trade aspects of telecommunications services", Common Market Law Review, 23 (2), 1986, p,399,
191 "Telecom Trade", Transnational Data and Communications Report, 11 (9), 1988, p,6,
192 G,Feketekuty, *op,cit,*, 1988, p,19,
193 K,W,Grewlich, "Information Economies and the Uruguay Round," Transnational Data and Communications Report, 10 (7), 1987, p,13,
194 "GATT Initiative; Telecom and Data Trade Negotiations Begin", Transnational Data and Commuications Report, 9 (11), 1986, p,5,

Chapter III. Evolving R.O.Korea's Domestic Telecommunications Issues Under Bureaucratic-Authoritarian Regimes

1 M,Oh, "Sharing experience with developing countries", Korean Telecommunications Quantum Leap Forward, MOC, R,O,Korea, 1987, Also the MOC has mainly dealt with matters of post, telegraph and telephone (i,e,, telecommunications), rather than mass media (i,e,, mass communicatiaons or broadcasting), The latter has been in general dealt with by the Ministry of Culture, In this sense, the term communication policy in the R,O,Korea can be regarded as telecommunications policy,
2 ETRI, "History and future of telecommunications in the R,O,Korea", Telecommunication Journal, 52 (12), 1985, p,669,
3 *Ibid,*, pp,669-70,
4 Telecommunication Journal, 26 (8), 1959, p,171,

5 The new station provided all classes of radio telegraph service, radiotelephone, broadcast programme transmission and radiophoto services, and was available to the military and civilian personnel. See Telecommunication Journal, 17 (10), 1950, p.474.

6 Telecommunication Journal, 18 (4), 1951, p.153.

7 M.Oh, "Direction of telecommunications policy to satisfy digital service needs in developing countries", 5th World Telecommunication Forum: Part 1 : The executive telecommunication policy symposium, Geneva: ITU, 19-22 October 1987, p.199.

8 G.R.Faulhaber, Deregulation and Innovation in Telecommunications, Discussion Paper No.14, University of Pennshyvania, 1986, p.2.

9 See, in particular, the Economic Planning Board and the Presidential Secretariat took the major decisions regarding communications policy in the early 1980s. It is worth noting that R.O.Korea's telecommunication infrastructures are in transition leading to movements of personnel among the Presidential Secretariat, the MOC, KTA or DACOM etc.

10 Increasing investment from 1-2% to about 7.5% of country's total capital investment. See W.Wolter, "Forum'83 - Fourth World Telecommunications Forum", IEEE Communications Magazine, 22 (2), 1984, p.63.

11 Personal communication with Mr.M.S.Kang, the Ministry of Communications, R.O.Korea, London, 1989.

12 B.Y.Koo, "The role of the government in Korea's industrial development" in K.U.Lee (ed.), *op.cit.*, 1986, p.10.

13 D.I.Steinberg, "Sociopolitical factors and Korea's future economic policies", World Development, 16 (1), 1988, p.30.

14 *Ibid.*, p.24. The political parties in the R.O.Korea have not yet been equipped with relevant 'policies' but rather with geographical bases.

15 ITU, The Changing Telecommunication Environment, Geneva: ITU, 1989; & J.Hills, *op.cit.*, 1989, p.165.

16 Personal communication with Mr.Y.B.Koo, Technical Cooperation Department of the ITU - ITU's short-term contracted staff as a MOC official.

17 See examples such as parts of the programs ran into serious trouble; many large facilities went underutilized for years after completion; others (e.g., in petrochemicals, fertilizers, and non-ferrous metals) were eventually closed. See P.A.Petri, *op.cit.*, 1988, pp.47-63.

18 B.Y.Koo, *op.cit.*, 1986, p.10.

19 S.Haggard, *op.cit.*, 1987, pp.271-2.

20 *Ibid.*, p.272.

21 D.I.Steinberg, *op.cit.*, 1988, p.30.

22 B.Y.Koo, *op.cit.*, 1986, pp.10-11.

23 UNCTAD/GATT, The Export Performance of the R.O.Korea: 1961-1982, Geneva,1984, p.87.

24 P.W.Kuznets, *op.cit.*, 1985, pp.63-4.

25 K.H.Kim, *op.cit.*, 1988, pp.7-18.

26 S.Naya, *op.cit.*, 1987, p.84.

27 D.H.Song, "The role of the public enterprise in the Korean economy", in K.U.Lee (ed.), *op.cit.*, 1986, pp.186-196; & S.Haggard, *op.cit.*, 1987, p.262.

28 Possible measures of the size include the government's share in total expenditures [budget/GNP]; the proportion of GDP; or the revenue ratio government revenues/GNP]. Yet, there are no meaningful statistics on the proportion of GDP originating in the public sector, because they understate the size of Korea's public sector; e.g., accounts of public enterprises such a KEPCO (Korea Electric Power Company) are included with the private sector. See P.W.Kuznets, *op.cit.*, 1985, pp.44-66.

29 The proportion (30%) include transport services. Further, the size of other public enterprises are: 2/3 of the country's electric, gas, and water supplies; 15% of manufacturing; 30% of mining output; 80-90% of financial services in 1972. See *Ibid.*, p.48; & D.H.Song, *op.cit.*, 1986, *passim*.

30 e.g. the US changed its trade policy from pro-liberal trade to balanced trade. In addition, the US has increased 'pressure' to open markets based on 'reciprocity'. Also see M.Ford, "A whirlwind of change"; R.Pauley, "Foreign policy: US tie fells tight". Both are in Financial Times, May 9 1988, p.i & ii.

31 B.Y.Koo, *op.cit.*, 1986, pp.30-31.

32 Personal communication with Mr.M.S.Kang, MOC (R.O.Korea). See also S.K.Yoder, "South Koreans fear a slump in chip market", The Wall Street Journal, December 13 1988.

33 This pressure - if not threat - is agreed by most interviewees from the MOC and research institutes, R.O.Korea. Also see G.F.Seib & S.Moffat, "Bush avoids issue of human rights in Seoul but dissident voices draw attention to topic", The Wall Street Journal, February 28 1989.

34 ITU, *op.cit.*, 1989, p.iii.

35 M.Oh, *op.cit.*, 1987b, p.198; & "Telecommunications policy toward an information society in Korea", [Social Science & Policy Studies], The Institute of Social Sciences of Seoul National University, Vol.8, No.2, December 1986, pp.5-15.

36 M.Oh, *Ibid.*, *passim*.

37 e.g., supplies could not meet rapidly growing demands. In return, there appeared a distorted phenomenon such as the premium for installing a telephone line was 1 to 2 million won in 1977 , when the price of a flat (132 square) was 6.25 million won. It took more than 2 years to connect a telephone line. This come from personal experience and communications with Mr.M.S.Kang and Mr.Y.B.Koo (MOC), and others in various telecommunications institutions, R.O.Korea.

38 Y.P.Song, "How to cope with 'privatization' ?", Korean Telecommunications [Hankuk Jeongi Tongsin], June 1988, pp.18-21.

39 B.Y.Koo, *op.cit.*, 1986, p.30.

40 K.S.Yun, "Privatization of KTA and systems of our association of employees ", Korean Telecommunications [Hankuk Jeongi Tongsin], July 1988, p.16.

41 See I.S.Pool's (1983:231) comment; "in most countries, the constitution sets the framework for communication policy." See Technologies of Freedom, Harvard University Press, 1983. Further see Ch.VIII.1.

42 KTA, Korea Telecom Centenary: 1885-1985, 1985, p.982.

43 M.Oh, *op.cit.*, 1986, p.13.

44 DACOM, Annual Report, 1986; & Y.Son, S.C.Lee, & B.W.Chang, "Korean strategies for future information services", Paper presented in *PTC '87*.

45 Y.P.Song, *op.cit.*, 1988, p.19.

46 J.H.Lee, "Reform of regulations of managing frequency", Korean Telecommunications [Hankuk Jeongi Tongsin], March 1988, p.35.

47 Jeonjasibosa, Telecommunications Annual, 1988, pp.59-60,70.

48 M.Oh, *op.cit.*, 1986, p.8.

49 P.F.Allgeier, "Korean trade policy in the next decade: Dealing with reciprocity," World Development, 16 (1), 1988, pp.85-97.

50 W.H.Won, "New information technology in Korea", Paper presented at the 7th Biennial Symposium Co-sponsored by Association of Asian Social Science Research Councils and International Federation of Social Science Organization, August 22 1987, Seoul.

51 E.Arnold and K.Guy, Parallel Convergence: National Strategies in Information Technology, London: Frances Pinter, 1986, p.32.

52 G,Boyd, "East Asian Bureaucratic Authoritarianism", Paper presented at the International Political Science Association The XIth World Congress, Washington,D,C., Aug/Sep, 1988,

53 M,Oh, *op,cit,*, 1986, p,5,

54 Jeonjasibosa, *op,cit,*, 1988, p,61,

55 M,Oh, *op,cit,*, 1986, p,7,

56 MOC of R,O,Korea, Statistical Yearbook of Communications, 1987; & Jeonjasibosa, *op,cit,*, 1988, p,61,

57 On December 30 1983, there was further restructuring within the Telecommunications Policy Burearu; For example, there were changes from technology division to promotion division; business management division to telecommunication management division; special telecommunications division to telecommunications & information division, See KTA, *op,cit,*, 1985, p,982,

58 According to the Telecommunication Basic Act, the main functions of the Bureau are as follows; - plans basic and overall policies regarding telecommunications and is responsible for managing efficient usage and order, for guiding and mornitoring not only public telecommunications such as KTA and DACOM but also private-usage telecommunications* such as telecommunications used by the Offices of Customs Administration, press and broadcasting corporations or companies, Fisheries Co-operatives , aviation companies; - and for developing telecommunication technology and reasonablly managing telecommunication networks; - controls the scope of businesses of public telecommunications corporations and permits them to establish major telecommunications facilities; - selects and decides telecommunications systems and their types, and plans new devices and their standards etc,; - permits and manages the types of telecommunications equipments/facilities which are used by public telecommunications corporations and/or manufactured by telecommunications industries ; - budgets for and subsidizes public telecommunications corporations and manages telecommunications technology; - selects and sets researchers and research topics relating to research institutes and telecommunication technology; - sets and controls standards for telecommunications technology and establishes national telecommunications arbitrating committees, See KTA, *op,cit,*, 1985, pp,p,944-965,981-2; & Jeonjasibosa, *op,cit,*, 1988, Annex,

59 Personal communications with Mr,Y,B,Koo, Mr,M,S,Kang, and others staff in the MOC, R,O,Korea,

60 K,S,Lee, "Changes of management and counterplans of financial management for privatization", Korean Telecommunications [Hankuk Jeongi Tonsgin], March 1988, p,75,

61 KTA, Annual Report, 1987, *passim,*

62 *Ibid,*, 1987, p,35; & Jeonjasibosa, *op,cit,*, 1988, p,61,

63 K,S,Lee, *op,cit,*, 1988, p,74,

64 A way in which embodiment of the privatizations in 30 public enterprises was divided into three categories, i,e,, 3 for partial privatization; 7 for entire privatization; and 17 for adjusting their functions in May 1988, See Y,P,Song, *op,cit,*, 1988, p,18, Also, there are several restrictions such as prohibitions of resale allocated to employees, See K,S,Yun, *op,cit,*, 1988, p,17-9,

65 K,S,Lee, *op,cit,*, 1988, p,73; & S,H,Kong, *op,cit,*, 1988, p,25,

66 S,H,Kong, *Ibid,*, p,25,

67 Y,Son and *et,al,*, *op,cit,*, 1987,

68 Jeonjasibosa, *op,cit,*, 1988, pp,61-2,

69 e,g,, DACOM-Net, launched in July 1984 as domestic packet network service, has access to 21 locations, and provides foreign data service to domestic customers, Subscribers of DACOM-NET reached 1,247 private and public organizations as of August 1987, Daily life information service is provided through DACOM-NET, See DACOM, Annual Report, 1988,

70 e.g., 'Ch'ollian' videotex service, Credit Card Information System etc, have been launched, See Y,T,Lee, President & Chief Executive Offier of DACOM, Annual Report, 1986.

71 DACOM began developing a nationwide communications network in 1984 as this organization had been designated as an exclusive agency, aimed at building an administrative data service network by the Coordinating Committee for National Infrastructural Information Network. It assisted Ministry of Communications and indeveloping postal banking network covering over 526 branches, and KTA in supervising management information system. *Ibid.*,

72 DACOM, *Ibid.*, *passim*; & Jeonjasibosa, *op.cit.*, *passim*.

73 Personal communication with Y,S,Park and others, DACOM.

74 These liason offices will soon be opened in other cities (e.g.,Tokyo and New York) by both DACOM and KTA, Personal communications with Y,B,Koo, MOC of R,O,Korea and Y,S,Park, DACOM.

75 Y,T,Lee, President & Chief Executive Offier of DACOM, See DACOM, *op.cit.*, 1986.

76 MOC (R,O,Korea), Korea Telecommunications '89, 1989, p,3.

77 S,H,Kyong, President of the ETRI, Annual Report, 1986, p,3.

78 In 1986, technical support to small and medium sized enterprises (SME) aimed at the domestic development of products and the enhancement of international competition by improving the technical level of SME, was began. To achieve these aims, up to date technical support has been given to 52 enterprises. Technical support includes the field support, the service of technical data, technical training and equipment support. See ETRI, *op.cit.*, 1986, p,24.

79 Further studies made during 1986 were as follows; ISDN system technology including Laboratory model of user interface in the narrowband ISDN; Laboratory model of TUP (Telephone User Part) in CCITT No,7 common channel signalling system; System specification of PSTN-PSDN interworking unit etc., *Ibid.*, 1986, p,28.

80 With regard to »Cooperation with Advanced Research Institutions« under the agreements on technology cooperation with such advanced research institutes as HHI in Germany, NT in Canada, TL in Taiwan, AT&T, ITT, BCR in the USA, LME in Sweden,etc., it has promoted the program of technical information exchange, invitation of experts and the exchange of technical staffs in various fields. In terms of »International Joint Research Program«, ETRI is also conducting a joint development project of 64-bit parallel super-mini computer system with AIT Inc, in the USA, semiconductor material and device processing technology with Tokyo University in Japan etc., ETRI , on the other hand, is maintaining ETRI US office and EFT,Inc., a profit-making corporation, in San Jose, California, USA., utilizing them as bases for gathering state-of-the-art information on high technology. It will upgrade foreign offices and establish new foreign offices in Europe, the East of the USA and Japan. ETRI, *op.cit.*, 1986, p,28.

81 Personal communications with S,Y,Park and others, KISDI; & Jeonjasibosa, *op.cit.*, 1988, pp,62-3.

82 From 1986, the Center has carried out the work such as establishment of information service system to a large number of users in and outside ETRI; development and operation of ETRI databank; development of ETLARS-II, Hangul on-line information retrieval system; specialization in information analysis; increase in the dissemination of publications. ETRI, *op.cit.*, 1986, p,25.

83 MOC, *op.cit.*, 1989, p,3.

84 'Labour-intensive' and 'capital-intensive' selective industry were "important priorities in the First (1962-1966) and Third (1972-1976) Five-Year Economic Development Plans respectively.

85 M,Oh, *op.cit.*, 1987b, p,199.

86 ETRI, *op.cit.*, 1985, p,669.

87 M,Oh, *op.cit.*, 1987b, p,198; & Personal communications with M,S,Kang, MOC, and others.

88 D,M,Leipziger, "Industrial Restructuring in Korea", World Development, 16 (1), 1988, p,124; & J,A,Coporaso, "Introduction to a special issue on the state in comparative and international perspective," Comparative Political Studies, 21 (1), 1988, p,4.

89 M,Oh, *op,cit,*, 1986, p,14.

90 M,Oh, *op,cit,*, 1987b, p,199.

91 D,M,Leipziger, *op,cit,*, 1988, p,125.

93 K,S,Lee, *op,cit,*, 1988, p,74.

93 M,Oh, *op,cit,*, 1987, p,198; & MOC, *op,cit,*, 1989.

94 In July 1982, the MTI (Ministry of Trade & Industry) promuglated its "Criteria for the Importation of Computers" - so-called computer decree. Clearly aimed at the localization of the computer industry, this decree effectively barred imports of those computers in which Korea had emerging domestic capabilities, while encouraging technology transfer in the larger computers. Imports of the smaller computers were permitted only when used for R & D applications or process control applications not adequately met by locally produced machines. Imports of larger machines - those above $300,000 in cost - were imported depending upon the extent to which the supplier was willing to 'transfer technology' to Korea or assist in developing Korea's computer parts capability. In case of peripherals, import licenses depended upon the supplier's willigness to provide local manufacturers with know-how on interfacing locally manufactured peripherals with foreign central processing units. In any event, an application to import computers required a computer localization plan responsive to the criteria," See P,F,Allgeider, *op,cit,*, 1988, pp,90-1.

