

## Introduction and Overview

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### 1. INTRODUCTION

#### 1.1 Background

Let us then make the assumption—sadly far from current reality—that we are in a paradisiac one-country world—or a one-country Europe for that matter. Would the most efficient industrial organization of its telecommunications service sector coincide with the system of the early 1980s with national monopolies and regionally dominant firms? Hardly.

The ongoing liberalization of telecommunications service markets could thus be regarded as one of the major economic experiments in the 20th-century world economy. Its outcome and impact will be surely felt in the 21th century but difficult to forecast beyond saying that we will be surprised. But uncertainty and turbulence favor those who are well-informed.

#### 1.2 Purpose of this book

The brief background above is not indisputable. Already the title of this book and its underlying metaphor of a race raise questions like:

- Is there actually a race going on?
- How did it start?
- Will the race go on or be stopped and who stands to lose?
- Will there be winners?
- What does the crown of victory look like?
- What are the rules of the race and who sets them?
- What will happen with the spectators and those aspiring to set the roles?
- Are there other races?
- What does the race track look like?
- What is the role of the racing equipment and its supply?

This book aims to give a closer picture of the on-going internationalization experiment in tele services and to probe some questions for its future monitoring. It is focused on Europe for several reasons. First, European industry in general, especially in the smaller countries, has a long history of internationalization. Second, despite Europe's lagging in a number of techno-industrial areas compared to Japan and the US, her telecommunications industry and technology is quite strong with a considerable potential for international competitiveness (see e.g. Freeman et al. 1991, cf. also the case of GSM). Third, the general European integration

process is highly interesting and important, as is the European process of liberalization of telecommunications. The difficulties for national and supra-national authorities to align these two processes may very well turn the telecom area into an important test case for both. An emerging pan-European market may also become a battleground for telecommunications companies from around the world, perhaps for one of the largest commercial battles in economic history. To the extent that the European market(s) will be precursory, the winning European telcos stand to gain an important competitive edge also in world markets.

### 1.3 Chapter outline

It is always tempting to overly emphasize the specific features of a particular industry, especially when viewed from within. Telecommunications is no exception to this; on the contrary. This chapter will first try to put internationalization of telecommunications into its broader context. This is done by over-viewing the concepts, history and theories of MNCs in general and then relating them to telecom more specifically. The chapter then gives an overview of the structure and content of the book.

## 2. OVERVIEW OF CONCEPTS

### 2.1 The concept of a technology-based service industry

#### 2.1.1 General

The literature on internationalization and MNCs has mostly emerged in connection with internationalization of extraction and manufacturing industries rather than service industries. It can therefore not be taken for granted that received concepts, theories and models of internationalization are immediately applicable to the telecommunications service industry. However, there are close links between products and services, also growing over time. Every product provides a bundle of services for the user and most services require for their provision a bundle of products and capital equipment (buildings, instruments, tools etc.). The distinction between service and manufacturing industries is related to a traditional organization and conceptualization of industrial activities that often becomes fuzzy, perhaps also increasingly so.

We define a technology-based service industry here to mean an industry that essentially provides services, the provision of which requires embodied and/or disembodied technology to a considerable extent. Technology is here taken to typically mean engineering and applied natural and science knowledge. The R&D to sales ratio, i.e. the R&D intensity, is then one indicator of the degree to which an industry is technology-based.

#### 2.1.2 Telecom

For the telecommunications service industry there are two important common denominators with extraction and manufacturing industries, namely the capital and technology intensities. Thus, we may regard the telecommunications service industry as being in particular a *technology-based service industry*.

Table 2.1 utilizes the denominators capital and technology intensity to provide an overview of service industries in general and technology-based ones in particular and an illustration of the concept of technology-based service industry in the context of telecom services. Note that the (physical) capital base embodies technology in its "hard" form. However, capital intensity and technology intensity are not perfectly correlated since there are low-tech/high capital

Table 2.1  
Illustrative classification of service industries<sup>1)</sup>

Capital intensity <sup>2)</sup>	Technology intensity <sup>2)</sup>		
	High-tech services	Low-tech services	or "no-tech" services
High capital intensive services	Telecom services	Rescue services	Rental services
	Medical services (surgery etc.)	Entertainment	Hotels and accommodation services
	Surveillance and security services	Retailing/wholesale	Religious services
	Defense services	Gambling	
	Energy services	Disposal services (sewage, garbage etc.)	
	Transportation services	Water supply	
Low capital intensive services		Financial services etc.	
	Universities and higher educational services	Entertainment	Social services <sup>3)</sup>
	Consultancy services (engineering, data, etc.)	Financial services	Insurance services
	Medical services etc.		Restaurants
		Police services	Consultancy services (management, legal, advertising, accounting etc.)
			Travel agencies Cleaning, housekeeping
		Gambling Prostitution <sup>4)</sup> etc.	

#### Notes:

1) Some services are not in everyday language associated with 'industries' but nevertheless encompass production and transactions of some sort.

2) The principal classification variables used here are capital intensity and technology intensity referring to the relative degree of hardware, and engineering and applied natural and science knowledge employed, respectively. These variables are continuous but for illustrative purposes here divided simply into high and low. Obviously, this distinction can be disputed, but still be useful for illustration. In several border cases, the technology intensity is rather non-existent than low, that is, the corresponding service industry is not technology-based, although possibly based on other professional competencies. Most service categories vary considerably along the variables and thus could be found at several places in the table, which is illustrated in some cases. A third important variable is information intensity, which could have been used as well (cf. the notion of 'information industries'). Technical information is then a special case. Additional variables for the classification of service industries are private/public (the public sector contains many services); legal/illegal; location-bound/unbound etc.

