

Investment and Structural Trends in
Multinational Services

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INVESTMENT AND STRUCTURAL TRENDS IN INVESTMENT AND STRUCTURAL TRENDS IN MULTINATIONAL SERVICES

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- ABSTRACT -

The aim of this paper is to outline directions in the market for multinational telecommunications services. The development of this market will partly follow that of the equipment sector, where vendors are already more multinational.

The central messages are mixed, because the authors are not in complete agreement about whether the global glass is half full or half empty. On the one side we see that

- territoriality is pretty firmly entrenched in the services sector, though not as much (or in the same way) in the equipment sector.
- the latter (equipment) provides only a limited model for the former (services).
- the site of near-term competition will be domestic services to customers, with international services playing a lesser role, especially as profit margins on these services come under pressure.

On the other side, it seems that :

- a set of global service providers is emerging , offering VANs and industry solutions to multinational clients.
- declining home markets are forcing former exclusively domestic carriers to look abroad for new revenue streams
- standardised service platforms, uniform network digitalisation, and availability of low cost international bandwidth will increase the penetration rate of global services

The resolution of these competitive tensions between global services and domestic (virtual if not real) monopolies will define the extent to which there is a truly international market for telecoms services and equipment.

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Introduction

Financier George Soros has noted about financial markets that appearances (or market leadership, direction, activity) are key to creating realities.

Telecommunications markets are only somewhat less susceptible to illusionary moves, where, in our view, globalism is the central illusion currently on offer. Indeed, the professed aspirations of the first-tier players¹ revolve around this theme of globalism. Behind globalism is a (perceived) fundamental challenge to the established players in the telecommunications industry, who see that national markets can no longer alone provide the cash flow, growth, and support for R&D to satisfy the profit expectations of various stakeholders - the state and more recently private investors. Companies must therefore look abroad to new markets, leveraging investments in product and service development. Beneath the rhetoric, however, few service providers have established significant revenue streams divorced from their historic network domains.

But perhaps this pays too much attention to the reality and not the shadow. Soros might argue that actions are not so important, since effective constructions of illusions clearly have very real effects, among competitors, regulators and partners. The story of the transformation of engineering-oriented bureaucracies into customer-driven corporations may not yet be a best-seller in Europe, but the reaction to this fiction has led to real investment and business development initiatives. The remaining gap between the illusions and reality, led along by industry rhetoric (and pushed to varying degrees by the user community) will be our focus.² In addition, we will discuss the significance of home markets, and the nationality of a customer or supplier, (though this may be forgotten in time)³. Inevitably, this discussion must consider the *remaining business opportunities* which all major players in the information technologies industry are counting on to save their declining businesses.

¹ Today there are ten such entities. They are AT&T, BT, Cable & Wireless, France Telecom, GEIS, Infonet, IBM Information Network, MCI, Sprint, and (although this judgment is premature) Unisource. For an extended discussion of these first tier players, see Kramer and NiShuilleabhain, 1993, "Monopolistic Competition in European Telecommunications: Market Structure and Emerging Global Operators"

² To give a sense of the gap. see AT&T CEO Robert Allen's recent recantation of his remark that 50% of the company's revenues would come from overseas operations by the year 2000. Allen claimed it was an offhand remark, not a statement of strategic intent.

³ Forgetting about national identity is not the same as embracing globalisation. Without the issue of national identity service or equipment provision would be reduced to culturally-determined patterns of work and historically-specific market structures. Companies which attempt to discard their national identities and cultures, in the hopes of finding a single "global" style of management do so at their peril, and risk losing their main source of competitive advantage, the unity and collective communal sense of their knowledge workers. (See Trompenaais, 1992).

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The market visibility of the major international VANs providers far outweighs their financial returns; IVAN activities and performance are still relatively modest in comparison with in-country TOs. However, the regional presence of these players - a critical source of investment capital, technical competence, operational and marketing expertise and joint-venture partnering options - is felt in every market segment, in turn promoting intra-regional TO cooperation in opposition to the perceived threat.