95 M,Oh, *op,cit,*, 1986, p,13.

96 Jeonjasibosa, *op,cit,*, 1988, p,445.

97 Personal computers are exported to the US with no import licensing restrictions and a tariff rate of less than 4% (GSP duty-free on some equipment). In 1986, Korea shipped $466,4 mn. in computers, peripheral equipment and parts to the US ; this was an increase of 70% over 1985 shipments and $224mn more than Korea imported from the US in the same year. *Ibid,*, pp,415-6; & World Telecommunication Expenditure and Development : 1987-1995, International Telecommunication Intelligence, 1988, p,7. Also, import tariff in electronics will be incrementally cut to reach the industrialised nations' average of about 7% by 1993; e,g., 30% (1988), 20% (1989), 16% (1990), 13% (1991), 10% (1992), and 8% (1993). See R,Paulery, "Tariff parity planned in five years - The trade surplus is so substantial that partners want the barriers removed," Financial Times, May 9 1988,p,iv.

98 K,H,Kim, *op,cit,*, 1988, pp,89-90.

99 Korea Development Institute (KDI), Korea 2000: Prospects and Issues for Long-Term Development, 1986, p,107.

100 P,F,Allgeier, *op,cit,*, 1988, pp,85-97.

101 The Korean government's options for import liberalisation are constrained by several factors; a. there is Korea's historical inwardness. [...] The typical Korean reaction to import liberalisation is that it hurts Korean interest; b. liberalisation on a Most Favored Nation basis in accordance with Korea's GATT obligations is likely to benefit Japan primarily. Korean sensitivity to possible economic domination by Japan means that liberalisation has a second specific political hurdle to overcome; c. there is a widespread feeling in Korea that an important factor in Japan's economic success has been its ability to reserve its home market for local products and services. See P,F,Allgeier, *op,cit,*, 1988, pp,85-97; & S,K,Yoder, "Korean industrialists criticize U,S, factory goods, service," The Wall Street Journal, January 6 1989. Although these constraints were lifted in manufacturing sectors (Ch,II,1), they still remain in service sectors.

102 S,I,Park, "Labour issues in Korea's future," World Development, 16 (1), 1988, p,110; & KDI, Collective Bargaining in Korea : Laws, Practices & Recommendations for Reform, Consultant Paper Series No,17,Seoul,1980, pp,10-11.

103 S,Haggard, *op,cit,*, 1987, p,271.

104 S,I,Park, *op,cit.*, 1988, p,113, Also see Ministry of Labour of R,O,Korea, Labour Administration in Korea, 1985,

105 The name KCWU was maintained until 1982 when KFPTU (Korean Federation of Postal & Telecommunication Workers Unions) was established following the restructuring of the KTA, The KFPTU has 5 intra-unions consisting of KCWU, KTTU, CPA-WU (Communication Promotion Association Workers Union), CWA-WU (Welfare Association), and CMAC-WU (Mutual Aid Cooperative), Of course, the postal and telephone services were under Government control until 1982 when KTA was established, See *Constitution of KFPTU*, Also trade union movement in telecommunications sector can be referred by personal communications with J,N,Ga, the Chief of MTC, 1988,

106 D,Thomas, "Labour relations may be at a turning point - last year's wave of strikes has brought rises in real wages, but this year could be more settled," Financial Times, May 9 1988, p,x, The average S,Korean worker now receives the equivalent of $652 per month, compared with Japan's $2,711, Taiwan's $643, Hong Kong's $558 and Singapore's $401, See M,Ford, "S,Korean MPs consider bill to curb speculators", Financial Times, November 21 1989,

107 J,Ridding, "High labour costs deterring potential foreign investors", Financial Times, November 27 1989,

108 Initiated by the telegraph between Seoul and Inchon on Sepember 28 1885, the line between Seoul and Pusan followed by a line between Seoul and Wonsan bagan to open in 1888 one after another, Since the 1880s, telegraph and its terminals have very slowly evolved, In the R,O,Korea , the introduction of the telephone firstly took place in the royal palce aroung 1896, The first public line was established between Seoul and Inchon in 1902, The telephone has been also slowly developed until the 1960s, when microwave communications was introduced,

109 History of the initial network goes back to the ancient beacon fire system of communication which had 603 sites and 5 routes spread throughout the country in Korea, (KTA ,1985;94) This ancient system was transfered into the cable era, Meanwhile, exchange and transmission systems have also progressed step-by-step through the manual magneto system in 1896, the common battery system in the 1910s , and the automatic mechnical system in the 1930s, The EMD switching system and coaxial cable demonstrated technological developments of the 1960s, In the 1970s, semi-ESS (Electronic Switching System) system bagan to be utilized, although its control console still recalls the old switching system, However , the advent of ESS announced the beginning of an information oriented society, See Y,Son and J,Ryee, "The current situation and policy issues of Korean telecommunications", Paper presented at Pacific Telecommunications Council Seminar , 5-8 June 1988; & MOC, The Annual Report on Telecommunications, 1984, p,58,

110 The government improved the basic communications facilities by connecting rural areas by phone, and established training centers to produce the capable telecommunications workers; increasing the numbers of domestic subscribers; and the numbers of long-distance and international telephone calling circuits were boosted from 1,177 to 88,571 long-distance circuits, and from 12 to 274 international calling circuits, The government installed the micro-wave network (1967), the scatter transmission network between Japan and Korea (1968), and built two satellite earth stations during this period, There was also an effort to modernize the telephone system; coaxial cable was installed to bring an automatic telephone call service between major cities and the electronic switching system (ESS) was introduced in 1979 to meet increasing subscription orders, See Y,Son & J,Ryee, *Ibid.*; & MOC, *op,cit.*, 1984 and 1989,

111 R,O,Korea - especially the KTA - increased 3% of its total annual sales from the previous 1,7% for technological development projects, in particular, computers, software, semi-conductors, and information networks such as the ISDN, This figure of R&D expenditure, which was already higher than those of Spain and Portual apart from other Asian competitors, Also some conglomerates like Samsung Electronics put as much as 4% of its sales into R&D on its own, See "Korea; Money Programme", in ITV (UK) March 14 1987,

112 R,O,Korea's indigenous technologies such as TDX (which is the 7th development in the world digital networks) and micro-chips like 256K DRAM, 644K DRAM, and 4M DRAM (which is the 3rd development in the world) have been developed. See personal communications with Mr,M,S,Kang (MOC), Mr,S,Y,Park (KISDI), and Dr,C,H,Yim & Mr,B,M,Jin (ETRI).

113 Jeonjasibosa, *op,cit,*, 1988, p,466.

114 *Ibid,*, 1988, p,98; ETRI,*op,cit,*, 1985, p,669; Y,Son & J,Ryee, *op,cit,*, 1988; & MOC, *op,cit,*, 1987, pp,77-81.

115 Y,Son and J,Ryee, *op,cit,*, 1988. This plan for a new optical fibre cable was based on agreements among Cable & Wireless (C&W;Hong Kong), Denshin Denwa Co,(Japan), the KTA (Korea), Telecommunication Authority of Singapore, and AT&T (US). The cable system will cost in excess of £ 130 million, of which the C&W share will be more than 30%. Also see Telecommunication Journal, 53 (9), 1986, p,547.

116 KTA, *op,cit,*, 1985; Y. Son and J,Ryee, *op,cit,*, 1988; MOC, *op,cit,*, 1984 and 1987; & M,Oh, *op,cit,*, 1986, pp,9-10. A variety of new and high quality telecommunication services are: from 1982, the initiation of special call services made available such services as abbreviated-dialing, call-waiting, call transfer, hot line, three-way calling, alarm call services and time announcement service which tells the exact time through a computer voice. In 1983, the cordless telephone came onto the market. In the field of telecommunication services, overseas data bank service started. Since 1983, International Subscriber Dialing (ISD) services have been available in most major cities and should be available to all subscribers by 1988. The common use of computer facility and digital leased line service has been available since 1985. Electronic mail service and voice mail services are also presently available. In mobile telecommunications, the automobile telephone service which uses the cellular method, is available in Seoul and was available in all the major cities after 1986. Paging service, which is presently operated by the tone method, will gradually be changed to the display-to-tone method. The Packet Switched Data Network (PSDN) service has expanded in 13 major cities, and will begin operations in 1989 after a trial period. By the year 1990, new media services such as videotex,telemetering, tele-conference, teletex service (along with the advent of the ISDN) will also be available.

117 Y,Son and J,Ryee, *op,cit,*, 1988; & KTA, Annual Report, 1988; & MOC, *op,cit,*, 1987.

118 K,H,Kim, *op,cit,*, 1988, p,9.

119 W,H,Won, *op,cit,*, 1987.

120 Telecommunication Journal, 36 (3), 1969. The station is linked to Seoul by a terrestrial microwave link. See Telecommunication Journal, 37 (8), 1970, p,595. The second contract was completed in the summer of 1977. It would communicate with *Intelsat-IV* (Indian Ocean), which was in service and also the region's *Intelsat-IV A* which was to be placed in orbit in 1978. See Telecommunication Journal, 43 (5), 1976, p,371.

121 Telecommunication Journal, 39 (9), 1972, p,562.

122 Telecommunication Journal, 38 (1), 1971, p,44.

123 ITT would provide engineering design, equipment, materials and other assistance to the Korean firm including the construction of a manufacturing facility in Buchon, 10 km west of Seoul. Production of multimode optical fibre was scheduled to begin in early 1984 , with an annual capacity of 10,000 fibre killometres. A second plant for the production of cable containing the optical fibre manufactured at the Buchon plant was constructed in Cumi, 260 Km Southeast of Seoul and also began operation in 1984. See Telecommunication Journal, 50 (12), 1980, p,706.

124 It aimed to enable R,O,Korea to manufacture two million equivalent lines of switching equipment over the next 7 years and also to develop and build its capacity to a production level of 650 000 lines per year by the end of that period. See Telecommunication Journal, 45 (1), 1978, p,43.

125 Digital transmission equipment includes the TD-1 , a system of terminal and line repeaters for digital trunk and loop applications, and the DE-4, a pulse code modulation .../

/,,, channel bank with a capacity of 48 channels. See Telecommunication Journal, 47 (3) 1980, p.173.

126 This was the first order to be placed under the terms of an outline agreement signed in 1983, which covers the supply of 750,000 lines over the following three years. The first order is for 20 exchanges, with 169 remote subscriber units, to be installed throughout the country. They were the first fully-digital local exchanges to be installed in large quantities in Korea. Deliveries started in 1984, and were completed by the first part of 1985. An increasing proportion of the manufacture took place in Korea, at the OTELCO (Oriental Telecommunications Company Ltd), joint venture between Ericsson and Oriental Precision Company, a long established Korean electronics company. See Telecommunication Journal, 47 (12), 1980, p.768.

127 This order is the third made by R.O.Korea under an agreement signed in 1983 for the delivery of 755,000 lines over a period of three years. The latest order concerns 17 AXE digital exchanges. It covers the supply of equipment and parts from Sweden. The exchanges themselves are manufactured locally by the Oriental Telecommunications, Ltd. (OTELCO) in Song Nam City. See Telecommunication Journal, 52 (11), 1985, p.637.

128 The contract covered the initial installation of three DPS 25 exchanges at Seoul, Pusan and Taegu and a management centre at Seoul. Bell Telephone has already secured orders for data tranmission networks in Finland, Luxembourg and the Netherlands. See Telecommunication Journal, 50 (4), 1983, p.209.

129 Telecommunication Journal, 50 (1), 1983, p.42.

130 *'Know-how'* is transferred in 3 main ways, which are eually important and interdependent: documentation, training, technical assistance. 1.- documentation - covers technical manuals, training documents, circuit or program descriptions, the manufacturing processes; 2.- training - is needed to help the licensee's engineers to understand & absorb the technology and work effectively with it; & 3.- technical assistance - is to guide the licensee through the first few months of using the technology until he has sufficient experience to become technically independent of the supplier. See J.Quaeyhaegens, "Technology transfer to Korea", Electrical Communication, 61 (2), 1987, pp.208-212.

131 Jeonjasibosa, *op.cit.*, 1988, pp.432-436; & MOC, *op.cit.*, 1987.

132 "Eight state-run Corps: To repay foreign debt ahead of schedule", The Korea Herald, August 27 1988, p.6.

133 About 90% of products of PC (Personal Computers) are exported. In return , domestic consumption is still marginal; PC domestic distribution accounted for about 330,000 in 1987. See Jeonjasibosa, *op.cit.*, 1988, p.91.

134 P.F.Allgeier, *op.cit.*, 1988, pp.87-88; & S.K.Yoder, "S.Koreans fear a slump in chip market", The Wall Street Journal, December 13 1988.

135 Korea Economc Journal: [Kankuk Kyeongje Sinmon, September 14 1988, p.6.

136 The Korea Development Bank, Industry in Korea, 1988, p.120.

137 P.F.Allgeier, *op.cit.*, 1988, p.88; & *Ibid.*, p.112.

138 *Ibid.*, p.102.

139 "New trade bill knotty issue for R.O.Korea-US trade relations", The Korea Economic Journal, October 3 1988, p.24.

140 M.Ford, "S.Korea's closed door hurts those inside", Financial Times, March 7 1989.

141 Y.K.Kim,"A guide to foreign investment in Korea", The Korea Economic Journal, September 19 1988, p.25. E.g., the American Chamber of Commerce in Seoul has asked the Korean government to open the Korean market more widely to foreign enterprises. The Chamber pointed out that foreign firms are facing hurdles in their business activity here because of discriminatory measures taken by the Seoul government against foreign firms." See "Amcham Report Calls for Equal Treatment of Foreign Companies", The Korea Economic Journal, September 12 1988, p.9.

142 KDB, *op.cit.*, 1988, p.102.

143 Daily Economic Journal [Mail Kyeongje Sinmon], September 12 1988, p.8.

144 See the size of foreign multinational companies.

Computer sales at home & abroad (1988)

Company	World computer revenues	Home-country proportion
IBM (US)	US$ 59,6 bn	42,0 %
DEC (US)	US$ 11,5 bn	50,0 %
Unisys (US)	US$ 9,9 bn	54,0 %

Some may argue the size of R.O.Korea's leading business groups are comparable; Samsung (US$31bn); Hyundai (US$27,8bn); Lucky-GoldStar (US$22,8bn); Daewoo (US$15,2bn). Yet, it is worth noting that although Samsung recently focused on electronics, most of these conglomerates deal with a variety of sectors ranging from construction to cars rather than informatic sectors. See M.Ford, "Samsung focuses on electronics", Financial Times, November 21 1989; & S.Wagstyl, "The chaebol go international", Financial Times, November 27 1989.

145 M.Ford, *op.cit.*,, March 7 1989.

146 National Telecommunications and Information Administration (NTIA), NTIA Telecom 2000, Washington,D.C.;U.S. Department of Commerce, 1988. Particularly see Ch.7; "Privacy, information flows, and the protection of intellectual property in the information age", pp.131-147.

147 "America & S.Korea; The art of conceding", The Economist, August 5 1989, pp.45-6.

148 K.P.Sauvant, "TDF & the developing countries", International Organization, 37 (2), 1983 , pp.360-5; & K.P.Sauvant, "TDF : Importance, impact, policies," Information Services and Use, Oxford; North-Holland, 1984, pp.3-30.

149 Financial Times, *op.cit.*, February 6 1989.

150 M.Ford, *op.cit.*, March 7 1989.

151 Article 73 of the Public Telecommunications Business Act.

152 The system was different even within IBM products themselves such as 4381-P12, 3090, 3083 etc.

153 Jeonsasibosa, *op.cit.*, 1988, p.366.

154 This trend can be also illustrated by the case of Daewoo. Most of the output of Daewoo is badged by Leading Edge, one of the most successful personal computers in the US. But, other big conglomerates (Samsung & Goldstar) using extensive advertising campaigns are familiarising Western consumers with their brand names. See D.Thomas, "Industry is forced to go up-market", Financial Times, May 9 1988, p.vi.