3) Typically in the public sector.

4) This is included as an extreme case to illustrate the span of services, also in a legal dimension.

intensive services as well as high-tech/low capital intensive services (e.g. higher science and technology education and engineering consultancy). Moreover, the technology and capital intensity may change over time. Especially the technification of many services is noteworthy, that is, they become increasingly technology-based. In this connection telecom services increasingly penetrate other services, e.g. medical, education and entertainment services.

The recognition of telecom services as technology-intensive is important, since technology is an important factor in many theories of MNCs and internationalization. At the same time telecom services depend upon a network or infrastructure for their provision which makes telecom services a network industry (see e.g. David 1992), a type of industry that is not particularly recognized in the literature on MNCs and internationalization.

## 2.2 Concepts related to internationalization

### 2.2.1 General

The term *internationalization* of a company is normally taken to mean the process of expansion of certain operations to other nations as well as the outcome of that process. Internationalization of an industry and of a market, refers to a) the process by which the companies operating in the industry, and on the market, respectively, are internationalizing, and also to b) the outcome of that process. Thus, internationalization may refer both to processes pertaining to companies, industries and markets, and to a state of those processes at a specific point in time. In the latter case, one can talk about a degree of internationalization. By a *multinational corporation* (MNC), one usually means a corporation which has reached a certain degree of internationalization. There are several ways to assess the degree of internationalization or the degree of multinationality. For example, Aharoni (1971) distinguished between definitions of *multinationality* based on:

- a) Structural variables. (For example, the number of nations in which the corporation has located operations of different kinds or the number of nations represented among owners or corporate management.)
- b) Performance variables. (For example, absolute or relative measures of sales, assets, value added or employees related to operations in different nations.)
- c) Behavioral variables. (For example, national or multinational orientation in top management.)

There are moreover several ways to classify MNCs into different types, depending upon how different nationalities influence the conduct of operations. Robinson (1967) distinguished between *international*, *multinational*, *transnational* and *supranational* corporations. The latter two types cannot be assigned a nationality, and supranational corporations are, in addition, controlled by international legislation and authorities. In a similar vein of thought, Perlmutter (1969) distinguished between *ethnocentric*, *polycentric*, and *geocentric* corporations, the latter type having no clear nationality.

A common projection in the wake of interest in MNCs in the 1960s was that internationalization of companies would eventually lead to the emergence of MNCs without any national character or loyalty, being stateless and "footloose". However, almost all corporations, which are multinational by some standard, still in the 1990s have a single or double nationality in a clear sense and much xenophobia around MNCs derives from this fact. As internationalization of functions such as ownership and management takes place in the sense that there will be more nationalities among owners and managers—that is, the multinationality increases regarding the behavioral variables under c) above—an MNC would gradually lose its nationality. We define *denationalization* here to mean the process by which national features are lost, as well as the outcome of that process. When denationalization takes place the often-used distinctions between home and host countries and domestic and foreign markets subsequently lose their validity. Although denationalization may follow upon internationalization, it is not a necessary consequence, and if it follows, it is apparently with a considerable time lag behind internationalization. Also nationalization in some form may occur, thereby possibly reversing an internationalization process. To some extent this once happened in telecom services (see below and also the final chapter).

Moreover, Porter (1986) defines *multi-domestic industry* (rather than corporation) as an industry in which competition in each country is essentially independent of competition in other countries, while a *global industry* in Porter's terms is rather the opposite.

Ohmae (1985) introduces the notion of a triad power, and more specifically a *triad corporation*, as an MNC that orients its operations in a triad of regions, encompassing the USA, Europe and Japan. In this connection, the concept of *triadization* can be introduced, referring to internationalization oriented towards such a triad.

*Globalization* of an industry then means the process of growing interdependence of competition in various countries. The notion of globalization of industries and firms has grown popular (see Bartlett et al. 1990), although the concept of a global corporation goes back at least to the 1950s in writings on international business. A *global corporation* is normally held to mean an MNC that takes an internationally integrated and global view of its location decisions in order to take advantage of coordinating on a global scale, with or without global coverage of input and output markets.

Finally, the simple fact must be noted that the geographic and political division of the world into nations is changing as well. For instance, the formation of new nations in the former USSR may increase the degree of internationalization for a company already operating there, and a full unification of Europe into one nation would strictly speaking decrease the degree of internationalization of a pan-European company, everything else being equal.

### 2.2.2 Telecom

The basic concepts of internationalization of telecommunications service companies (here called telcos for short) do not appear to differ fundamentally from those related to the internationalization of companies in extraction and manufacturing industries. However, the operationalization of the concept of internationalization of telcos is complicated by the fact that the telcos are linked together in a global network as a common physical means for producing services - tele services - which are often not produced or delivered at a single, well-defined point of location (cf. the notion of network industries mentioned above). The mere concept of the location of production and distribution of tele services is elusive. Moreover, the difficulty in many cases of clearly distinguishing between ownership and control of a network makes the use of ownership variables difficult as a basis for operationalization. The interdependence

among telcos through the common network creates a complex mix of competitive and cooperative behaviors that further complicate conceptual distinctions. It is quite conceivable that competing consortia of cooperating telcos will be formed and that a consortium of different telcos, with separate nationalities, will cease to have a clear nationality in itself, that is, it will be denationalized. The latter feature would be strengthened through cross-ownership and cross-management arrangements.