II. What Does Globalism Entail?

Before speculating about world markets, one must pay homage to the strength of domestic markets which forms both the basis for the present industry structure and the bedrock of any nascent globalism in telecommunications. For most national carriers, international services represent and certainly provide higher margins than domestic services. These numbers are large enough for international services to be considered a "core" competence, but globalism implies much more. Broadly speaking, it involves a worldwide presence, financial strength and a culture which addresses diverse concerns.

To begin with, globalism implies relatively ubiquitous world-wide *presence*. When one thinks of global brands, one can envision perhaps a dozen or two which can be said to penetrate each market - Coca Cola, IBM, Mercedes, McDonalds and so on. AT&T is as close as the telecommunications industry comes to a globally recognised company, but its actual presence in most markets is relatively small. Presence which is extended via particular products is also not sufficient. As particular software for messaging or transactional services becomes outdated, companies without presence or globally branded product are like to lose business.

Another implication of globalism is *financial*. (expand on financial strength). Few carriers have a spread of revenues which is dependent on more than one country. Even Cable & Wireless is still heavily dependent upon Hong Kong Telecom for about 60% of its revenues.

Presence and finance obviously work hand in hand, but they depend on another force: company culture. Few (if any) of the top telecommunications firms have adopted an approach divorced from relatively parochial territorial concerns. This leads to a set of cultural issues starting with a natural discomfort in dealing with foreign markets which are less easy to understand and control. This discomfort is compounded by the fact that many of the advantages conferred on products and services are bound up in the national context, especially in areas such as marketing

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and sales. Also, the traditional structure (segregation of voice and data, of communications and MIS or IT departments) of end-user organisations makes the sale of integrated service packages more difficult. It means that two empires must be dismantled to offer any sort of outsourced or managed network solution.

To a Global Future ?

What might lead a relatively conservative industry (certainly in terms of its investment strategies and approach to risk) to change its direction and develop a new stream of business serving customers with high quality, ubiquitously available, (probably branded) global telecommunications services? Before turning to some of the barriers such services, we look at the supply and demand drivers.

From the supply side, the following issues are relevant:

Controlling the customer: What seems to emerge more strongly in discussing demand for new services among users is a desire to use technology to define and control the relationship with the customer, be they other organisations or individuals. This was surely the logic behind the TCI/Bell Atlantic merger.

Establishing brand identity: Global branding of telecommunications services provides customers with an opportunity for low-cost business expansion, extending a virtual presence into a market (much as the serviced office business does today, providing business centres, receptionists and skilled personnel on the basis of immediate availability). This sort of bundling or packaging of global services - selling an identity along with the service - is needed to overcome user doubts over service quality and consistency of cross-border support.

Forcing organisational adaptation: The drive to expand into new markets provides competitive exposure to leading edge business practice and makes demands on research and marketing activities for new compatible products to support expansion. While it forces companies to learn, it can also cause structural problems for managers too wedded to the core of the organisation. Often fewer outposts receiving more attention are better than a handful of unrelated but profitable stand-alone enterprises.⁴

⁴BT is one company which has found this out: (One of the reasons for BT's divestiture of many smaller ventures was the disproportionate amount of senior management time they consumed).

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From the demand side, one also sees some drivers for globalism:

Improving productivity: Where global service providers have the strongest case is in the productivity improvements that managed networks can bring. Internal benchmarking can set a standard for network performance as valid in Asia or Latin America as it is in developed domestic markets.

Multinationals are not stupid. As service level agreements become more common they are likely to demand they be extended to markets where reliability is a more serious problem : Eastern Europe, Latin America, etc. in effect forcing carriers to shoulder the risk of dealing with the local PTT.

Customer Requirements: One demand driver will come from multinational corporate customers. The UN's Centre on TransNational Corporations (TNCs) estimates there are about 35,000 enterprises which can be described as transnational, i.e. with 10% of revenues derived from outside the home country. (This perhaps overstates the market, since many of these enterprises will be small, and many others will represent holdings in one country and for historical or tax reasons, headquarters in another). Other estimates (by AT&T, BT and others) of the market for global services has found about 2500 to 300 firms with the size, scope of operations and communications budgets to justify global services.