155 "Government Plans 2-Tier Economic Policy with Communist Nations", The Korea Economic Journal, September 19,1988,p.4. See cases of efforts to diversify exports; it is likely to ship electronic parts to the Soviet Union, since Soviet importers have been approaching or have already made offers to Korean electronic firms via Japan (Samsung Electro-Mechanics, Dongsung Electronics, Orion Electric companies) and via India (Goldstar). Soviets want to import Korean electronics parts", The Korea Economic Journal, September 19 1988 , p.8; & Hankuk Ilbo, October 2 1988. Also see "Mounting protectionism for importing electric goods in the US and the EC", Daily Economc Journal : [Mail Kyeongje Sinmon, September 22 1988, p.6; & Editor's comment in Korea Economic Journal : [Kankuk Kyeongje Sinmon, September 13 1988, p.2; & Kankuk Ilbo, August 13 1988, p.7. Also see that "Electric Appliance Makers Try to Diversify Markets", The Korea Economic Journal, October 3 1988, p.9. As far as trade with communist countries is concerned, Korea is expected to sign economic cooperation agreements with Bulgaria, East Germany and Poland, following previous agreements with Hungary and Yugoslavia. See "Seoul to sign economic cooperation accords with 3 Eastern European nations", The Korea Herald, October 7 1988, p.6. According to the Economic Planning Board, trade volumes between the R.O.Korea and China through Hong Kong reached upto about US$ 1,5 billion in 1987. See Korea Economic Journal : [Kankuk Kyeongje Sinmon, September 13 1988, p.3. The Sino-Korean trade is likely to be $3bn in 1988 with Hong Kong or Japan usually acting as the intermediary. See R.Pauley, *op.cit.*, 1989, p.iv. .../

/... Followed by these economic ties, in 1989, Poland, Hungary and Yugoslavia have established 'diplomatic relations' with S.Korea. S.Korea is further trying to extend its diplomatic ties to the other East Europeans such as the USSR. See "Even the Koreas", The Economist, January 13 1990, p.60.

156 K.H.Kim, *op.cit.*, 1988, pp.7-18.

157 M.Oh, *op.cit.*, 1987b; KTA, *op.cit.*, 1988; & MOC, *op.cit.*, 1989.

Chapter IV. Interlinkage between R.O.Korea & the ITU: Organizational System

1 T.G.Brown, International Communications Glossary, Washington,D.C.: The Media Institute, 1984, pp.61-2.

2 H.K.Jacobson said that "the ITU could be regarded as a paradoxical organization, since it is one of the smallest and one of the least-known members of the UN family." See "ITU: A Potpourri of Bureaucrats and Industrialists" in R.W.Cox & H.K.Jacobson (Eds.), The Anatomy of Influence, Yale University Press, 1974, p.59.

3 D.W.Bowett, The Law of International Institutions,(4th ed.), London: Stevens & Sons, 1982, p.136.

4 R.Priddle, *op.cit.*, 1989.

5 J.L.Renaud, "The ITU as Agent of Compromise", Intermedia, 14 (4/5), 1986, p.20. This concern focuses on how technologically advanced nations respond to the concerns of their less endowed counterparts in the Third World.

6 Art.4-12,13,& 14 of the International Telecommunication Convention, Malga-Torremolinos, ITU, 1973. Also see E.W.Ploman, International Law Governing Communications & Information, London: Frances Pinter, 1982, p.233.

7 Art.4-14 of the International Telecommunications Convention, Nairobi, ITU, 1982, p.3.

8 Art.4-15 of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989.

9 See Ch.VIII.1 concerning the WATTC-88 and its issues.

10 Art.4-19A of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989.

11 Art.4-18,19,20,21,22,23,& 24 of the International Telecommunications Convention, Nairobi, ITU, 1982, pp.3-4; & "Reforming the ITU", Telecommunications, 23 (5), 1989, p.31. Also see R.E.Butler, "The ITU & the new order" in U.Kivikuru & T.Varis (Eds.), Approaches to International Communication : Textbook for journalism education, Publications of the Finnish National Commission for UNESCO No.35, 1986, pp.41-52. The agreement between the ITU and the UN can be regarded as complementary to the Convention.

12 A series of symposiums and exhibitions organized or sponsored by the ITU esepcially in the 1980s. These include a series of Asia Telecom , America Telecom, ITU COM 89 etc., which deal with policy, technical, and legal issues. Mr.R.E.Butler (Secretary-General) set up the Advisory Group that carries on research chiefly on telecommunication policy and its issues - *viz.*,The Changing Telecommunication Environment, 1989. In addition, the Union sponsored the developing countries to study telecommunications focusing on economic and development implications. See also the issues which emerged from the WATTC-88.

13 Shannon and Weaver identify three levels of problems in the study of communication technical, semantic, and effectiveness. See J.Fiske, Introduction to Communication Studies, London: Methuen, 1982, p.7. J.D.Stevens and H.D.Garcia see communication system as consisting of information and transportation, see their Communication History, The SAGE CommText Series, 1980, p.10.

14 R.E.Butler, *op.cit.*, 1986, p.45; J.Fiske, *Ibid.*, p.7; & J.D.Stevens and H.D.Garcia, *Ibid.*,

15 R.E.Butler, *Ibid.*, 1986, p.51; & D.M.Leive, The Future of the International Telecommunication Union: A report for the 1973 Plenipotentiary Conference, American Society of International Law, 1972, pp.3-4.

16 R,E,Butler, "Today's strategic telecommunications environment; A compelling need for major ITU adjustments", An opening address paper of Asia Telecom '89, Singapore, ITU, February 1989a,

17 H, K,Jacobson, *op,cit,*, 1974, pp,59-60,

18 Art,36-165 & 166 of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989,

19 Art,36-167 & 168, *Ibid,*,

20 D,P,O'Connell, International Law, 2nd ed., Vol,I, London; Stevens & Sons, 1970, pp,53-4,

21 H,G,Schermers, International Institutional Law, Vol,I;Structurep , A,W,Sijthoff Leiden, 1972, 45,

22 Art,2-7 of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989,

23 The term 'constitutional' means 'in conformity with the Constitution ' , which is the supreme law, See E,R,H,Ivamy, Mozley & Whiteley's Law Dictionary, 10th ed,, London; Butter Worths, 1988, p,101,

24 "Pekka Tarjanne elected", Telecommunications Policym, 13 (3), 1989, p,277,

25 R,M,M,Wallace, International Law, London; Sweet & Maxwell, 1986, pp,197-8,

26 D,W,Bowett, The Law of International Institutions, 4th ed,, London; Stevens & Sons, 1982, pp,147-8, See also R,M,M,Wallace (1986;p,204), who sees three main approaches to its interpretation; 'objective, subjective, and teleological' approaches in practice are not mutually exclusive,

27 H,K,Jacobson, *op,cit,*, 1974, p,63; & A,G,David, "'Federalism' and the ITU; A Misapplied Notion", An unpublished paper by the former Legal Advisor to ITU, He sees the ITU in terms of legislative and administrative bodies,

28 G,T,Vardaman & C,C,Halterman, Managerial Control Through Communication: Systems for Organizational Diagnosis and Design, John Wiley & Sons, 1968, p,80,

29 D,M,Leive, *op,cit,*, 1972, p,2,

30 G,A,Codding Jr, *op,cit,*, 1988, p,240; & G,Finnie, "Structure of the Union", Telecommunications, 23 (5), 1989, p,31,

31 The term federalism is in line with "decentralization that would imply an inherent superiority of one over the other", according to Encyclopadia of Britannica, 9, p,138, It is often seen as a complex and cumbersome method of government because it involves a number of potentially overlapping jurisdictions and the maintenance of similar instituions at each level of administration", See D,Robertson, A Dictionary of Modern Politics, London; Europa Publications, 1985, p,123, Personal communication with A,M,Rutkowski, Head of Telecommunications Regulations and Relations with Members Division, ITU, Geneva, 1989,

32 H,K,Jacobson, *op,cit,*, 1974, pp,59 & 63, This trend was evident at recent debates in WATTC-88, See also the WATTC-88 (Ch,VIII), where there were long arguments concerning the issue of ›sovereignty‹ as seen in the ›Preamble‹ of the new International Telecommunication Regulations, See also A,G,David, *op,cit,*,

33 A,G,David, *Ibid,*,

34 R,E,Butler, "In pursuit of excellence; A critical choice", A paper presented at Washington,D,C,, April 1989g,

35 Art,5-27 to 33A of the Final Acts of Plenipotentiary Conference, Nice, ITU, 1989,

36 R,E,Butler, *op,cit,*, 1986, p,47; & R,J,Raggett, "Exclusive interview ; ITU's Butler weighs problems, progress and prospects for the Union & worldwide telecommunications", Telephony, January 24 1983, p,33, Programmes of these fora have been scheduled much heavier in the 1980s than in the past,

37 Art,5-26 of the Final Acts of Plenipotentiary Conference, Nice, ITU, 1989,

38 Art,6-34 to 44A of the Final Acts of Plenipotentiary Conference, Nice, ITU, 1989, Also see D,M,Leive, *op,cit,*, 1972, p,11,

39 UN, Everyone's United Nations: A handbook on the work of the UN, New York, 1986, p.420.

40 J.H.Glazer, "The law-making treaties of the International Telecommunication Union in time and space", Michigan Law Review, 60 (3), 1962, p.281. And see also the Preamble, & Art.3 of the WATTC-88.

41 J.H.Glazer, *Ibid.*, pp.282-3.

42 e.g., during the Cold War, extensive discussions took place to decide where to situate its Headquarters. See G.A.Codding Jr, *op.cit.*, 1952, pp.48-50; & G.A.Codding Jr., *op. cit.*, 1984, p.436.

43 *Ibid.*, 1984, pp.438 & 441. The Conferences, that G.A.Codding Jr. mentioned, would be mainly the World Administrative Radio Conferences (WARC), because there was neither a Plenipotentiary Conference nor an Administrative Telegraph and Telephone Conference (WATTC) convened in the late 1970s.

44 The importance of communications to national development and of the developing countries' needs for assistance to establish national communications has been increasingly recognised. See G.A.Codding Jr, "The 1982 Plenipotentiary Conference", InterMedia, Jul/Sep. 1982, p.1.

45 The Telecommunications Development Bureau was established in the Nice Conference responding to developing countries' demands.

46 e.g., WARCs (World Administrative Radio Conference) :

1959 ; - looked at the question of satellite communications;

1963 ; - was held for space radiocommunications, which marked the transition from regulatory provisions for research purposes to those applicable to the everyday reality of space telecoms; made frequency allocations; established procedures for the co-ordination of satellite networks with one another as well as between space communication systems and terrestrial systems with which some sharing of spectrum space is involved.

1971 ; -called SPACE TELECOMS, reviewed all services in the perspective of space options and extended in large measure the Radio Frequency Allocation Table ; frequency bands were allocated to the Broadcasting Satellite Service for use under certain specific conditions.

1977 ; -planning of the Broadcasting-Satellite Service ; established a Plan for the service in the 12 GHz band for Region I - III.

1979 ; -almost total review of the radio spectrum allocations, co-ordination & planning arrangements ; (1) the spectrum space allocated for providing conventional point-to-point telecom services via satellite, Fixed Satellite Service was expanded ; (2) while making a number of improvements in the regulatory provisions applicable to satellite communications, it decided that a future WARC be convened *"to guarantee in practice for all countries equitable access to the geostationary-satellite orbit and the frequency bands allocated to space services"*.

1985 ; -First Session of the Orbit Conference (ORB); established Final Acts (providing for the incorporation of the Region 2 Broadcasting Satellite Service Place into the Radio Regulations) as well as a Report to the Second Session which includes planning principles and method as well as procedural guidelines ; contributed to the evolution of new technical criteria as well as the simplification of procedures associated with all space services.

1988 ; - utilization of the orbit of the geostationary satellites - i.e., ORB (2) in Geneva, e.g.,regarding to RARCs, the ITU divides the world into; Region I composed of Africa and Europe including the USSR territory; Region II covering the Americas; Region III consisting of Asia, Australia and Occeania.

* WATTCs will be discusse in the Ch.VIII relating to the WATTC-88.

47 R,E,Butler, *op,cit,*, 1986, pp,33-4,
48 A,G,David, *op,cit,*,
49 See Ch,VIII,1 (WATTC-88 and its Issues),
50 "The ITU has a new Administrative Council", ITU Press Release, ITU/89-25, June 25 1989,
51 H,K,Jacobson, *op,cit,*, 1974, p,63,
52 A,G,David, *op,cit,*,
53 Art,8-60,3 of the International Telecommunications Convention, Nairobi, ITU, 1982,
54 Report of the Administrative Council to the Plenipotentiary Conference, Nice, 1989, ITU, p,5,
55 D,W,Bowett, *op,cit,*,, 1982, pp,135-6,
56 H,K,Jacobson, *op,cit,*, 1974, p,91,
58 The Administrative Council has set the agenda for conferences like the Geostationary Orbit Conference (1985), Short Wave Broadcasting Conference (1984), the Mobile Conference (1983 & 1987) etc,, See R,J,Raggett, *op,cit,*, 1983, p,34,
59 In contrast to Secretary-General of the ITU, Director-General of UNESCO is 'proposing' the programme and budget, See F,Mayor, "Mayor underscores Unesco's mission in face of global complexity and instability", International Studies newsletter, 16 (7), 1989, pp,1-5, Also see A,G,David, *op,cit,*,
60 H,K,Jacobson, *op,cit,*, 1974, p,77,
61 D,Williams, Specialized Agencies & the UN : The System in Crisis, London; C,Hurst & Company, 1987, p,134,
62 *Ibid,*, p,140,
63 Secretaries-General of the ITU;

Secretary General (National)	Years	Previous profession
Franz von Ernst (Swiss)*	1949-1949	journalist & politician
Leon Mulatier (France)	1950-1953	assistant S-G
Marco A, Andrada(Argentina)	1954-1958	lawyer
Gerald C,Gross (US)	1958-1965	assistant S-G
Manohar Balji Sarwate (India)	1966-1967	deputy S-G
Mohamed Mili (Tunisia)	1967-1982	deputy S-G
Richard Butler (Australia)	1982-1989	deputy S-G
Pekka Tarjanne (Finland)	1989-	Director General of the Finnish PTT

* ; F,V,Ernst was Director (he former title of Secretary General) of the ITU since January 1 1935 until December 31 1948, before he became a Secretary General, Also, two of ITU's secretaries-general - e,g,, M,Mili and G,Gross - succeeded to office on the death of the incumbent,

See H,K,Jacobson (1974;76) and Reports of ITU Activities.
64 H,K,Jacobson, *Ibid,*, p,77,
65 A,G,David, *op,cit,*,
66 R,E,Butler, *op,cit,*, 1986, p,47; & R,J,Raggett, *op,cit,*, 1983, p,33,
67 Art,11-92c of the International Telecomunication Convention, Nairobi, ITU, 1982,
68 Art,11-84, *Ibid,*, See also Study Groups of the CCIR, *inter alia*, seven of which are involved in studies of questions related to space communications;

II - space research & radioastronomy ; IV - fixed-satellite service;
V - propagation in non-ionized media ; VII - standard frequencies and time signals;
VIII - mobile services ; X - broadcasting service [sound]
XI - broadcasting service [television] ;

69 R,Butler, "The ITU & Space Communications" in Satellite International, 1985, p,35,

70 Art,11-84 of the International Telecommunication Convention, Nairobi, ITU, 1982,

71 "Telecom '87: The ITU in a changing world", Telecommunications, 21 (8), 1987, pp,29-30,

72 G,D,Wallenstein, "Development of policy in the ITU", Telecommunications Policy, 1 (1), 1977, pp,138-152,

73 J,H,Gayer, "Past and future: Integrating the ITU headquarters", Telecommunication Journal, 31 (6), 1964, pp,159-65; & G,A,Codding Jr, "The 1989 ITU Plenipotentiary and the IFRB", Telecommunications Policy, 12 (3), 1988, p,239,

74 T,Irmer's comments in "The spirit of Melbourne", Telecommunications, 23 (1), 1989, pp,28-30, Also see T,Irmer, "The CCITT - Looking Forward", A paper presented at *Telecommunications and the Melbourne Meetings*, London, March 1989,