As a consequence of conceptual difficulties and the newness of the phenomenon in the telco industry, internationalization has been used in a variety of senses. Some authors use the volume of international calls as indicating a form of internationalization. More correctly, we think, 'internationalization' is to be used when some kind of foreign direct investment (FDI) is involved, i.e. a resource transfer across national boundaries takes place rather than mere international trade in telecom services. This is in line with the traditional concept of an MNC (although the concept has been expanded in the 1980s, see Casson (1987) and Buckley et al. 1992). Foreign direct investments may be undertakings in telcos for establishing sales offices, providing a cellular network or operating cable television abroad or for some other kind of foreign business. A special concept is "foreign domestic business" which is sometimes used to denote the operation of telecom services in a foreign country, without direct links in the form of international traffic with the home country.

### 3. OVERVIEW OF HISTORY

#### 3.1 General

Internationalization is certainly not a new phenomenon and far from a new concept. International trade and colonialism, for example, have a long history. The English philosopher Jeremy Bentham (1748-1832) is said to have pioneered the concept of 'international' in the late 18th century. The nation state in a modern sense emerged in this century, especially in connection with the American revolution (1776) and the French revolution (1789). The business company in its modern form<sup>1</sup> emerged as an economic institution in the 19th century. The multinational company (MNC) emerged as a phenomenon closely thereafter, although initially atypical and not widely recognized as a business concept. There were several typical MNCs in the 19th century, internationalizing not only sales but also production of products and services, for example International Harvester, and the Nobel-Dynamite Trust Company. Industrial R&D, at first mainly in the German chemical industry, also emerged and to a minor extent internationalized as well. The creator of the Nobel Prize, Alfred Nobel, ran a truly multinational network of R&D organizations on a European basis in his dynamite trust, established in the 1880s.

Many European companies, especially from countries with small domestic markets (e.g. Holland, Sweden, Switzerland), started to internationalize early on and there were several full-fledged MNCs before World War I. Internationalization of various companies, industries and markets slowed down in the interwar years but was further spurred after World War II. World trade grew rapidly to significant proportions in the 1950s. The international economic integration was in general strengthened after World War II, as it had been strengthened after major international crises before in history. However, the MNC was really not recognized on a broader scale as a concept and a phenomenon until the 1960s. Then it was mainly the US

<sup>1</sup> That is, as a limited-liability joint-stock company.

<sup>1</sup> + Singer, Intl Paper (Canadian); see Mira Wilentz a history of MNCs

MNCs and their FDIs in Europe that came into focus. At the same time for this and other reasons, fears grew that Europe was slipping behind the US, technologically and economically. The debate around MNCs broadened further and included fears that MNCs were unduly exploiting developing countries; that MNCs were weakening their home country economy; that MNCs would distort international trade; that MNCs would grow into powerful international monopolies; that MNCs would weaken the nation state as an institution and usurp uncurbable political powers etc. Various initiatives were taken, including the initiation of investigations and research on MNCs, in turn leading to various models, theories and concepts of internationalization and MNCs, e.g. the international product life cycle model of R. Vernon at Harvard, and concepts like 'transnational corporation', 'geo-political firm', 'footloose industries' etc. The debate as well as behavior gradually sobered to some extent in the 1970s and internationalization in general was not halted; on the contrary it grew on an average, aided e.g. by further advances in transportation and telecommunication technologies.

The penetration of Western markets in the 1980s by East Asian goods through exports and MNCs, especially globalizing MNCs from Japan, led to further debate and initiatives, but now with some new dimensions, especially political, related to investment and trade friction between US and Japan and between Europe and Japan. In the 1990s, it seems the trend over several centuries towards increasing internationalization and international economic integration will continue despite protectionism and xenophobia, although its pace may be disputed. The MNCs, since the 1980s increasingly global in outlook and also increasingly engaging in strategic alliances with each other, are still growing and developing as a group with no clear signs on an average of economic and organizational weakness or political threats. However, truly denationalized global corporations, that is, MNCs coordinating operations on a global scale with no special home nationality, have yet not emerged in any significance, and the often reiterated scenario of globalization and denationalization in this sense is still just a scenario. Almost all MNCs, by the behavioral standards mentioned earlier, still have a nationality. A few MNCs are binational, i.e. they have acquired two nationalities, as in the case of the Swedish-Swiss 1986 cross-border merger ABB and the Dutch-UK 1907 cross-border merger between Royal Dutch and Shell. Some MNCs downplay their original nationality in their local subsidiaries. However, a true denationalization resulting from internationalization is still far ahead, and will probably remain so for a considerable time.

Thus, viewed over at least a century-long period, the driving forces behind the internationalization of companies, industries and markets appear to be fundamentally strong.

#### 3.2 Telecom

Internationalization and MNCs are an old phenomenon in the telecommunication sector as a whole as well. In the telecommunication equipment industry, internationalization started in the late 19th century, following upon the invention of the telephone by Alexander Graham Bell, patented in 1876. Despite a considerable amount of vertical integration or quasi-integration and nationalistic procurement of equipment in the telecom sector in the 20th century, there are many full-fledged MNCs in the telecom equipment industry in the 1990s. To a considerable extent their internationalization has been spurred by procurement in emerging markets, where exports for various reasons have been less feasible and any indigenous industry has been weak.

Internationalization of telecom service companies also occurred already in the late 19th century and continued to occur in the 20th century as well, albeit only marginally on the whole

until the 1980s.<sup>2</sup> The Bell Company operated some networks abroad early on, but was forced to divest these operations in 1925 by agreement with the US government. The Bell Company foreign telecom service operations were transferred to IIT instead. (See Hausman 1993 on the early Bell Company internationalization.) There were also equipment suppliers such as Ericsson that operated some networks. (See Attman et al. 1976 and Sobel 1982.) Cable & Wireless and its antecedents have perhaps the longest history of international operations in telecom. However, the prevailing industrial organization in telecom services until the 1980s consisted of national operating companies, mostly public monopolies, as is well known. (For histories of the establishment of this particular, nationalized industrial organization, see for instance Barty-King 1979, Brock 1981, Cowhey 1990 and Noam 1992.) Despite some antecedents it is fair to say that internationalization in the telecom service sector started in an essential way first in the 1980s, with developments in the US and UK leading the way. A brief chronology is given in Table 3.1. Regulation clearly has played a decisive role, in both impeding and stimulating internationalization. The political drift towards the political "right" in many Western advanced countries, starting in the 1980s, has economically meant an increased reliance upon market mechanisms and a move towards transformation of the public sector, liberalization of markets, privatization of property, and subjecting public companies such as PTTs to competition. Internationalization of telecom service markets and companies has then emerged more or less as a consequence although not solely caused by these changes.<sup>3</sup>

Technological changes have opened up possibilities to circumvent regulation and have thereby been highly influential in conjunction with changes in customer demand, especially among corporate customers and MNCs in other industries. Thus, to some extent internationalization in telecom services has been consequential also to the internationalization of its major customers. At the same time internationalization in the telecom equipment industry has not (so far) been influential in spurring the internationalization of telecom services.

In the mid-1990s the telecom service sector is perhaps in a greater flux than ever before, due to regulatory, market and technological changes. It is difficult to say something about the future of the sector, more than to say that its developments will certainly not be surprise-free. Material for the identification of trends and scenarios will hopefully be found in this book.

<sup>2</sup> Internationalization of telecom traffic, which has gradually evolved, is not considered a typical case of internationalization here, as mentioned earlier. It does not typically involve FDIs but is rather a special kind of service export-import.

<sup>3</sup> For instance, the BT case may include more factors than a "consequential internationalization" of telecom services, since the British government intended from the start of the liberalization and privatization process to establish BT as an international 'flagship', in view of the failures of the British equipment industry (cf. 'System X'). The chapter by Dang-N'guyen and Phan develops this point further.

Table 3.1  
Chronology of some recent internationalization and liberalization events

Time	Event
1981	BT plc and BT International formed. Privatization C&W
1984	AT&T divestiture carried out. Regulation of RBOCs stimulates them to go abroad
1984	BT privatized
1984	Action lines for European Commission's telecommunications policy presented
1985	BellSouth International formed
1985	NTT International started. NTT Public Corporation was privatized. Market liberalization legislated in Japan
1987	EC Green Paper on European telecommunications
1988	Infonet Services Corp. formed as a jointly owned company by e.g. several European telcos and some Asia-Pacific ones
1989	BT acquires Tymnet
1989	AT&T acquires Istel
1989	Swedish Telecom International started
1990	EC Service Directive
1990	Project Iridium of Motorola announced—global mobile telecommunications through satellites
1990	MCI buys 25% of Infonet
1990	Sprint launches first international VPN service
1991	Duopoly review allowing foreign entry into CATV
1991	Maastricht Treaty, Title XII, making trans-European networks (TEN) a political objective
1991	France Telecom becomes an autonomous operator under public corporate law
1991 (Sept.)	Syncordia started by BT, inviting foreign companies to participate (NTT, DBT, IBM, among others)
1991 (Oct.)	Eucom started by France Telecom and DBT to provide VANS
1991 (Oct.)	Unisource started (alliance of PTT Telecom and Telia, formerly Televerket)
1992 (March)	BT goes alone with Syncordia
1992 (March)	EUNET started (alliance of France Telecom and DBP Telekom)
1992 (June)	NTT invests heavily in Thailand's domestic telecommunications
1992 (Sept.)	Project Utel—a joint venture of AT&T, DBP Telekom and PTT Telecom to develop telecommunications in Ukraine
1992 (Dec.)	Edinburgh meeting of the European Council providing financial instruments for TEN
1993 (March)	BT applies for operating license in the USA
1993 (May)	Worldsource started (AT&T and 8 carriers in the Pacific Rim)
1993 (June)	BT-MCI deal announced
1993 (Fall)	A group of some 20 large users formed to collectively source international VPNs (group called European VPN Users Association)
1993 (Dec.)	Project 'Atlas' announced (working name), merging DBP Telekom's and France Telecom's international businesses
1998	Year, targeted in June 1993, for the liberalization of the European Union telecommunications service market

Sources: Analysys (1993), Bradely et al. (1993), CommunicationsWeek International (various issues, 1990-1994), Cordaro (n.d.), Rietbroek (1993).

#### 4. OVERVIEW OF THEORY

##### 4.1 General

Relevant theories here, apart from general economic theories, are primarily theories about MNCs and their internationalization, but also to some extent international trade theory. Starting with the latter, this body of theory has developed rapidly in the 1980s, and has especially taken dynamic factors (e.g. increasing returns or positive feedback) and technological change into account. The doctrine of free trade, with national endowments and comparative advantage in a static framework as an analytical base, has been changed into strategic trade theory with arguments justifying certain types of protectionism under certain conditions. The traditional—and disputed—infant industry argument from development economics has thereby attained more theoretical credibility, and in fact more applicability also to developed countries, trying to catch up after having lost a leadership position in some area. (See further Scherer 1994 and Soete 1994.)