75 e,g,, "63% of all the major meeting days (712) are CCITT; 22% of the CCIR dealing with radio matters; 10% are Administrative Radio Conferences; and only 3% are the Plenipotentiary and the Administrative Council," See A,M,Rutkowski, "The ITU & the US: Partners or Rivals?", in C,H,Sterling (Ed,), International Telecommunications & Information Policy, NTIA Report , 1984, p,29, Also see Appendix 2 where A,M,Rutkowksi personally provided information,

76 "Election of the new Directors of the ITU , CCIs and the members of the IFRB", ITU Press Release, ITU/89-24, June 22 1989,

77 Art,9-73,74,75,76,77,78,79,80,81, & 82, of the International Telecommunication Convention, Nairobi, ITU, 1982,

78 While there were 7 radio conferences in the 1970s, 14 were held in the 1980s, See J,H,Gayer, *op,cit,*, 1964, pp,159-65; ITU, Report on the Activities of the ITU, 1986, p,37; & G,A,Codding Jr, *op,cit,*, 1988, p,237,

79 R,E,Butler, *op,cit,*, 1985, *passim*,

80 G,A,Codding Jr & A,M,Rutkowski, The International Telecommunication Union in a Changing World, Dedham, MA: Artech House, 1982, pp,117-135,

81 Res,No,68 of the International Telecommunication Convention, Nairobi, ITU, 1982,

82 e,g,, salaries to the members of the IFRB amounted to 3,1% in 1964,

83 See the Nairobi Plenipotentiary in 1982, where a proposal was made by some developing countries at the Conference to mandate a rotation of the members of the Board, One of the actions which led to the establishment of the special committee to review the work of the Board, was a part of this undertaking, This proposal was controversial, A US delegate argued that "Proposals [concerning] rotation, re-election conditions and related length of term in office were controversial, [,,,] The US led efforts to maintain the existing provisions - called freedom of choice, See G,A,Codding Jr,, *op,cit,* 1988, pp,238-241,

84 Art,11A-97A to 97M & Res,No,PLEN/5 - "Interim arrangments to enable commencement of the work of the Telecommunications Development Bureau" of the Final Acts of Plenipotentiary Conference, Nice, ITU,1989,

85 Res,No,PLEM/5, *Ibid,*,

86 See Appendix 2: Who participates in ITU Activities, 1982-1988,

87 D,Williams,*op, cit,* 1987, p,119,

88 G,C,Gross, "The new ITU: A plan for the reorganization of the Union", Telecommunication Journal, 30 (10), 1963, pp,305-11,

89 R,E,Butler, *op,cit,*, 1988g,

90 Doc,338 (Rev,1) dated June 22 1988 of the Nice Plenipotentiary Conference, 1989; Art,47 of the Constitution; & Res, No,COM7/1 dated June 30 1989 concerning the review of the structure and functioning of the ITU,

91 Art,47 of the Constitution (1989) states that "The Plenipotentiary Conference following the Penipotentiary Conference (Nice,1989) shall consider the results of the ,,,/

/,,, review of the structure and functioning of the Union [,,,]". See Art,47-204 to 207 of the Final Acts of Plenipotentiary Conference, Nice, ITU, 1989,

92 The convening of the additional Plenipotentiary Conference (1991) will depend on a decision made by the Administrative Council, Res,No,PLEM/6 of the Consitution convening "Convention of a Plenipotentiary Conference a consider the results of a study on structural reform, Also see Res,No,PL-B/1; "Future Conferences of the Union", See the Final Acts of Plenipotentiary Conference, Nice, ITU, 1989,

93 UN Doc,A/40/1102, 12 April 1986, "Current Financial Crisis of the UN - Report of the Secretary-General", para,40 in Y,Beigbeder, Management Problems in United Nations organizations, London; Frances Pinter, 1987, p,147,

94 G,A,Codding Jr, "Financing development assistance in the ITU", Telecommunications Policy, 13 (1), 1989, p,21,

95 L,Milk and A,Weinstein, US Participation in the ITU : A Study of Policy Alternatives, Center for Strategic and International Studies Georgetown University, 1984, pp,34-5,

96 G,A,Codding Jr, *op,cit,*, 1989, p,21,

97 e,g,, African development fund grant of US$ 3,75 million for the ITU, the agency responsible for the study of the regional African satellite communications system (RASCOM) project, ITU, Press Release, March 22 1989,

98 G,A,Codding Jr, *op,cit,*, 1989, p,23,

99 H,K,Jacobson, *op,cit,*, 1974, pp,63; D,Williams,*op, cit,*, 1987, p,83; & Report of the Administrative Council to the Plenipotentiary Conference, Nice, ITU, 1989, pp,66-67,

100 See a minimum contribution reduced from 1/8 to 1/16 at Nice Plenipotentiary Conference, 1989,

101 The units ranged from 1/2 a unit to 30 units until the 1982 Nairobi Conference, Under the current free choice system, the US sees it as the most-effective organization on the international scene, because the US contributes only 7% of the ITU budget which is less than the 25% of normal UN assessment, See H,K,Jacobson,*op,cit,*,, 1974, p,63; & G,A,Codding Jr,, *op,cit,*, 1989, p,15,

102 R,J,Raggett, *op,cit,*, 1983, pp,29 & 34,

103 Report on the Activities of the ITU in 1983 to 1988 & Data from Administrative Council in the Headquarters, Geneva, Also see Appendix 4,

104 H,K,Jacobson, *op,cit,*, 1974, p,63,

105 R,E,Butler, An address paper at 11th Session of the Council of Ministers of the UAPT, Bamado (Mali), 20 March 1989d,

106 The five official languages increased to six and the Centre in the 1982 Conference, and the Bureau was instituted in the 1989 Conference, The Center annually costs about $10 million, See The Missing Link, ITU, 1984, p,55 ; A remaining issue of the Bureau is the budget, See also "ITU elects new Secretary-General", FCC Week, Alexandriz VA(USA), June 19 1989,

107 e,g,, about US$ 1 million was spent to the World Telecommunication Year (1983), The growth in work of the CCITT alone can be demonstrated by more than 255 million pages of documents over 7 years (between 1983-9), See R,E,Butler, A paper presented in Promethee Thinknet Commission, Paris, March 16 1989c; & G,D,Wallenstein, "Development of policy in the ITU", Telecommunications Policy, 1 (1), 1977, p,149,

108 G,A,Codding Jr, *op,cit,*, 1989, p,21, The cut-back would be not less than 10%,

109 Although the Government Council of UNDP decided to fix the reimbursement for agencies participating in the UNDP programme at 13% of annual project expenditures in 1980, the continued decline in the US dollar resulted in a growing shortfall in the special accounts of the ITU's Technical Cooperation Department,

110 J,L,Renaud, "The ITU as Agent of Compromise", InterMedia, 14 (4/5), 1986, pp,24-5; ITU, *op,cit,*, 1984, pp,5 & 54; & G,A,Codding Jr, *op,cit,*,, 1989, p,13,.../

/,,, About 5% of its budget (1984) was earmarked for development assistance, See A,M,Rutkowski, *op,cit,,,* 1984, p,30,

111 R,J,Raggett, *op,cit,,* 1983, pp,28-29,33-34; & Y,Beigbeder, *op,cit,,* 1987, p,155,

112 A,M,Rutkowski, *op,cit,,* 1984, p,30,

113 It was mainly financial in association with ideological issues which led the US and the UK to withdraw from UNESCO, although the latter was given as the official reason, See E,J,Kim, *op,cit,,,* 1987, *passim*,

114 FCC Week, *op,cit,,*

115 G,D,Wallenstein, *op,cit,,* 1977, *passim*

116 H,K,Jacobson, *op,cit,,* 1974, p,101,

117 A,G,David, *op,cit,,*

118 Y,Beigbeder, *op,cit,,* 1987, p,133,

119 Telecommunication Journal, 55 (11), 1988, p,581; & R,E,Butler, A paper of closing address to the 44th Session of the Administrative Council, February 3 1989, ITU,

120 D,Williams, *op, cit,,* 1987, p,142,

121 Report of the Administrative Council to the Plenipotentiary Conference, Nice, ITU, 1989, p,32; R,E,Butler, *op,cit,,* February 3 1989; & Personal communication with personnel of ITU Headquarters, Geneva,

122 A matter concerning "the importance of recruiting the staff on as wide a geographical basis as possible" was one of the issues raised in the Nairobi Plenipotentiary Conference; e,g, Res,No,58 (Recruitment of Union staff) in accordance with No, 104 of the Convention,

123 Res,No,58 of the International Telecommunication Convention, Nairobi, ITU, 1982; & Report of the Administrative Council to the Plenipotentiary Conference, Nice, ITU, 1989, pp,27-8,

124 G,A,Codding Jr,, "Politicization of the ITU: Nairobi and After" in V,Mosco (ed,), Policy Research in Telecommunications, New York; Ablex, 1984, p,435; ITU, *op,cit,,* 1989; & R,E,Butelr, *op,cit,,* 27 April 1989g,

125 Art,2,2,b & c and Art,77,13 of the International Telecommunications Convention, Nairobi, ITU, 1982,

126 Art,2-10 of the Final Acts of Plenipotentiary Conference, Nice, ITU, 1989,

127 D,Williams, *op, cit,,* 1987, p,76,

128 e,g,, France had 8 votes in Union meetings, one for herself and one for each colony composing of Indonesia, Somaliland, Madagascar, Morocco, New Caledonia, Senegal, and Syria, See G,A,Codding Jr, The International Telecommunication Union : An Experiment in International Cooperation, Leiden; E,J,Brill, 1952, p,41,

129 G,A,Codding Jr, *op,cit,,* 1984, p,436-8,

130 When the Allied Powers attempted to integrate the Telegraph and Radio Telegraph Conventions into a Universal Electrical Communications Union between 1919-1921, advisors from the US and France envisaged an equitable *‹a priori‹* allotment of the radio resource, Yet, no equitable distribution of the wave lengths could be devised at the Technical Committee on International Radio Communication Meeting at Paris in 1921, Further, new provisions concerning interference prevention and no notification rules were added to the regulations, but the *‹a posteriori‹* mechanism, which was established in 1906 , remained, The US was clearly opposed to any *‹a priori‹* planning, preferring a *‹first-come, first-served‹* system, This debate is still continuing betweeen the developed countries, chiefly the US, and the developing countries,

131 The first is where decisions are legally binding only on those who have expressly concurred in them [these processes normally involve a formal ratification of the agreement concerned at a later stage, often by the legislatures of individual states] - The second involves procedures for taking decisions legally binding on all but also requiring the concurrence of all [the unanimity rule],- The third involves procedures for .../

/... taking decisions legally binding on all members of the organisation without requiring their concurrence; this form of decision-taking is usually done in organisations which have simple majorities for some types of decisions and special majorities for others.- Fourthly, there are the procedures for taking decisions which are only recommendations with no binding force; these are usually adopted on the basis of simple majorities [with special majorities only for special purposes. See D.Williams, *op. cit.*, 1987, p.78.

132 *Ibid.*, pp.56 & 78.

133 H.K.Jacobson, *op.cit.*, 1974, p.100.

134 G.A.Codding Jr, *op.cit.*, 1984, p.439; A.M.Rutkowski, "The USA and the ITU : Many attitudes, few policies", InterMedia, 9 (3), 1982, pp.10,33,37; & D.Witt, *op.cit.*, in Ernst-Joachim Mestmacker (Ed.),1987,p.370. In order to take part in the ITU's work these agencies need to be recognized by the state in which they operate.

135 D.Witt, *Ibid.*, p.371.

136 J.A.Laponce, 'Language and Communication : The rise of the monolingual state' in C.Cioffi-Revilla, R.L.Merritt, D.A.Zinnes (eds.) Communication and Interaction in Global Politics, Sage, 1987, pp.183-207. The number in () in terms of size of linguistic community demonstrates million of a population. See also S.S.Culbert, "The principal languages of the world" in The World Almanac and Book of Facts, New York; Newspapers Enterprise Association, 1984, p.245. Korean ranks 13th in terms of the relationship between language and military power, compared with 14th in terms of the size of linguistic community.

137 G.A.Codding Jr, *op.cit.*, 1952, p.5.

138 J.A.Laponce, Langue et territoire, Quebec; Les Presses de l'Universite Laval, 1984, p.183 in J.A.Laponce, *op.cit.*, 1987.

139 D.Williams, *op.cit.*, 1987, pp.1-4.

140 H.K.Jacobson, *op.cit.*, 1974, p.94.

141 G.A.Codding Jr, *op.cit.*, 1984, pp.435-447.

142 A.M.Rutkowski, *op.cit.*, 1984, *passim.*

143 Regarding conflicts over membership, there are a number of cases. For example, apart from the North and South Korean matter, the exclusion of Communist China and E.Germany is the most important effect that the clash between Communist states and the West has had on the ITU. Soviet-American relations have in contrast affected the tone of ITU proceedings, particularly those of the Plenipotentiary Conferences and the Administrative Council - e.g Buenos Aires Conference in 1952 was marked by a number of sharp controversies between East and West. See H.K.Jacobson, *op.cit.*, 1974, p.95. In addition, at the Geneva Plenipotentiary in 1959, the US delegate to the 1959 Plenipotentiary conference in Geneva mentions the demand on the part of the USSR that the delegation of the R.O.China should be excluded and that of the P.R.O.China be invited in its place. See G.A.Codding Jr, *op. cit.*, 1984, p.437.

144 The size of the Administrative Council reflects the geographical distribution of the new members, and increasing developing countries' representation in the conference hierarchy. For example, Representatives of developing countries have been added to the lists of conference vice-chairmen and increasingly are the chairmen and vice-chairmen of committees. For example, at Nairobi, vice-chairmen included those from Argentina, Algeria, Gabon, and China. J.Jipguep was re-elected as the Deputy Secretary-General in the 1989 Conference.

145 E.J.Novotny, *op.cit.*,, 1988.

146 J.Doran, Middle Powers and Technical Multilateralism: The International Telecommunication Union, Ottawa; North-South Institute, 1989, *passim.*

147 H.K.Jacobson, *op.cit.*, 1974, p.93

148 Ministry of Foreign Affairs (MOFA) of R.O.Korea, [R.O.Korea's Diplomacy through International Organizations], 1958, pp.171-4; & MOFA, [Handbood of International Organizations], 1986, pp.201-215.

149 KTA, Korea Telecom Centenary: 1885 - 1985, 1985, p.608; Telecommunication Journal, 16 (12), 1949, p.552; Telecommunication Journal, 17 (4), 1950, p.143. Ten countries voted against; They were Albania, Bielorussia, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, Ukraine, USSR, and Yugoslavia, who were all the Communist countries; Telecommunication Journal, 17 (7), 1950, p.321; Telecommunication Journal, 17 (11), 1950, p.532. Whilst, Albania, Czechoslovakia, Poland and Yugoslavia did not vote in the second consultation. See G.A.Codding,Jr.,*op.cit.*, 1952, pp.408-9.

150 KTA, *op.cit.*, 1985, pp.612-3.

151 Doc.167, 27 September 1965, ITU Plenipotentiary Conference.

152 KTA, *op.cit.*, 1985, *passim*.

153 MOFA, *op.cit.*, 1986, pp.210-215.

154 e.g.,the first satellite system earth station completed in June 1970 was built by the Philco-Ford corporation under a 5 million US dollars contract awarded in January. Also, the earth station initially provided service via the *Intelsat-III F-4* satellite between the US, the Phillippine, Hong Kong, the R.O.China and the Vietnam. The station is linked to Seoul by a terrestrial microwave link. See Telecommunication Journal, 36 (3), 1969; & Telecommunication Journal, 37 (8), 1970, p.595.

155 Doc.119 of the Malaga-Torremolinos, ITU Plenipotentiary Conference, 26 September 1973.

156 Report on the activities of the ITU in 1977, ITU, 1978, p.3.

157 S.Wagstyle, "Turmoil of transition", Financial Times, November 23 1989.

158 Editorial; "Roh's UN address", The Korea Herald, October 7 1988,p.8; & The Kankuk Ilbo, September 23 1988, p.2. It was the first time for R.O.Korea's President to address the UN, although several Ministers did in 1985 and June 1988 respectively. Also note that there were internally increasing people's (especially students') demands for national unification and that Roh was recently elected after heated internal disputes.

159 Doc.134 - Minutes of the Third Plenary Meeting - (May 30 1989) of the Nice Plenipotentiary Conference, ITU, 1989. The role of telecomunications in Seoul Olymic Game was emphasised. This emphasis was also seen in Doc.47 of the WATTC-88.