Turning to MNC theory, a number of models of internationalization patterns and theoretical explanations have been developed, with theoretical work starting as late as in the 1960s with the pioneering work of Stephen Hymer (posthumously published 1976). (For an overview of theories of MNCs and FDIs, see Caves 1982, Dunning 1988a, 1988b, Buckley 1989, Cantwell 1989 and Casson 1990, the latter containing most seminal works in the area.) Transaction cost theory and related theories about internationalization and appropriation have come to occupy a prominent role among theories of MNCs. In a Coasian sense, an MNC substitutes for cross-border transactions on the market. Williamson (1975) deemphasizes the role of technology in his transaction cost framework, but more recent contributions emphasize the role of firm-specific assets, including technological and managerial skills, in internalizing cross-border transactions (Teece 1986, Casson 1987). Since Hymer (1976) economic theory on FDI has also emphasized the role of firm-specific technology as an important element in the international growth of companies. Generally speaking, a company's competencies or know-how (technological, managerial, commercial, political etc.) are particularly important assets for an MNC since they do not only exhibit significant economies of scale and scope in their repeated utilization, but also are particularly suitable for appropriation by internalizing cross-border transactions, especially if joined with tangible complementary assets.

The theoretical literature on MNCs since Hymer has generally recognized three broad categories (with slight variations) of factors advantageous to MNCs and jointly favoring the internationalization of companies, factors pertaining to a) ownership or control of company-specific assets that gives the company a competitive or strategic advantage over indigenous companies, b) favorable location-specific conditions and c) high cross-border transaction costs (or high benefits from internalization). Dunning has in particular systematized and developed these factor categories into what he calls an OLI (ownership-location-internalization) paradigm as a basis for an eclectic theory of the MNCs; this paradigm has a central place in the literature. Figure 4.1 gives a general overview of factors commonly considered in a causal analysis of the internationalization of companies, i.e. the emergence and development of MNCs.

Many theories and models of MNCs have been criticized for not paying sufficient attention to dynamic considerations and evolutionary patterns of internationalization. However, there are exceptions. Johansson and Wiedersheim-Paul proposed the concept of *the establishment chain* as a specific sequence of the functional types of operations a given corporation is likely

to follow in locating operations in a given nation over time. They conclude: "The establishment chain—no regular export, independent representative (an agent), sales subsidiary, manufacturing—seems to be a correct description of the order of the development of operations of the firms in individual countries" (Johansson and Wiedersheim-Paul 1975, p. 321). The establishment chain model may then be extended in the sense that manufacturing operations are likely to be followed by R&D or at least D operations (see Granstrand et al. 1992). On the other hand, the establishment chain model is not valid in all respects. Progression through the sequence may be rapid, partial or disrupted. This is especially so if internationalization is supply-driven rather than demand-driven, and even more so if separate products are considered by an MNC, coordinating on a global basis.

Vernon's *international product life cycle* model is another model of stages in the internationalization process. This model (in its original version) briefly states that the product is first developed, manufactured, and marketed in the parent country. Then it is exported to the host country. Later manufacturing operations start in the host country for the host country market.

Finally, the product is manufactured in the host country and exported back to the parent country (Vernon 1966). This model has later been modified and generalized (Vernon 1979).

The international expansion process of MNCs has commonly had a gradual component, although it has decreased in relative importance over the years. The gradual expansion into more geographic areas has been influenced by the *psychic distance* to foreign markets, a distance measure weighing together geographic distance and cultural dissimilarities (Johansson and Wiedersheim-Paul 1975).

In general, theories about MNCs are increasingly paying attention to dynamic factors, partly because there is a general trend towards building evolutionary economic theories, including theories of the firm, partly because of increasing attention paid to technological change, which in itself epitomizes a dynamic factor. A good example is the approach of Cantwell (1989), who emphasizes the role of technological accumulation in MNCs.

The organization of MNCs, finally, has in general traditionally conformed to *the hub model*, i.e. a domestic headquarter functions as a hub to which the foreign subsidiaries are linked with lateral connections. However, the hub model is increasingly replaced by a subsidiary network structure (Hedlund 1986).

of hur hub model frånges (eller multipliceras p division) när MNCs globaliseras, får fler centers a "distributive kompetens", denationaliseras etc. Påverkar också dikotomin centrifugal/centripetal forces (jfr en stage model) Supply faktors blir allt betydfulla