160 Doc.69 of the Montreux Plenipotentiary Conference in 2 August 1965.

161 ITU/89-25 (June 25 1989) - The ITU has a new Administrative Council, ITU Press Release.

162 See further arguments concerning R.O.Korea's behaviour within the CCITT and WATTC-88 in Chs.VII.2 & VIII.2.

163 Report of the Administrative Council to the Plenipotentiary Conference , Nice, 1989, Annex 5, p.298; & An internal document of the Administrative Council (ITU), concerning 'contribution of ITU Members to budget - 1990.' Also see that North Korea contributes 1/4 unit.

164 KTA, Symposium on International Telecommunications Organizations, 1989, p.10.

165 The Extract of the Report of the Advisory Committee on Administrative and Budgetary Questions to the General Assembly of the UN 35th session, 1980 (Doc.A/35/481) - Scales of assessment applied to Member States by the UN & its specialized agencies for 1981. See Annex; Doc.9, ITU, 1982, p.15.

166 Doc.136 of the Final Acts of the Plenipotentiary Conference, Nice, 1989.

167 Report on the Activities, ITU in 1974, 1977, uptil 1988; & Report of the Administrative Council to the Plenipotentiary Conference, Nice, 1989.

168 Personal communication with the personnel - Y.B.Koo, MOC (R.O.Korea) & TCD (ITU).

169 Diplomats of Korean Embassies, who stay at the place where each Conference was convened, were normally included the numbers along with relevant representatives for specialised areas. See MOFA, *op.cit.*, 1986, pp.210-215.

170 Doc.136 of the Final Acts of the Plenipotentiary Conference, Nice, 1989.

171 KTA, *op.cit.*, 1985, pp.1022-3.

172 The Hankuk Ilbo, October 8 1988, p.3.
173 R.O.Keohane & J.S.Nye, *op.cit.*, 1977, p.25.
174 MOFA, *op.cit.*, 1958; & "Roh's UN address", The Korea Herald, October 7 1988, p.8.
175 Personal communications with Mr.Y.B.Koo, MOC (R.O.Korea) & TCD (ITU), Geneva, 1989.
176 Personal communications with Mr.J.W.Lee, KTA, Melbourne, 1988.
177 KTA, *op.cit.*, 1985, p.608; & G.A.Codding Jr, *op.cit.*, 1952, pp.349-350; MOFA, *op.cit.*, 1986, pp.210-215. For instance, in WARC meeting (1979), N.Korea claimed HMA-MMZ among HLA-HMZ, which was initially allocated to R.O.Korea. After long arguments along with four times votings, HMA-HMZ was decided to be allocated to N.Korea. Instead, DSA-DSZ and DTA-DTZ were allocated to R.O.Kora.

Chapter V. Interlinkage between R.O.Korea and the ITU: Operational Functions

1 D.Witt, "The impact of national deregulation policies on the structure and activities of the ITU" in E-J.Mestmacker (Ed.), *op.cit.*, 1987, p.369.
2 ITU's function concerning technical co-operation and assistance is identified with different terms. For example, 'operational function' is used by D.Witt (1987;359) & H.K.Jacobson (1974;63); 'developmental function' by G.A.Codding Jr (1984;444); 'technical-cooperation activity' by J.R.Bitter (1985;359); and Administrative Council categorises it as 'activities in the field of technical cooperation' for the technical assistance activities. In order to avoid confusion between technical co-operation and assistance activities, this thesis identifies the term as 'operational function' covering technical co-operation, assistance, and development.
3 R.E.Butler, "The role of ITU; Future co-operation", Telecommunication Journal, 5 (4), 1988, pp.263-4.
4 Art.11A of the Finanl Acts of the Plenipotentiary Conference, Nice, ITU, 1989.
5 Telecommunication Journal, 19 (10), 1952, p.501.
6 G.A.Codding Jr, "The changing nature of the ITU Plenipotentiary", Telecommunications Policy, 7 (4), 1983, pp.320-21.
7 See the purposes and functions of the ITU in Ch.IV. Also compare Art.4.12.a of the Malaga-Torremolinos 1973 Convention with Art.4.14.a of the International Telecommunications Convention, Nairobi, ITU, 1982. Also see Resolutions: "Special Voluntary Programme for Technical Cooperation (Res.19) and Establishment of the Independent International Commission for World-Wide Telecommunications Development (Res.20). Further see the International Telecommunication Convention, Malaga-Torremolinos, 1973 & Nairobi, 1982.
8 Art.4 and 11A of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989.
9 J.R.Bitter, *op.cit.*, 1985, p.358-9;& R.E.Butler, *op.cit.*, 1988, p.264.
10 "The 43rd Session of the Administrative Council", Telecommunication Journal, 55 (11), 1988, p.580.
11 R.E.Butler, *op.cit.*,, 1988, pp.264-6. The ITU's training centers are completely locally run and staffed, as seen in a higher-level training center in Nairobi and a ITU-backed school in Dakar. See The Wall Street Journal, *op.cit.*.
12 "The 43rd Session of the Administrative Council", *op.cit.*, 1988, p.580. Four projects comprise two rural telecommunications projects in Sri Lanka and in Uganda, one training centre in Zimbabwe and one prefeasibility study for a regional satellite project in Africa, RASCOM.
13 International Telecommunication Convention: Final Protocol, Additional Protocol, Optional Protocol, Resolutions, Recommendation & Options, Nairobi, 1982; & ITU, *op.cit.*, 1984.
14 The report - *Information, telecommunications and development* - stated that telecommunications should not be neglected in the development process. See both in ITU, *op.cit.*, 1984, *passim*; & R.E.Butler, "Modern Telecommunications technology .../

/... for development", Telecommunications Journal, 53 (7), 1986, pp.404-7.

15 "One World - One Network: ITU is now focusing on four key telecoms task ", The Wall Street Journal, October 20 1987; & R.E.Butler, *op.cit.*, 1988, p.263.

16 ITU, *op.cit.*, 1984, pp.3-4.

17 "The 43rd Session of the Administrative Council", *op.cit.*, 1988, p.580. Implementation of the CTD: In response to 37 requests for assistance received by the CTD, 20 field missions were organized mainly to study the telecommunication sector and to identify requirements.

18 "The role of the Centre for telecommunications Development", Telecommunication Journal, 55 (5), 1988, pp.293-296.

19 Art.11 A of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989.

20 R.E.Butler, *op.cit.*, 1986, p.42. Various researches carried on by the ITU such as Information & Telecommunications and Development, Geneva: ITU, 1986; Telecommunications and the National Economy: A quantitative study using a macroeconomic cross-sectional analysis, Geneva: ITU, 1988; & Benefits of telecommunications to the transportation sector of developing countries, Geneva: ITU, 1988.

21 R.E.Butler, *op.cit.*, 1989e.

22 R.E.Butler, Opening statement at Centre for Telecommunications Development Meeting, Geneva, 1989f.

23 Res.No.PLEN/5 of the Plenipotentiary Conference, Nice, ITU, 1989.

24 D.Witt, *op.cit.*, 1987, p.370.

25 L.Milk and A.Weinstein, *op.cit.*, 1987, p.44.

26 "Only 5% of the whole budget is proposed to go directly to development assistance," See A.M.Rutkowski, *op.cit.*, 1984, pp.35-36; & "The 43rd Session of the Administrative Council", *op.cit.*, 1988, p.580.

27 Telecommunication Journal, 55 (5), 1988, p.295, e.g., the total contributions in cash received or pledged by donors are : 1,883,000 CHF (1986); 2,360,600 (1987); and 3,038,600 (1988). Whereas contributions in kind represent 447,000 CHF (1987) and 3,817,000 (1988).

28 R.E.Butler, *op.cit.*,, April 4 1989.

29 The Wall Street Journal, *op.cit.*, 1987.

30 R.E.Butler, *op.cit.*, 1986, *passim*. Also see Y.Beigbeder, *op.cit.*, 1987, pp.147-158, and Ch. IV.1: financial issues that demonstrate the current trends of Member States, e.g., there were no increases of contribution scales for the Union's regular budget, although the contribution system changed from 30 to 40 units in 1982 Plenipotentiary Conference.

31 R.E.Butler, *op.cit.*,, April 4 1989f.

32 Report on the Activities, ITU from 1975 to 1986. These proposals were "turned down by delegates mainly on the basis of the additional costs that would be involved and the need for coordination of technical assistance activities by an agency such as the UNDP, which could look at all of the needs of developing countries rather than one sector such as telecommunications. Also see G.A.Codding Jr and A.M.Rutkowski, *op.cit.*, 1982, pp.285-6; & G.A.Codding Jr., *op.cit.*, 1989, p.14.

33 K.Sauvant, International Transactions in Services: The politics of TDF , Boulder & London: Westview Press, 1986; R.E.Butler, *op.cit.*, April 4 1989f. Res.No.18: "Budgetary and organizational aspects of technical cooperation and assistance of the Union" of the Nairobi Convention, 1982; & Report of the Administrative Council to the Plenipotentiary Conference, Nice, ITU, 1989, p.262. The ITU's own resources including services of the group of engineers, services of the training division such as the CODEVTEL, short-term missions such as specialists and Group of engineers, logistic support for seminars, fellowship programme to participate in ITU seminars and in CCI Study Group meetings, regional .../

/... presence, services of the head of the TCD and his office, logistic support for the voluntary programme of technical cooperation, special assistance for the Least Developed Countries, provision of common services for technical cooperation activities, identification of benefits of telecommunications for development, follow-up action on the recommendations and decisions taken by conferences and meetings of the Union for the benefit of developing countries, ITU publications, World Communications Year, review of ITU technical cooperation and assistance activities, and resources to promote technical cooperation among developing countries.

34 Telecommunications, 21 (8), 1987, pp.29-30. Also see cases that some initiations have been taken towards fund-raising in Singapore on the occasion of TELECOM 89 in cooperation with the ASEAN Administrations, and in North America. See also R.E.Butler, *op.cit.*,, Geneva, 4 April 1989f.

35 The Wall Street Journal, *op.cit.*, 1987.

36 R.E.Butler, *op.cit.*, April 4 1989f.

37 Telecommunication Journal, 55 (11), 1988, p.580; & Report of the Administrative Council to the Plenipotentiary Conference. Nice, ITU, 1989.

38 R.E.Butler, *op.cit.*, 1986, pp.43-45.

39 "The 43rd Session of the Administrative Council", *op.cit.*, 1988, p.580; & Report of the Administrative Council to the Plenipotentiary conference, Nice, ITU, 1989. See R.J.Raggett, *op.cit.* 1983, p.34; A closing address of the 44th Session of the Administrative Council on 3 February 1989b; G.A.Codding Jr, "Financing development assistance in the ITU", Telecommunications Policy, 13 (1), 1989, pp.13-24. See also studies carried on by J.L.Renaud, The Changing Dynamics of the ITU: An Historical Analysis of Development Assistance, A Ph.D. Dissertation, Michigan State University, 1986; "The ITU and development assistance: North, South and the dynamics of the CCIs", Telecommunications Policy, 11 (2), 1987, pp.179-192; ITU, *op.cit.*, 1984; & W.Pierce and N.Jequier, *op.cit.*, 1983, *passim*.

40 Art.11A of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989.

41 W.Pierce and N.Jequier, *op.cit.*, 1983, pp.14-6.

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45 K.D.Deutrich, "Telephony Training", Telecommunication Journal, 34 (7), 1967, p.252-4.

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48 Telecommunication Journal, 30 (1), 1963, p.6; Telecommunication Journal, 30 (4), 1963 p.95 & (11), 1963, p.337; & Telecommunication Journal, 34 (12), 1967, p.461.

49 L.Milk and A.Weinstein, *op.cit.*, 1987, p.45. Also see Telecommunication Journal, 32 (3), 1965, p.104.

50 ETRI, *op.cit.*, 1985, p.669.

51 Telecommunication Journal, 30 (1), 1963, p.6; .../

/... & 33 (12), 1966, p.407. Also see examples such as the Training Centre established in 1962 and the exchange system bought by the UNDP through the ITU which was delivered by the manufacturer early 1965.

52 Telecommunication Journal, 55 (22), 1988, p.93.

53 Doc.No.RAS/86/121 of the Telecommunication Cooperation Department, ITU.

54 Telecommunication Journal, 55 (22), 1988, p.93; & Doc. ROK-84-004 of the Telecommunication Cooperation Department in the ITU.

55 Doc.ROK-84-004 of the TCD,ITU; & Personal communication with personnel in the TCD, ITU.

56 They were Datecon (F.R.Germany; US$2,032,500); Specrum Planning Inc. (USA; US$1,229,855); Telecon (Finland; US$1,685,209); Teleconsult (Canada; incomplete proposal); Comsat (USA); Consultel (Italy); and Sedtel (Sweden). See *Telecommunication Journal*, Vol.55, No.22, 1988, p.93; Appendix 1; "Terms of reference of, and services to be provided by, the Consultancy Office" of the Doc.ROK/84/004, January 1987; & Appendices 1 and 2; "Specimen contrat format", ROK/84/004, ETRI, January 1987.

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62 International Telecommunication Intelligence, *op.cit.*, 1987, p.7. Also see Ch.II

63 Doc.134 of the Final Acts of the Plenipotentiary Conference, Nice, 1989.

64 *Ibid.*, Also see differences between technical assistance activities and technical co-operation activities in Ch.V.1.

65 ETRI, *op.cit.*, 1985, p.669.

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Chapter VI. Interlinkage Between R.O.Korea and the ITU: ISDN

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112 Inter-Working function of TDX is package data network for not telex yet, but telephone. See The Washington Round, ITU; Geneva, 1985.

113 KTARC-35-008, *op,cit,*, pp,20-21.

114 Jeonjasibosa, *op,cit,*, 1988, *passim*.

115 Personal communication with Dr,C,H,Yim,1989. More than 20 experts including professors and engineers were engaged in this task which was completed in only one year. This activity is part of ETRI's programme to promote the international standardization movement. Also note that R,O,Korea is among a few countries who actually translated "a complete set of CCITT Red Books into [its own native language] Korean." See Telecommunication Journal, 55 (22), 1988, p,92.

116 ETRI, *op,cit,*,, 1988. Other contributions are 'Variable Cell Size in ATM', 'Consideration of Operation and Maintenance Aspects of Static Multiplexed Basic Rate Access (V6 Interface) at 1,544 Kbps rate'.

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Chapter VII. Interlinkage Between R.O.Korea and the ITU: CCITT

1 Art,4-A,19A & 24 of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989; & R,E,Butler, *op,cit,*, 1989e & 1989g.

2 About 70% of the legislative activity of the ITU has been produced by the CCITT. The work has taken more than 255 million pages of documents over 7 years (1982-1989). See Ch,IV,1, ITU; & R,E,Butler, *op,cit,*, March 16 1989c. Also see J,L,Renaud, *op,cit,*, 1987, p,190.

3 The terms 'medium' and 'duty' are identified by the International Telecommunication Convention. See Art,11-84,89,90 & 91 in the International Telecommunication Convention, Nairobi, ITU, 1982. Also, athough the terms 'Recommendation' and 'standard' have come to be used interchangeably in ordinary parlance, the CCITT issues only Recommendations. See D,Cerni, *op,cit,*, 1982, p,15. In this research, the term Recommendation is identified as a standard.

4 P,Bocker & L,Schweizer, "The ISDN; A great example of synergy within CCITT", Telecommunication Journal, 55 (7), 1988, p,451. Interrelation among study groups; SGI (services), VII(data networks interworking), VIII (terminals), XI (switching signalling), XII (telephone performance) and XV (transmission) surrounding XVIII (ISDN - co-ordination).

5 H,Ergas, Changing Market Structures in Telecommunications, North-Holland, 1984, p,157; R,E,Butler, *op,cit,*, 1983, *passim*; & D,Cerni, *op,cit,*, 1982, *passim*.

6 Administrative Council, *op,cit.*, ITU, 1989, p,206.

7 D,Cerni, *op,cit.*, 1982, *passim*; K,Sauvant, *op,cit.*, 1986, *passim*; & R,E,Butler, "Modern telecommunications technology for development", Telecommunication Journal, 53 (7), 1986, pp,404-7.

8 L,Burts and E,Hummel, "Standard setting in international telecommunications", Telecommunications Policy, 8 (3), 1984, pp,3-6.