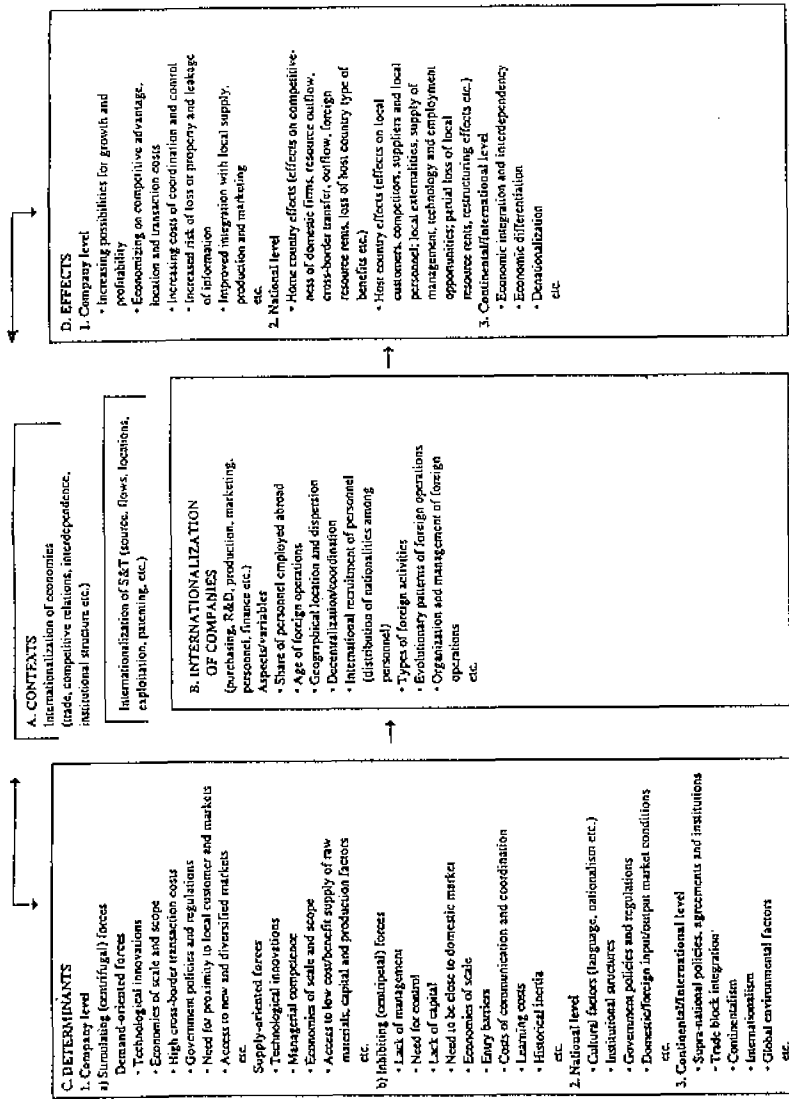


Figure 4.1. Overview of internationalization of companies, its contexts and causality

## 4.2 Telecom

The literature dealing specifically with service MNCs and the internationalization of service industries in general is growing but still scarce compared to the general MNC literature. Some examples are Dunning (1988a, 1989, 1991), Enderwick (1989) and Buckley et al. (1992).

Internationalization of service industries is also less developed than internationalization of manufacturing and extraction industries.

Many service industries serving industrial or professional customers have initially been influenced in their internationalization process by the internationalization process of their domestic customers. In general, it appears as if FDIs in services follow rather than lead FDIs in manufacturing industries (Dunning 1991). Technological and managerial skills, together with entrepreneurial spirits, have played decisive roles also for the internationalization of service companies (management consultants, banks, insurance companies, travel agents, hotels etc.). Some service companies have also internationalized on their input markets, e.g. software producers who have opted for cheap programming in countries with or without important local customers.

Literature on telecom service MNCs and internationalization of telecom services is even more scarce. Some early examples include Sharkey (1987), Ergas and Pogorel (1987), Noam (1989) and Salso (1990). Internationalization of the telecom service industry has developed far less (in terms of FDIs) than in many other industries, including some service industries. It is quite natural that there is no telecom-specific theory of MNCs and internationalization, then. It is also quite natural to ask to what extent received theory is applicable to the telecom service industry. The validity of traditional theory and models of internationalization in other industries for the internationalization in the telco industry could in fact be questioned on a number of grounds. First, the initial conditions for internationalization of the telco industry, with a network of regional and partially artificial monopolies being quite rapidly subjected to liberalization-induced competition, are very different from the initial conditions for internationalization in other industries. Second, the global systems interdependence among telecom service providers is high. Internationalization strategies and behavior of various actors therefore become interlocked in a complex mix of competition and cooperation. Random events, early mover advantages and increasing returns are for this and other reasons likely to highly influence the courses of internationalization. Third, the strategic importance of telecommunication in national economies is well recognized, which is indicated by large international asymmetries of national regulatory frameworks and telecom policies. Fourth, received theories and models largely derive from non-service industries while the telco industry is a service industry. The capital intensity and the importance of technological innovations in the telco industry would, however, make the telco industry more like manufacturing industries in some respects, as mentioned earlier. Besides, it may be argued, as Dunning (1991) as well as Buckley et al. (1992) do, that received theory for manufacturing MNCs is by and large adaptable to service MNCs. Finally, some traditional models of internationalization, like the (original) international product life cycle model, are themselves losing some of their validity in general.

Nevertheless, the empirical observations so far may not strongly disprove all received models and theories of internationalization and may in some cases in fact provide partial support for them.

We will return to this question in the final chapter of this book.

## 5. OVERVIEW OF THE BOOK

This book is essentially composed of two sets of chapters. The first is a set of country-oriented chapters, focusing a) on foreign entries and inward FDIs in a country market, and b) on foreign activities and outward FDIs by telecom service companies (typically the PTT) with the country as a home market. The second set of chapters raises various issues and challenges for regulation, policy and management across countries and actors, posed by the current industrial restructuring and internationalization.

Turning to the first set of country chapters, Table 5.1 gives the contents of these as suggested to the respective authors in the preparation of this book. As can be gathered from the table, the suggested contents are leaning towards a descriptive and inclusive focus. At this early stage of the internationalization process, in-depth empirical assessments seemed necessary in order to enhance a critical understanding of the new phenomenon. Quite understandably, it has not been possible to strictly adhere to this list of contents for each country and author. To reduce the potential for bias, the contributors are primarily informed members of the academic community and of industry research institutions with an even spread of author countries. With a broad sample from independent contributors, chances are that the internationalization phenomenon can be put in a proper perspective.