9 INTUG, which was set up in 1975, looked first towards the ITU including the CCITT when calling for a new world forum of telecommunications. INTUG which is now a member of the CCITT with the status of an international organization is now actively pursuing an examination of the potential issues and implications of ISDN. See D,Cerni, *op,cit.*, 1982, pp,23-5; B,C,Cullen, "The international private leased circuit; The business users's view", Telecommunication Journal, 52 (5), 1985, pp,286-9, and "Regulation and the user", Telecommunication Journal, 54 (3), 1987, p,185; ; E,Lohse, "The role of the ISO in telecommunications & information systems standardization", IEEE Communications Magazine, 23 (1), 1985, pp,18-24.

10 See figures in bracket from the VIIIth Plenary Assembly (1984) and the IXth Plenary Assembly (1988) respectively. There is no change in numbers of international organizations (36) and the increase of recognized private operating agencies (57ǂ65). See Administrative Council, *op,cit.*, ITU, 1989, p,193.

11 B,C,Cullen, "The users role at the CCITT; An INTUG perspective," Telecommunication Journal, 50 (5), 1983, pp,260-3; *op,cit.*, 1985, pp,286-9 & 1987, p,185.

12 E,Hummel, "The CCITT", IEEE Communications Magazine, 23 (1), 1985, pp,8-11.

13 D,Cerni, *op,cit.*, 1982, p,35.

14 Some of the Series such as TV programme transmissions; Protection against interference and corrosion; Maintenance of telephony circuits & carrier systems; Telephone installations & local line networks; Facsimile telegraph apparatus; Telegraph switching; Data transmission; and New data networks have been deleted due to the changing telecommunications environment. Compare CCITT Yellow Book (1980); CCITT Red Book (1984); and CCITT Blue Book (1988).

15 G,D,Wallenstein, "Review of the ITU in a changing world", Telecommunications Policy, 7 (53), 1983, p,253.

16 H,G,Schermers, *op,cit.*, 1972, p,630.

17 G,D,Wallenstein, "Development of policy in the ITU", Telecommunications Policy, 1 (3), 1977, pp,138-51.

18 T,M,Mao and E,Hummel, *op,cit.*, 1981, *passim*.

19 L,Burtz, "CCITT", in H,Ergas and J,Okayama (eds,), Changing Market Structures in Telecommunications, Oxford; North-Holland, 1984, pp,109-111.

20 G,D,Wallenstein, *op,cit.*, 1977, pp,138-152. Also see L,McKnight, *op,cit.*, 1987b, p,418.

21 Art,1 of each Telegraph and Telephone Regulations; Final acts of the World Administrative Telegraph and Telephone Conference, 1973. Also see E,W,Ploman, International Law governing Communications and Information, London; Frances Pinter, 1982, pp,242-244.

22 Art,1 of the Final acts of the WATTC-88, Melbourne, 1988.

23 It is additional purpose of the Union, See Art,4-19A of the Final Acts of Plenipotentiary Conference, Nice, ITU, 1989.

24 J,Ryan, "Guest editorial", IEEE Communications Magazine, 23 (1), 1985, pp,6-7.

25 G,D,Wallenstein, *op,cit.*,, 1977, p,140.

26 W,Stallings, *op, cit.*, pp,199-206.

27 L,Burtz and E,Hummel, "Standard setting in international telecomunications", Telecommunications Policy, 8 (1), 1984, pp,3-6.

28 R,Naslund, "Setting technical standards for improved communications flows", Telecommunications Policy, 9 (4), 1985, p,273,

29 L,Mcknight, *op,cit,*, 1987a, *passim*,

30 "Telecoms '87", The Wall Street Journal, October 20 1987, p,9,

31 R,Bruce, From Telecommunications To Electronic Services : A Global Spectrum of Definition, Bounary Lines and Structures, Intrnational Institute of Communications, 1986, p,102,

32 R,Naslund, *op,cit,*, 1985, p,275,

33 H,G,Schermer, *op,cit,*, 1972, p,16,

34 The Wall Street Journal, *op,cit,*, 1987, p,9,

35 W,Stallings, *op, cit,*, p,206,

36 Siemens Review, No,2, 1988, p,20,

37 D,Cerni, *op,cit,*, 1982, p,37; & T,D,30, IXth Plenary Assembly, 1988,

38 B,C,Cullen, *op,cit,*, 1987, pp,180-6,

39 e,g,, a draft Recommendation for the new V,42 standard for modem* error correction embracing both the link access protocol (LAP) and microcom networking protocal (MAP) has been recently agreed upon , but in a form that has left few people happy, According to some studies, "a LAP-based standard backed by AT&T, BT, and NTT is eventually expected to offer synergy with other ongoing work within CCITT on the LAP B (X,25) and LAP D (ISDN)," See Telecommunications, 22 (2), 1988, p,12,

40 H,P,Gassmann, "Computer Communications - The Economic Challenge", A paper presented at VIIIth ICCCC, 1986,

41 Fascicle II,1 - Rec, D,210, CCITT Blue Book: D-Series, IXth Plenary Assembly, 1989, Personal communications with Director of the CCITT (Dr,T,Irmer) and Chairman of SG III (Mr,A,Lefort), Also see the term 'general principles' in Ch,V,2,

42 C,W,Verity, NTIA Telecom 2000: Charting the Course for a New Century, US Department of Commerce, 1988, *passim*,

43 e,g,, European industrial history is littered with victims of the politicization of standards; The PAL/SECAM in 1960s and videotex in recent years, Moreover, when implementation is largely in the hands of 'national governments' - which can exclude options from their domestic standards - it creates great potential for the segmentation of national markets, See H,Ergas, *op,cit,*, 1984, pp,3-4,

44 T,D,33 of the VIIth Plenary Assembly, 1980; & D,Cerni, *op,cit,*,, 1982, p,38,

45 Telecommunications, 22 (2), 1988, p,19; "The Spirit of Melbourne", Telecommunications, 23 (1), 1989, p,26; & R,E,Butelr, *op,cit,*, 1989a; "ITU Leadership in Achieving Global Interconnectivity", A paper addressed in Telecommunications at the Melbourne Meetings, London, March 31 1989e; & *op,cit,*, 1989g,

46 T,D,30 & 48 of the IXth Plenary Assembly, 1988,

47 R,E,Butler, *op,cit,*, 1989e; & T,Irmer, *op,cit,*, 1989,

48 Res,No,17 of the IXth CCITT Plenary Assembly, 1988,

49 Siemens Review, February 1988, p,17,

50 L,J,Rankine, "A View from the ISO", A paper presented at the VIIIth ICCC, 1986; & L,McKnight, *op,cit,*, 1987b, *passim*,

51 E,Lohse, *op,cit,*, 1985, pp,18-24,

52 Siemens Review, *op.cit.*, 1988, p,16,

53 The ISO sees digitized voice being used in office machineray along with digitized data and scientific bit streams, while the CCITT has been developing ISDN, Also see L,McKnight, *op,cit,*, 1987b, pp,434-5,

54 L,J,Rankine, *op,cit,*, 1986,

55 S,I,Sherr, "Communications standards and the IEC", IEEE Communications Magazine, 23 (1), 1985, pp,25-7,

56 M,Toutan, "CEPT Recommendations", IEEE Communications Magazine, 23 (1), 1985, pp,28-30,

57 COM(88) 48 final, Brussels, 9 February 1988, p.12.

58 "CEPT to transfer major activity to ETSI", Telecommunications, April 1988, p.12.

59 CEC, COM (87) 290 final, 30 June 1987, pp.170-1; J.Ryan, *op.cit.*, 1985, p.6; & C.Rich, "European Telecommunications Policy: A US view", Telecommunications Policy, 12 (1), 1988, pp.2-7.

60 Committee T1 Telecommunications : Annual Report 1988. *passim*.

61 The output of the IEEE including IEEE COMMUNICATIONS Magazine; IEEE NETWORKS; IEEE SPECTRUM; and IEEE DESIGN & TEST OF COMPUTERS indicates more active work compared to the only the Telecommunications Journal published by the ITU.

62 R.Naslund, *op.cit.*, 1985, p.273.

63 Siemens Review, February 1988, p.19.

64 D.Cerni, *op.cit.*,, 1982, p.33; Art.6 (charging & accounting) of the Telecommunications Regulations (WATTC-88) drafted by CCITT SGIII was adopted virtually without comment by the PC/WATTC, although its details were changed into an Annex in the WATTC-88. See Administrative Council, *op.cit.*,, ITU, 1989, p.197.

65 G.D.Wallenstein, *op.cit.*, 1977, pp.138-151; & "Review of the ITU in a changing world", Telecommunications Policy, 7 (3), 1983, pp.252-3.

66 J.L.Renaud, "The ITU and development assistance: North, South and the dynamics of the CCIs", Telecommunications Policy, 11 (2), 1987, p.181.

67 G.Codding Jr. and A.Rutkowski, *op.cit.*, p.104.

68 D.Cerni, *op.cit.*,, 1982, p.33. For instance, see the Canadian contribution to the 1980 CCITT Plenary Assembly ; "The limited participation of developing countries in the work of the CCITT Study Groups is due to a number of reasons," See AP.33 of the VIIth Plenary Assembly, 1980.

69 The special rapporteurs in the Study Groups (especially SGXVIII) all come from a few industrialized countries (especially their common carriers). See AP.141 of the IXth Plenary Assembly, 1988.

70 J.L.Renaud, *op.cit.*, 1987, p.190.

71 *Ibid.*, pp.179-192.

72 Administrative Council,*op.cit.*,, ITU, 1989, p.209. A key element in Res.No.14 is the request to the CCITT Secretariat to support seminars actively by providing lecturers to participate in such seminars implemented through the Telecommunications Centre for Development.

73 H.K.Jacobson, *op.cit.*, 1971, pp.60-1.

74 J.L.Renaud, *op. cit.*, 1987, p.190.

75 J.Solomon, "The future role of international telecommunications institutions", Telecommunications Policy, 8 (3), 1984, p.216; & J.L.Renaud, *Ibid.*, p.191.

76 The Wall Street Journal, October 20 1987.

77 L.Mcknight, *op.cit.*, 1987a, p.13.

78 See K.Bidlingmaier's comment that 'our main interests are in the ISDN and telematic-service projects,' "Comment: The participation of Nixdorf Computer in International Standardization" in E.J.Mestmacker (ed.), *op.cit.*, 1987, p.445.

79 AP.38 of the IXth Plenary Assembly, 1988.

80 K.Bidlingmaier, *op.cit.*, 1987, p.445.

81 T.Irmer, *op.cit.*, London, March 31 1989.

82 Telecommunications, 22 (2), 1988, p.9 & No.3, 1988, pp.12 & 22. This shift may be subject to the competition laws inherent in the Treaty of Rome. See: Community of European Commission (CEC), *Towards a dynamic economy - Green Paper on the development of the common market for telecommunications services and equipment*, COM(87) 290, 1987.

83 E.Lera, "The EEC Telecommunications Sector : Between integration and projection", Telecommunications Policy, 12 (1), 1988, p.8; & K.Burnett, "EC Green Paper", InterMedia, 16 (2), 1988, pp.4-5.

84 G.D.Wallenstein, *op.cit.*, 1977, *passim*.

85 "X.400 Promotion Group Forms," Telecommunications, 22 (3), 1988, p.13.

86 D.Myers, "Communications commercialism, controversy and standards": ISS 84 (International Switching Symposium) and ICC 84 had richly varied programs but many common concerns, Telephony, June 25 1984, pp.80-81 & 133.

87 R.E.Butelr, *op.cit.*, April 27 1989g.

88 The Wall Street Journal, *op.cit.*, October 20 1987.

89 L.McKnight, *op.cit.*, 1987a & b, *passim*.

90 T.D.33, VIIth Plenary Assembly, 1980.

91 P.Robinson, "Challenges to international cooperation" in H.Ergas and J.Okayama (eds.), *op.cit.*, 1984, p.173

92 V.C.MacDonald, "Standardization: Today's key arguments", Telecommunication Journal, 54 (4), 1987, p.254; & T.D.43, IXth Plenary Assembly, 1988.

93 Telecommunications, 22 (2), 1988, p.12; & T.D.43, *Ibid*.

94 CCITT is also cooperating with TC 1 of the IEC in order to provide an internationally agreed vocabulary of telecommunication terms, and for this purpose participated in the world of IEC/ITU Joint Coordination Group on Vocabulary (JCG) and its Working Groups. See Administrative Council, *op.cit.*, ITU, 1989, p.210; & T.D.43, IXth Plenary Assembly, 1988.

95 L.Burtz and E.Hummel, *op.cit.*, 1984, pp.3-6.

96 R.Naslund, *op.cit.*, 1985, pp.273-5.

97 H.Ergas, *op.cit.*, 1984, p.157.

98 KTA, *op.cit.*, 1985, p.611.

99 Meetings for WG XVIII/1 to XVIII/7 and for the Task Group on broadband aspects of ISDN of SG XVIII (ISDN) took place at the invitation of the Administration of R.O.Korea, under the chairmenship of Mr.H.K.Pfyffer (Swiss), Chairman of SG XVIII. The WGs comprise: WGI - Service aspect; WGII - Network aspects; WGIII - User-network interfaces; WGIV - Architecture & model; WGV - Maintenance and general aspects; WGVI - Performance aspects; WGVII - Transmission aspect. See "CCITT News: Meeting of Working Parties XVIII/1 to XVIII/9 and the BBTG of SGXVIII", Telecommunication Journal, 55 (5), 1988, pp.289-292.

100 *Ibid*., pp.289-292.

101 ETRI, *op.cit.*, 1988, pp.5-6.

102 As a result of the Seoul Meeting, B-ISDN user-network interfaces will be standardized at two bit rates, which will be at approximately 150 Mbit/s and 600 Mbit/s. Each of these interfaces should be capable of supporting broadband services as well as 64 Kbit/s-based ISDN services. The main feature of the B-ISDN concept is the support of a wide range of audio, video and data applications in the same network. Asynchronous transfer mode (ATM) is the target solution for implementing a B-ISDN. It will influence the standardization of digital hierarchies and multiplexing structure, switching and interface for broadband signals. Further see Ch.V.2.

103 Telecommunication Journal, 55 (5), 1988, pp.289-292.

104 ETRI, *op.cit.*, 1988, p.34.

105 KTA, *op.cit.*, 1985, p.982.

106 "CCITT 'Red Book' translated into Korean", Telecommunication Journal, 55 (2), 1988, p.92.

107 KTA, Annual Report, 1988.

108 The books are regarded as a good data for a threshold towards advanced telecommunications technologies to the country. See KTARC, A Study on the Technologies Recommended by CCIII, December 1987, p.51.

109 Various difficulties emerged from each institute's scattered locations and overloaded work of researchers, Service Development Department within the KTA was formed to support the institutes through collecting information, translating, seminars on the results of each institute, publishing etc. *Ibid*., pp.103-106 & 121.

110 These Korea's contributions include variable cell size in ATM' (D,1637/XVIII); 'Consideration of operation and maintenance aspects of static multiplexed basic rate access [V6 interface] at 1,544 Kb/s rate' (D,1638/XVIII); and 'Amendements to Annex of the draft recommendation on operation and maintenance for the ISDN Basic rate access' (D,1639/XVIII). See ETRI, *op,cit,*, 1988, pp,151,267-281; Jeonjasibosa, *op,cit*, 1988, pp,132,151, & 335; & KTARC, *op,cit,*, 1987, pp,123-9.

111 Personal communication with Mr,Y,I,Park, MOC, Melbourne, 1988.

112 The Korea Times, January 24 1988.

113 ETRI, *op,cit,*, 1986, p,xvi.

114 Eun-Jin Kim, *et,al,*, "Introduction of & participating policy of Asian ISDN Council" in KTA, *op,cit,*, 1989, pp,339-50.

Chapter VIII. Interlinkage Between R.O.Korea and the ITU: WATTC-88

1 Art,4-24 of the Final Acts of the Plenipotentiary Conferenence, Nice, ITU, 1989; & Art,4-24 of the International Telecommunication Convention, Nairobi, ITU, 1982.