Table 5.1  
Suggested contents for country papers on foreign direct investment (FDI)

<b>Aim:</b>	To describe and analyze the situation of FDI in telecom service provision with respect to the European market and players active in Europe (covering a market and actor dimension)
<b>Delineations:</b>	Authors dealing with players originating outside of Europe would focus on activities in the European market. Authors with players of European origin would treat the player's FDI in general with special focus on European activities as well as FDI made by others in the European player's home turf.
<b>Issues:</b>	
	<ul style="list-style-type: none"> <li>• Strategy of internationalization</li> <li>• Drivers and motives of internationalization</li> <li>• Technologies, services and competencies of primary importance for FDIs</li> <li>• Regulation impacting FDI</li> <li>• Measures of FDI and degree of internationalization (for instance, employees abroad, investments abroad, revenue abroad, international presence through offices abroad etc.)</li> <li>• Organization and structure of international operations</li> <li>• Alliances and joint ventures</li> <li>• Scenarios for the future</li> </ul>

The choice of countries has been made to obtain as wide European coverage as possible on the different types of market: the internationalized vs non-internationalized markets, the advanced vs less developed markets, and large vs small markets, as well as the northern, southern, continental and eastern markets. Table 5.2 provides some aggregate statistics on the

country markets in question compared with a sample of countries not included. With respect to telecommunications, the table makes it clear that there is an even spread from advanced countries to the less developed, as measured by penetration levels. Likewise, the largest telecommunications country markets in Europe (i.e. Germany, the United Kingdom, France and Italy) are included together with smaller markets. Furthermore, the figures show that a span is provided in terms of international dependency and internationalization in general, as measured by total trade per inhabitant. Non-European markets were excluded by coherence and focus considerations. Given the precursory importance of the UK market and actor strategies, the UK situation is treated in four chapters.

Table 5.2  
Some statistics on European country markets

	(a) Percentage main lines per inhabitant <sup>1)</sup>	(b) Total telecommunica- tion services turnover (MUSD) <sup>1)</sup>	(c) Total trade flow per inhabitant (exports + imports) (USD) <sup>2)</sup>
<i>Country markets covered:</i>			
Czech Republic <sup>3)</sup>	n.a.	n.a.	n.a.
Denmark	56.6	2356	13057
Finland	53.6	2222	10926
France	49.8	18913	7840
Germany	40.4	25117	9527
Greece	38.9	1293	2706
Hungary	10.9	523	1724
Italy	38.8	16666	6272
Netherlands	46.4	5480	19757
Norway	50.3	2560	4691
Poland	9.3	520	630
Portugal	24.1	1480	4253
Sweden	68.3	5308	13417
United Kingdom	44.2	23364	7380
<i>Remaining European OECD country markets:</i>			
Austria	41.8	2821	12054
Belgium	39.2	2694	n.a. <sup>4)</sup>
Luxemburg	48.2	158	n.a. <sup>4)</sup>
Iceland	51.4	84	15864
Ireland	28.1	1292	13490
Spain	32.4	8363	3797
Switzerland	58.0	4894	20853
<b>Average of European OECD markets</b>	<b>43.3</b>	<b>6691</b>	<b>11133</b>

1) Source: OECD, 1993.

2) Source: UN, 1993. Trade data are from 1990 and population data from most recent census.

3) Figures from the CFSR are indicative: penetration level 15.7, telecommunication revenues 542 MUSD, trade flow per capita 1635 USD.

4) Belgium-Luxemburg are counted as a trade union in the UN statistics. For Belgium-Luxemburg, per capita trade 1990 was USD 23371.



Within each country market chapter, several actors have been covered, mainly the incumbent (sometimes former) PTT. Some chapters are more geared towards an analysis of actor strategies, particularly chapters with a bearing on the UK market (i.e. the chapters by Dang-N'guyen/Phan on BT, Williams/Taylor on BT and Kramer/NiShuilleabhain on C&W).

To facilitate an overview of the country market studies, Table 5.3 provides the chapter order, markets and main actors covered. Since the chapters are fairly equal in design and focus, each chapter will not be recapitulated here. Instead, the reader is referred to the separate summary chapter at the end of the book with its tabulations and brief analysis.

Table 5.3  
Country chapter coverage

Chapter	Title	Author(s)	Area(s)	Main actor(s)
3	Foreign Entry and Competition for Local Telecommunications Services in the UK after the Duopoly Review	M. Cave Y. Sharma	UK	BT Mercury RBOCs
4	Competition in the British Telephony Market	G. Dang-N'guyen D. Phan	UK	BT Mercury (C&W)
5	Competencies and Diversification: The Strategic Management of BT since 1984	H. Williams J. Taylor	UK	BT
6	Cable & Wireless: Services, Investments and Prospects	R. Kramer A. NiShuilleabhain	Europe Pacific Region North America	C&W
7	Internationalization of the German Telecommunications Service Market and Strategic Behaviour of DBP Telekom	D. Elixmann Th. Schnöring	Germany	DBP Telekom
8	Foreign Direct Investment in Telecommunications In and Out of France	G. Dang-N'guyen D. Pouillot	France	France Telecom
9	The International Economics of Telecommunications Services in Italy	C. Antonelli A. Geuna	Italy	IRI-STET Group
10	Internationalisation of Telecommunication Service Provision and the Greek Privatisation Debate	Y. Caloghirou T. Darmanos	Greece	OTE
11	Internationalization and Foreign Direct Investment in Telecommunications Services in Portugal	D. Lucena C. Seabra	Portugal	Marconi TLP Telecom de Portugal
12	A Note on Internationalization in the Netherlands	O. Johansson	Netherlands	PTT Telecom