2 The Communications Newsletter, 6 (20), November 4 1988.

3 "WATTC is of vital importance, not only for the ITU but for the entire user community" (D,Gilhooly, June 1988;9); "the WATTC will have a crucial impact on the development of international telecommunications" (G,Finnie,Nov, 1988;11); "There is the extremely important WATTC 88. It has to assure the appropriate regulatory framework in international telecommunications until the beginning the 21st century," (R,E,Butler, 1985)

4 The Communications Newsletter, *op,cit,*; & "What's up down under ?" in Random Bits - Melbourne Special, Special Edition, November 1988.

5 A,M,Rutkowski, *op,cit,*, 1985, p,257.

6 R,E,Butler, *op,cit,*, Asia Telecom '89, February 1989.

7 Res,No,10 of the International Telecommunication Convention, Nairobi, ITU, 1982.

8 A,M,Rutkowski, *op,cit,*, 1986, *passim*.

9 TT-88/Dos,38 & 47 of the WATTC-88.

10 Res,No,10, *op,cit,*, 1982; & A,M,Ruthowski, *op,cit,*, 1985, p,261; & TT-88/Doc,38, ANNEX, of the WATTC-88.

11 D, Gilhooly, *op,cit,*, June 1988, p,9.

12 D,Stephenson, "WATTC and the Green Paper; Some predictions", Transnational Data and Communications Report, 11 (6/7), p,12.

13 The suggestion was that the provision be made for special arrangements and that Art,1,7 be omitted.

14 D,Gilhooly, *op,cit,*, June 1988, p,9.

15 Spain herewith withdrew the contribution contained in TT-88/Doc,35 of the WATTC-88.

16 TT-88/Doc,47, 13,2 of the WATTC-88. The Spanish Administration submitted a rather strong view that "the [IXth CCITT] Plenary Assembly should not discuss the matters which are to be taken up by WATTC but should transmit to the latter the report of PC/WATTC, together with any comments it might wish to make". See TT-88/Doc,38 of the WATTC-88.

17 The New Framework for Australian Telecommunications Services announced by the Minister of Transport and Communications on 25 May 1988, whose principles are based on the importance of telecommunications to international economic and social growth and the scope for productivity gains from new services applications. See TT-88/Doc,5 of the WATTC-88.

18 Spain herewith withdrew the contribution contained in TT-88/Doc,35 of the WATTC-88.

19 See ›Melbourne package-deal‹ in the latter section.

20 R,E,Butler's comment that "I favour the term 'comply with' because Administrations* should comply with the relevant CCITT Recommendation" during the Conference, in sub-section 1,6 of the new Regulations.

21 G,Finnie, "WATTC agrees on new telecom rules; Industry Watch", Telecommunications, 23 (1), 1989, p,19.

22 e.g., regarding the PC/WATTC draft, "the ADAPSO (Association of Data Processing Services Organizations) deemed the Draft 'unacceptable', and urged that 'the US should refuse to ratify the results of the WATTC-88, or, at a minimum should ratify with reservation'. IBM seconded this view and said that the 'US should ensure that any regulations adopted should maintain a 'neutral approach' and, at a minimum, not require that members regulate international enhanced services and international enhanced service providers," See W.J.Drake, "WATTC-88: Restructuring the International Telecommunication Regulations", Telecommunications Policy, 12 (3), 1988, p.226.

23 See Table 8-2: Structure of WATTC-88 (As an instrument).

24 G.Finnie, Telecommunications, 22 (11), 1988, p.74.

25 e.g., the proposal for sub-section 1.4 saying that 'these Regulations are *not* to be taken as giving those Recommendations and Instructions the same legal status as the Regulations', and suppressing subsections 1.6 and 1.7 covering especially 'compliance with the CCITT Recommendations' demonstrated what the US wantd the new Regulations to be. See TT-88/Doc.13 of the WATTC-88.

26 TT-88/Doc.122-39 of the WATTC-88.

27 What G.Finnie observed was that "two different regulatory regimes would operate in parallel," See G.Finnie, Telecommunications, 22 (11), 1988, p.74. What, then, could the continuation of the 1973 regulations mean ? First of all, "the 1973 regulations are applicable to telegraph and telephone operations" (TT-88/Doc.16), and "meet the requirements of the telegraph and telephone services",(TT-88/Doc.64) On this basic premise, Mr.R.E.Butler tried to argue that "the WATTC-88 regulation is also necessary to effectuate the international telecommunication services,"(TT-88/Doc.64) However, supposing the failure of the WATTC-88, the 1973 regulations could not be applicable to "the new international telecommunications services", that the US and its alliances could be in favor of. What G.Finnie likely misunderstood is that two different regulatory regimes cannot co-exist at the same time, because "as soon as the new regulations enter into force, the 1973 (previous) regulations themselves do not remain valid any more, but become, on that very date, simply invalid and thus no more applicable legal instruments of the Union," (TT-88/Doc.113, para.12)

28 R.E.Mansell, "Telecommunication network-based services ; regulation and market structure in transition", Telecommunications Policy, 12 (3), 1988, p.249.

29 G.Finnie, Telecommunications, 22 (11), 1988, p.74.

30 TT-88/Doc.13 of the WATTC-88.

31 The US replaced Article 1 of PC/WATTC with its own addition, that reflects 'the right of Members to allow special arrangements for special telecommunication networks, and systems, including the ›underlying means of international telecommunications transport‹', See D.J.Woo *et al* , "Preparation for WATTC", Standardization Trend in Telecommunications, ETRI, June 1988, p.58.

32 This trend is even better explained by its proposal at Final Protocol. See that "the UK wanted to reaffirm its Government's commitment to the development of *competition* in the provision of international telecommunication infrastructure and services. It believes such competition to be in the interest of telecommunicatiosn users , and economic development", See TT-88/Dos.22,47, & 122-44 of the WATTC-88.

33 TT-88/Doc.22 of the WATTC-88.

34 TT-88/Doc.122-35 of the WATTC-88.

35 New Zealand's agenda in TT-88/Doc.36 of the WATTC-88. In particular, it has faced such changes within domestic policy, where its Government announced intention to permit full and open competition in the telecommunications network services market in 1987. Legislation to remove the statutory monopoly on the provision of network services entered into effect on 1 April 1989. As a result, its delegation showed rather strong support for America's position during the Conference.

36 Nordic Countries's agendas in TT-88/Doc,18 , TT-88/Doc,38,p,21, & TT-88/Doc,47-13,18, The Secretary General tended to regard the Nordic proposal as the potential alternative when negotiations reached a deadlock between the basic texts - the PC/WATTC draft and Butler's revision, Overall, the Nordic countries tended to be silent, This silence , as P,Tarjanne, (new Secretary-General of the ITU) mentioned (1989), might have derived from 'understanding' the concerns of the other side, particularly those of the developing countries,

37 "ITU elects new Secretary General", FCC Week, Alexandriz VA (US), June 19 1989, Also, Finland formulated "a new telecommunication law which has been in force since 1987," This law "does not provide for authorization of, for example, VANs operators who can use telecommunication for provision of their services without a telecommunication licence," That is to say, Finland and its alliances were in favour of "the option for users of new services to select from among a diversity of service vendors " instead of "the safeguard of monopoly", In practice, "Finland has joined forces with other European PTTs and RPOAs, in order to improve the ›competitive‹ edge" in the telecommunication field, See P,Tarjanne, "WATTC-88; Finding the right balance", Asia Telecom 89, Singapore Telecoms & ITU, 1989,

38 TT-88/Doc,47-13,18 of the WATTC-88,

39 TT-88/Dos,23 & 47-13,5 of the WATTC-88,

40 e,g,, there were about 500 service providers in 1987; about 30 companies including NTT and KDD for basic services and about 465 private companies for value-added services, See W,Y,Yoo, "Structural changes of telecommunicatiaon industries and trends of privatizatins and deregulation of telecommunication businesses", Korean Telecommunications [Hankuk Jeongi Tongsinl, April 1988, p,32,

41 *Ibid,*, 1988, p,27; & "Background note on major considerations in negotiating a possible GATT trade in services agreement applying to telecommunications services", Trade in Services & Telecommunications, Special International Forum, Geneva, April 13,1988, Also, see the deal between the US and Canada excludes large chunks of the service sectors from its provisions including basic telecommunications, in "World trade, Arthur Dunkel & GATT; The General Agreement to Talk and Talk", The Economist, 10 December 1988, pp,92 & 94,

42 Canada suggested that the Regulations would apply fully to services 'generally available to the public', For services not generally available to the public, the Regulations should only apply to the underlying international transport means, For services generally available to the public and for all underlying international transport means, the CCITT Recommendations should be complied with to the greatest extent practicable, Providers of specialized services, networks, and systems, which are subject to special arrangements, should be encouraged to take into account the relevant CCITT Recommendations, See TT-88/Doc,32 of the WATTC-88,

43 See Greek agendas in TT-88/Doc,11 & Doc,38, p,24, especially those concerning provisions for charging and accounting,

44 TT-88/Doc,47-13,7 of the WATTC-88,

45 TT-88/Doc,24 of the WATTC-88,

46 *Ibid,*,

47 This category can be referred by S,D,Krasner, *op,cit,*, 1985,

48 "The '90s & Beyond", The Wall Street Journal, January 30 1989,

49 "World trade, Arthur Dunkel & GATT ; The General Agreement to Talk and Talk", The Economist, 10 December 1988, p,94; & M,Jussawalla, *op,cit,*, 1987,

50 TT-88/Doc,47-13,11 of the WATTC-88,

51 TT-88/Doc,7 of the WATTC-88,

52 TT-88/Doc,47-13,12 of the WATTC-88,

53 TT-88/Doc,122-48; Burkina Faso & TT-88/Doc,31; Chad of the WATTC-88,

54 TT-88/Doc,47-13,31 of the WATTC-88,

55 Regarding the concept of "sovereign right", some Members like Chile, .../

/... Cameroon, Philippines and many others insisted on that "'sovereign right' of countries to develop their own telecommunications in a relevant way should be tempered by the need for unambiguous regulations limiting excessive liberalization." See TT-88/Doc.47-13.17, 13.23, 13.45 of the WATTC-88. Most of them wanted the 'Preamble' to remain on the ground that "it is essential to keep it because the recognition of this sovereign right deserves specific mention". Yet, the US, its allies, and Butler's alternative draft deleted it. Also see TT-88/Doc.8; Madagascar of the WATTC-88.

56 Algeria in the first volume of Agora 1982.

57 TT-88/Doc.6 of the WATTC-88.

58 TT-88/Doc.30; Colombia of the WATTC-88.

59 What they are in general frightened about is that "if the highly profitable operating agencies were allowed a free run of the traffic routes from which over 85% of the telecommunication revenues of developing countries were derived, there was a danger of under-capitalization for projects in non-profitable rural areas." See TT-88/Doc.47-13.16 & 13.28 of the WATTC-88.

60 Kenya pointed out "the continuous requests from major correspondents for decreasing accountancy rates, as well as the problems such as economies of scale did not apply in developing countries whose networks were relatively small and often supported uneconomic services provided to remote rural areas." See TT-88/Dos.47-13.37,13.40,13.41 & 43 of the WATTC-88.

61 TT-88/Doc.15 of the WATTC-88.

62 TT-88/Doc.122-25 of the WATTC-88.

63 TT-88/Doc.122-29;30 of the WATTC-88. This kind of 'right to reserve' their decisions and right to vote on a certain issue is the main reason why most developing and some developed countries need such multilateral organizations and conferences as the ITU and the WATTC-88. Traditionally, it has been the US which has reserved its position; e.g., Telegraph and Telephone Regulations at Malaga Torremolinos Plenipotentiary in 1973, and the WATTC-72 in Geneva. See D.J.Woo, *et al*, *op.cit.*, 1988, p.48.

64 P.Tarjanne, *op.cit.*, 1989.

65 TT-88/Dos.14, 40, 47-13.19; USSR ; & Doc.47-13.14; Bulgaria. Soviet agenda; "[...] taking into account the present stage of development of telecommunication services, their role in the development of the world economy, new technologies allowing for the establishment and introduction of new telecommunicatin services, and the use of international telecommunication networks as a transport means, the world community needs a sufficiently flexible but precise set of Regulations, containing a set of main principles which define relations for the provision and operation of international telecommunication services and facilities and lay down charging and accounting provisions to facilitate the establishment and use of international telecommunication 'services'.

66 TT-88/Doc.122-35 of the WATTC-88.

67 W.Y.Yoo, *op.cit.*, April 1988, p.33; K.Burnett, "EC Green Paper : Short cut or stumbling block ?", InterMedia, 16 (2), 1988, pp.4-5; & B.Taylor, "Telecoms: A rocky road to 1992", EIU European Trends, (3) 1989, pp.76-79.

68 K.W.Grewlich, *op.cit.*, 1987, p.47; & W.Dawkins, "European Research Investment; The debates intensify", Financial Times, 13 April 1988.

69 Draft Council Conclusions for the WATTC-88, which is agreed without change at Luxembourg, Council of Minister of the EEC, in June 1988; ANNEX. This was re-emphasised at the first Plenary Meeting on 28 November 1988 mentioning. See TT-88/Doc.47 of the WATTC-88.

70 CEC,COM(87) 290 final, *op.cit.*, 30 June 1987, p.172.

71 "Timetable set for EC Green Paper reform", Telecommunications, 22 (4), 1988, p.20; & "Green light for the Green Paper, Telecommunications, 22 (12), 1988, p.402.

72 TT-88/Doc.47-13.20 of the WATTC-88.

73 TT-88/Doc.38 of the WATTC-88; & TT-88/Doc.47-13.20 of the WATTC-88.

74 TT-88/Dos,47-13,9, 13,10, & 13,13 of the WATTC-88,
75 TT-88/Doc,1 of the WATTC-88,
76 A,M,Rutkowski, *op,cit,*, 1986, *passim*,
77 TT-88,Doc,45 of the WATTC-88,
78 TT-88/Doc,16 of the WATTC-88, Also see the previous Regulations replaced by the new ones ;
1958 Telegraph Regulations
1973 Telegraph and Telephone Regulations
1988 International Telecommunicatiaons Regulations,
79 TT-88/Doc,38-2,3 of the WATTC-88,
80 TT-88/Doc,38-2,4 of the WATTC-88,
81 R,E,Butler, *op,cit,*, 1985,
82 TT-88/Doc,38-2,5 of the WATTC-88,
83 Telecommunications, 22 (6), 1988, p,16; & R,Naslund, "International technical and operation standards and their impact for effective national and international communication flows," The Washington Round, Washington D,C,: ITU, 1985, pp, 85-89,
84 W,J,Drake, *op,cit,*, 1988, p,218,
85 See Ch,IV,1 concerning 'instruments of the ITU'; & A,Noll, "The institutional framework of the ITU and its various approaches with regard to international telecommunication law ans treaty conferences", The Washington Round, Washington D,C,: ITU, 1985, p,20,
86 Art,1,6 of the Final Acts of the WATTC-88, Melbourne, 1988, Art,36 - Instruments of the Union - of the Final Acts of the Plenipotentiary Conference, Nice, ITU, 1989; & Art,42-170 of the International Telecommunication Convention, Nairobi, ITU, 1982, Also, regarding "the mandate of the 1988 WATTC, it '*must*' in its decisions be "in conformity with the provisions of the Convention" in all circumstances" See TT-88/Doc,64 of the WATTC-88,
87 A,M,Rutkowski, *op,cit,*, 1986, *passim*,
88 e,g,, Articles of the PC/WATTC draft concerning elements of infrastructures are; "the underlying international telecommunication transport means used to provide end services" (1,2) ; "using the international telecommunication network to provide an international telecommunication service" (1,7) ; "the means of transmission used" (1,8) ; "the offering of a telecommunication capability" (2,2) ; "technical facilities and installations [,,,] used for telecommunication traffic" (2,6) ; "international network" (title of Article 3) ; "a capability of having access to the international switched network"(4,3,a) ; "international telecommunication facilities" (4,3,b) etc, See TT-88/Doc,64 of the WATTC-88,
89 The rationales which are not only based in Article 4 of the Nairobi Convention, but also in "most of those individual proposals (TT-88/DT,1) for the new instrument to be adopted by the Conference, that contain similar elements of 'infrastructures' to be governed by them,
90 TT-88/Doc,64 of the WATTC-88,
91 W,J,Drake, *op,cit,*, 1988, pp,220,
92 P,Nugent, "WATTC-88; Global harmonization, or entirely new international law ?" A paper presented in Telecom '87; Legal Symposium, Geneva, 1987,
93 Art, 1,7 (a); "These Regulations recognize the right of any Member , subject to national law and [,,,] to require that administrations* and private operating agencies," in TT-88/Dos,105, DL/25 & Doc,115 of the WATTC-88,
94 Telecommunications, 22 (6), 1988, p,16,
95 At the same time, a GATT's meeting was held in Montreal, where decisions could not be made about 'trade in service' issues, due to agricultural disagreements,
96 Articles 4-13 & 16 of the International Telecommunication Convention, Nairobi, ITU, 1982,
97 G,Finnie, Telecommunications, 22 (11), 1988, p,11,
98 Personal communications with Mr,P,Ravaioli, Principal Administrator in .../