Table 5.3 (cont.)  
Country chapter coverage

Chapter	Title	Author(s)	Area(s)	Main actor(s)
13	Internationalization of the Swedish Telecom Services Market	O. Granstrand O. Johansson	Sweden	Telia The Kinnevik Group
14	Internationalisation of the Norwegian Telecommunication Market	R. Brekke S. Jensen C. Riis	Norway	Norwegian Telecom
15	Inward and Outward FDI in Danish Telecommunications	A. Henten K.E. Skouby	Denmark	Tele Denmark
16	The Internationalization of Finnish Telecommunications: Motivations, Strategies and Activities	J. Karpakka	Finland	TeleGroup Finland Finland Telecom
17	Transformation of Poland's Telecommunications and Foreign Investment	A.T. Jarmoszko	Poland	TP SA
18	Foreign Investment in Hungarian Telecommunications	F. Kiss	Hungary	HTC
19	Options for the Reduction of Deficiencies in Telecommunications in the Czech Republic	J. Cas	Czech Republic	SPT

Turning to the second set of chapters, Table 5.4 provides an overview of the main issues that surface. By design, the chapters in this section are shorter and raise various types of issues related to internationalization and FDI. This was deemed appropriate given the recent emergence of the FDI activities—allowing for a probing and open-ended search rather than providing ready answers. As such, the contributions have in general comparatively less emphasis on detailed empirical analysis and presentation, stressing instead various arguments, questions and possible implications, sometimes building the point on casual observations. Again, the reader is referred to the summary chapter for an account of each chapter.

Finally, there are two non-editorial chapters that are quite general in scope, meriting separate treatment in the book. First, the opening chapter by Kurisaki offers a broad overview of internationalization options and strategies pursued by telcos, complemented with a general discussion on the ensuing policy implications. Second, the final chapter by Johansson provides an empirical analysis of the internationalization behavior of 25 telcos, in which he finds patterns of strategic evolution in the internationalization process. In terms of regions analyzed, Johansson provides a truly global overview of FDI and internationalization.

Table 5.4  
Issue chapter coverage

Chapter	Title	Author(s)	Main issue
20	The Race to New International Mobile Satellite Services	P. Bonanzinga F. Castelli C. Leporelli	Regulatory challenges posed by new international mobile services
21	Direct Foreign Investment in Telecommunications: Comments	E. Noam	Political and regulatory barriers to FDI
22	International Competitive Dynamics: Implications for Domestic Regulators	D. McCarty	The tensions between domestic and international regulation
23	Competing Visions for World Telecommunications: Europe and the Global Evolution of Industry Structure	D. Allen	Policy options to ensure innovative network evolution in an international environment
24	The Internationalization of Telephone Operators: Survival in an Integrating World	D.E. Ioannidis	Strategic options and prospects for internationalization in a nationalistic context
25	Asymmetries, Competition and Internationalization: Telecommunications Operators and the Future Single European Market	P. Barbet L. Benzoni	Assessment of the natural monopoly concept against the background of internationalization and national interests
26	Reorganization of European Telecoms: The Cases of British Telecom, France Telecom, Deutsche Telekom	R. Pospischil	Recent organizational changes and trends in BT, DBT and FT
27	Managing Network Investments: Illustrations from Telcos in Europe, Japan and the United States	E. Bohlin	Organization of network planning in an increasingly internationalized environment
28	Foreign Direct Investments of Telecommunication Operators in Less Developed Countries: Application to the Telefonica Experience	J.J. Duran F. Gallardo	A managerial framework for the process of FDI in LDCs
29	International Business Enterprises and Telecommunications: A User Perspective	E. Roche	The needs of large multinational users

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## Challenge to the Globalisation of Public Telecommunications Operators: Toward a New Framework of Telecommunications Policy

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This paper is intended to identify newly emerging forms of international expansion of activities of public telecommunications operators (PTOs)<sup>1</sup> and to analyse their national and international policy implications. Particular focus will be placed on the following three forms of globalisation: (1) new service options in the provision of existing international telecommunications services; (2) foreign direct investment (FDI); and (3) off-shore services provided by alliances between PTOs (e.g. so-called "one-stop shopping" and "outsourcing").

### 1. INTRODUCTION

The increasing globalisation of corporate activities (both manufacturing and service sectors) in the OECD Member countries has spilled over onto the telecommunications sector since the end of the 1980s. This fact is creating fundamental changes in the paradigm of international telecommunications service provision. An increasing number of public telecommunications operators (PTOs) are extending their business activities, either explicitly or implicitly, to countries *outside* of their home countries. Although this is a fairly new phenomenon, speed of expansion of the activities has been dramatic. The absolute value of such investment may be relatively small, when compared with the whole PTO investment which includes that in installation and improvement of network facilities. The strategic importance of PTOs, however, should not be overlooked.

<sup>1</sup> PTO in this paper means an operator and provider of public switched voice telephony services on local, long-distance and international levels. Other service providers, such as sole providers of value-added and/or mobile services, are excluded.