/,,, Division IV-B-1; Electronics, Informatics and Telecom of EEC, Melbourne, 1988,
99 TT-88/Doc,113 of the WATTC-88; & Doc,174 of the Nairobi Convention, 1982,
100 G,Finnie, *op,cit,*, November 1988, p,11,
101 Articles 1,7 (a) , 3,4 , 4,3 , & 9,1 in TT-88/Doc,115 & DL/26 of the WATTC-88,
102 See the process of the decision-makings regarding Art,4 in WATTC-88,
103 "Achieving compromise; Toward flexible WATTC regulations," Transnational Data and Communications Report, 11 (2), 1988, p,6,
104 G,Finnie, *op,cit,*, November 1988, p,11,
105 "The catalyst for WATTC-88 is the revolution in telecommunications technology particularly in the convergence from the previously separate technologies and industries into a single integrated sector," See TT-88/Doc,47, Annex 1 of the WATTC-88,
106 "Information for Media", WATTC-88 in Melbourne, Australia, (Special edition),
107 "Telecommunications News; ITU proposes alternative WATTC text", Telecommunications, 22 (6), 1988, p,16,
108 W,J,Drake, *op,cit,*, 1988, p,220; & K,W,Grewlich , 'Comment : policy making for telecommunications on the international level - a European perspective' , in E,J,Mestmacker (ed,), *op,cit,*, 1987, p,49,
109 "Facilitative effort; New WATTC Consultations" , Transnational Data and Communications Report, 11 (5), 1988, pp,5-6,
110 TT-88/Doc,115 of the WATTC-88 & Articles 4,3 a) & 9,1 of the Final Acts of WATTC-88,
111 Art, 5 in the PC/WATTC draft; & TT-88/DT,1 of the WATTC-88,
112 See Butler's (Secretary-General) comment on 'quality of services' during the process of WATTC-88,
113 See 'Preamble' in the PC/WATTC draft; & TT-88/DT,1 of the WATTC-88 & W,von Dewitz, *op,cit,* 1987, p,331,
114 TT-88/Dos,18, 47-13,24,-13,8, & -13,18 of the WATTC-88,
115 R,Bruce, *op,cit,*, 1986, *passim*,
116 C,Rich, "European telecommunications policy; A US view", Telecommunications Policy, 12 (1), p,6,
117 P,Nugent, *op,cit,*, 1987,
118 W,J,Drake, *op,cit,*, 1988, pp,230-31; & TT-88/Dos,13 & 122-39 of the WATTC-88,
119 W,J,Drake, *Ibid,*, p,219,
120 TT-88/Doc,6 of the WATTC-88,
121 TT-88/Doc,47-13,3 of the WATTC-88,
122 e,g,, New Zealand; TT-88/Doc,47-13,38; & Japan; TT-88/Doc,47-13,5 of the WATTC-88,
123 Personal communications with Mr,G,R,Pipe (USA), Project Director of Telecommunications Services Trade, He was an acting delegate on behalf of Carribean countries in WATTC-88,
124 E,J,Mestmacker, "Competing Goals of National Telecommunications Policies", in E,J,Mestmacker, *op,cit,*, 1987, pp,13-30,
125 "Achieving Compromise; Toward Flexible WATTC Regulations", Transnational Data and Communications Report, 11 (2), 1988, p,6,
126 The term service is defined in Ch,II, Also see Art,4 of the new Regulations asentitled Internatioanl Telecommunication Services, Further, see TT-88 Doc, DT/1 ,pp,17-20; This title has changed from 'services offered to users' at Doc, 38, Also see the Final Report of the CCITT on the Activities of PC/WATTC-88 to 'Internatioanl Telecommunications Services' at seen Doc,71, based on proposals such as the US [13], Nordic countries [18], Brazil [19], Britain [22], Japan [23], Colomia [30],
127 Res,No,10 of the Convention (1982); & TT-88/Doc,64 of the WATTC-88,
128 TT-88/Doc,38, ANNEX of the WATTC-88; & R,Naslund, *op,cit,*, 1985, p,112,
129 See Argentina's proposal relating to Art,4 during the WATTC-88,

130 F,M,Negro, "WATTC-88; Broad international regulatory framework for telecommunication services in the 90s", The Washington Round, Washington D,C,, ITU, 1985, pp,107-116,

131 The reason why "services issue was forced on the agenda [in Montreal meeting of GATT] by the US with the strong backing of its own business community which wanted a lever to force open developing country markets to its own service industries," See 'Signs of progress on yardsticks for liberalising services', Financial Times, December 1 1988,

132 Art,4,3,b in TT-88/Dos,105 & 115 of the WATTC-88,

133 K,W,Grewlich, 'Comment; policy making for telecommunications on the international level - A European perspective', p,44 , in E,J,Mestmacker (ed,), *op,cit,*, 1987, Also see B,Lanvin, *op,cit,*, 1987, p,19,

134 A,M,Rutkowski, *op,cit,*, May 1986, p,14, Also see French proposals in the process of WATTC-88,

135 See US proposals in the process of WATTC-88 referring to Art, 9,

136 See the process of decision-making referring to Art, 9 in WATTC-88,

137 Art,9 of the Final Acts of the WATTC-88, Melbourne, 1988,

138 See Zimbabwe's proposal in the process of WATTC-88,

139 M,Jussawalla, *op,cit,*, 1987, p,19,

140 Transnational Data and Communications Report, 11 (2), 1988, p,5,

141 No,028; News of the Uruguay Round of Multilateral Trade Negotiations, GATT, May 26 1989,

142 No,029; News of the Uruguay Round of Multilateral Trade Negotiations, GATT, July 7 1989,

143 See difference of the term;'Taxation et comptabilite' in French,

144 TT-88/DT,1 & Dos 38 & 108 of the WATTC-88, Discussions relating to 'accounting rate and collection charge' were further carried on by *Ad Hoc* Working Group as well as *Ad Hoc* Plenary not only referring to Article 6 but also sub-sections 2,8 and 2,9 of Art,2, See the process of WATTC-88 regarding Art,2; & TT-88/Doc,115,

145 A,M,Rutkowski, Telecommunications, 20 (11), 1986, p,72,

146 TT-88/DT,1 of the WATTC-88,

147 See US proposals regarding to Art,6 and Appendix 4 in the process of WATTC-88 (December 8 1988),

148 TT-88/Dos, 47 & 122 of the WATTC-88,

149 TT-88/Dos, 24 & 47-13,7 of the WATTC-88, This introduction of 'access fee' led the Working Group to be debated,

150 TT-88/Doc,47-13,27,

151 It is a development of telecommunication program organized by the ITU,

152 TT-88/Dos, 37 & 47 of the WATTC-88,

153 TT-88/Doc, 66 of the WATTC-88,

154 TT-88/Dos, 95, 110, & 117 of the WATTC-88,

155 There appeared an overt jesture that 'A' backs 'B' and *vice versa* particularly between the US and the USSR, The US frequently and consciously tended to back or second the proposals of the USSR; e,g,, the US seconded to "add the USSR's proposal on Article 4,1" and accepted 'no technical harm to developing countries' suggested by the USSR in Article 9, Also see the process of the WATTC-88 regarding Articles 4 & 9, Further note that there hardly were decisions made for a certain member-state due to a superpower country; e,g,, the Soviet suggested to "include the definition 'user' in the Regulations, based on the belief of a more versatile approach to operation of the international telecommunication networks," TT-88/Doc,14 - USSR; [URS/14/7] But, this was neither accepted from Ad hod Working Group, nor allowed to carry on further discussion in the Plenary Meetings, due to lack of supports, Also see the Ad hod WG, where there mainly Western countries participated in order to deal with limited issues such as Articles 2 , 3 ,& 5 of WATTC-88,

156 J,B,Quinn, "The impacts of technology in the services sector", in B,R,Guile & H,Brooks (Eds,), Technology and Global Industry: Companies and Nations in the World Economy, National Academy Press; Washington,D,C,, 1987,pp,119-159,

157 If the strength were measured by the extent of national 'compliance,' the telecommunications regime has historically been much stronger than global arrangements in such issue-areas as monetary policy, and trade management, See "Achieving Compromise; Toward Flexible WATTC Regulations", Transnational Data and Communications Report, February 1988 ,p,5, In the outsets of the WATTC-88, the term 'comply with' was replaced by 'encourage, cooperate' in each Article 1,6 (TT-88/DT/1, DL/8, Dos,79 & 115) and in 1,7 (b) & (c) (TT-88/DT/1 & Doc,115); 'conform' in 4,2 (DT/1 & Doc,105) during the process of WATTC-88,

158 W,von Dewitz, *op,cit,*, 1987, pp,320-331,

159 Although the majority agreed on that 'Member' should be responsible , they all had different degrees of the scope in their minds, e,g,, "'Members' shall endeavor <suggested by China, Belgium> / cooperate <Italy> / endeavor to ensure <Japan, USSR >," In addition, some countries like Zimbabwe did not agree on the term *'endeavor'* itself , on the ground that it regarded it as tends to "dilute the importance of Member's obligation," So it wanted to put just 'ensure' instead of 'endeavour',

160 e,g,, Guatemala (TT-88/Doc,47-13,47) and Philippines (TT-88/Doc,47-13,45) were "alreaday revising its laws, rules and regulations governing telecommunications as a vital part of its infrastructure," Also, "the Nigerian Administration had granted full autonomy to the operating agency of its telecommunication services by creating the NITEL (Nigerian Telecommunications Ltd) from the former Department of Posts and Telecommunicatiaosn of the Ministry of Communications since 1985" (TT-88/Doc,47-13,41), Furthermore, Tonga said that "since telecommunication had ceased to be the responsibility of a government department in 1984 its technology had taken a great leap forward; e,g, five installations of digital exchanges" (TT-88/Doc,47-13,25),

161 G,Finnie, "Illusion and Reality at WATTC", Telecommunications, 22 (1), 1988, p,11,

162 R,Priddle, *op,cit,*, 1989,

163 See Table 8-1; Structure of the WATTC-88 (As A Medium), The meetings lasted until 2 O'clock in the morning, The package was introduced at 01;00 on December 8, 1988 leaving only one day for the WATTC conference, See that the Conference was due to finished on December 9,

164 Apart from all implicated issues in each Article, the main political argument was focused on Article 1,7 - which backed by developing countries' proposals (particularly African countries and France) - and Article 9 - which backed by the US and its allies,

165 H,Ungerer, "WATTC-88; The European Community", A paper presented at Telecommunications and the Melbourne Meetings, organized by IBC Technical Services Ltd,, London, March 31 1989,

166 P,Tarjanne, *op,cit,*, 1989,

167 R,E,Butler, *op,cit,*, March 31 1989e,

168 Regarding the methods of procedure in the WATTC-88 between a package-as-a-whole and item-by-item, only a few members including the US, the UK, and New Zealand favoured the latter, In the end, the US stood by itself,

169 TT-88/Doc, 76 (Rev,1) for 'special arrangements' and Doc, 77 (Rev,1) for Article 1,7, which were proposed by a group of Members consisting of Algeria, Benin, Burkina Faso, Cameroon, Congo, Mali, Uganda, Rwanda, Swaziland, Tanzania, Togo and Zimbabwe,

170 See Benin's proposals regarding Article 9 in the Ad Hoc Plenary (December 7 1988); & DL/15 (Rev,1),

171 G,Finnie, *op,cit,*, 23 (1), 1989, p,19, Personal communication with some delegates from the developing countries,

172 See H,Ungerer,*op,cit,*, 1989; & R,Priddle,*op,cit,*, 1989,

173 J,W,Blumenstein, "A supplier's view", A paper presented at Telecommunications and the Melbourne Meetings, organized by IBC Technical Services Ltd,, London, March 31 1989.
174 H,Ungerer, *op,cit,*, 1989.
175 R,E,Butler, *op,cit,*, 1989e.
176 P,Tarjanne, *op,cit,*, 1989.
177 G,Finnie, *op,cit,*, 1989, p,19.
178 Res, PL/1 of the WATTC-88; R,E,Butler, *op,cit,*, 1989e; & Resolution PL/1 of the WATTC-88; "Dissemination of information concerning international telecommunication service available to the public".
179 Personal communication with the Minister, J,K,Ahn, Melbourne, 1988. Also see Ch,VI,1.
180 ETRI, *op,cit,*, 1988, p,318.
181 See R,O,Korean Government's instruction to Korean Delegation to the WATTC-88.
182 MOC (R,O,Korea), A Preparatory Report for Participating at the WATTC-88, KTA, November 1988; & A Result Report of the WATTC-88, 1988a.
183 TT-88/Doc,47-13,39 of the WATTC-88.
184 MOC (R,O,Korea), *op,cit,*, 1988a, pp,38 & 185. Also see Art,1,7,a) of the Final Act of the WATTC-88. Regarding to the *scope* of the CCITT Recommendation, the R,O,Korea wanted to 'comply with' the CCITT Recommendations (Ch,VIII,4).
185 TT-88/Doc,47-13,39 of the WATTC-88.
186 R,O,Korea did not participate in the special meeting for the & 'revenue sharing' held April 17-19 1989 (Geneva), although about ten Korean delegates attended a Meeting of SG III (Accounting and Charging) on April 24-28 1989 (Geneva).
187 R,E,Butler, *op,cit,*, 1989c & e.
188 *Ibid,*, 1989e.
189 See KISDI, 'Analysis of international liberalisation in telecommunicatiaons sectors of 33 nations', Telecommunications Policy Issues, (1), 1988, pp,22-37.
190 R,O,Korea's liberalisation simply means further diversifies or restructures its common carriers from the current two (KTA and DACOM) to five (Ch,III), on the one hand, KTA's shares were transferred from public to private sectors, on the other. See MOC, *op,cit,*, 1988b ,p,3.
191 KTA, A Prepatory Report for Participating at the WATTC-88, 1988.
192 J,Jipguep, Deputy Secretary-General, ITU, "The WATTC-88", Asia Telecom '89, February 20-25, 1989.
193 Personal communication with Dr,T,Irmer, Director of CCITT, Geneva, 1988.
194 The 'levels of responsibilities' mean that different levels of entities have different kinds of responsibilities and provide different sorts of services. See personal communication with Mr,R,E,Butler and his paper, *op,cit,*, 1989d; L,Codacovl, MCI-RCA Globecom, "The Information Age Post WATTC-88", Paper presented at Asia Telecom '89, February 20-25, 1989.
195 Personal communications with Dr,O,S,Cho, KISDI, 1988.
196 MOC, *op,cit,*, 1988, p,22 & p,38.
197 Personal communications with Mr,Y,I,Park, MOC, 1988.
198 T,Larsson (Swedish Telecom), *op,cit,*, 1989; & R,E,Butler, *op,cit,*, 1989e.
199 R,B,Porter & R,Vernon, *op,cit,*, 1989, p,11.
200 "America & S,Korea: The art of conceding", The Economist, August 5 1989,pp,45-6.
201 C,Thongana, Paper presented at Aisa Telecom '89 in Sigapore.

Chapter IX. Conclusions

1 Personal communications with Mr,R,E,Butler, Secretary-General of the ITU, and Dr,T,Irmer, Director of the CCITT, Geneva, 1989,

2 R,O,Keohane, International Institutions and State Power: Essays in International Relations Theory, London: Westview Press, 1989, p,253,

3 Y,J,Im, "Result of participation in the IXth CCITT Plenary Assembly", KTA (ed,), Symposium on International Telecommunications Organizations, 1989, pp,57-86,

4 ETRI, *op,cit,*, 1988, pp,317-23,

5 J,U,Seo, *et,al,*, "Korean strtegies for a digital world," A paper presented in PTC'86, 1986,

6 e,g,, delegates mainly from industrial countries identified themselves by their names, whereas those from other Member countries such as R,O,Korea by their country names - written on cards that were raised - as in the WATTC-88, Melbourne,

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