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III. Reasons for Scepticism

There are, in practical terms, few constraints upon investment in new industry structures, and many believe the market for international/global services is waiting for an innovative firm or grouping of firms to come along and define it. On that one hand, global service provision can be seen as the thin end of a wedge being driven into national monopolies, the harbinger of a competitive, boundary-less market. On the other hand there remain reasons for scepticism about these developments; globalism can be seen as mostly hype, a largely irrelevant slice of the business. It is all well and good for academics or those who generate corporate visions of future communications environments to promote the concept of globalism, The practical realities of implementing that vision are considerable. The arguments against globalism are as follows:

- regionalisation of revenue streams
- barriers to market entry / presence
- directions of future competition
- market for industry solutions
- management difficulties

1. Regionalisation of Revenue Streams

The telecommunications equipment industry provides the best argument against territoriality (i.e. that companies do not respect national borders in seeking new markets), and may represent a model for the potential future globalisation of the services sector. Most of the largest vendors describe themselves as "global" in terms of product availability and sales.

The important questions about globalism start with the percentage of revenues coming from "home markets." One notices a similarity between Ericsson, NT and Alcatel; each gain about one-quarter of revenues at home. For Siemens, AT&T, Motorola and NEC, the revenue picture is somewhat more determined by domestic business. (Table 1 shows the role which "home" and regional markets play in total revenues generated by the leading equipment manufacturers). National markets are, with only a few exceptions, too small to sustain a supplier of more than \$1bn in revenues), but one sees the necessary international activity mostly confined to the regional scale.

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Global Telecom Equipment Sales: Leading Vendors

<i>1992 Rank</i>	<i>1992 Sales B\$US</i>	<i>Telecom as % of Sales</i>	<i>Home Market as % of Sales</i>	
Alcatel	16.2	78%	22%	France
AT&T	13.1	20%	74%	USA
Siemens	11.9	24%	48%	Germany
NT	8.3	99%	27%	Canada
NEC	7.5	27%	77%*	Japan
Motorola	7.4	56%	77%*	USA
Ericsson	6.9	86%	13%	Sweden

*percentage for home market includes all products, not just telecoms
Exchange Rates for respective companies, FY1992:

DM	0.6408
SEK	0.1717
Yen	0.0075
ECU	1.2945

AT&T data includes internal (estimated) and Federal Systems Group (estimated)

Source: Annual reports,
authors

As seen in the table, one can also group these providers into those which are primarily telecoms equipment vendors and those with significant other business or partnerships. In the first category are Ericsson, NT and to a lesser extent Alcatel (whose communications business provide more than two-thirds of their overall revenues). In the second are AT&T (primarily a carrier), Siemens (in a number of other business unrelated to their communications group) and NEC (involved in a host of other high technology manufacturing with telecoms equipment totalling about one-quarter).

There have been attempts to compare the relative advantage of home markets according to price per line of digital switching won by the national champion supplier but such efforts inevitably involve apples and oranges comparisons (of features, functionality, support services, etc.) and estimates of confidential data. Suffice to say that there is currently a radical deflation of per line costs for digital switching in bids to developing markets, which are rippling through more mature and newly competitive markets in OECD countries. This is an interesting reversal of the situation in the services provision sector, where the cost of international and

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value added services has fallen fastest in a few select competition-minded OECD countries, with the effects only just reaching other developed countries.

Again, globalism comes at an (often steep) price. Leading vendors share common management problems in their efforts to address foreign markets. Technological ubiquity often comes at a steep price. Many vendors cannot afford to customise switching software to interoperate with local protocols. Most typically perform core R&D and product development at home.

The leading vendors are also limited in terms of market presence, though some are clearly more effective at central management of local resources. Some examples of these limits have become painfully clear. Both Siemens and Alcatel have lost considerable sums trying to penetrate the North American market. NT has taken a \$500M write-off to rationalise its acquisition of STC, and AT&T announced in September that it would cut its headquarters staff in Hilversum, Netherlands from 540 to only 35 people.

Financial strength is another sharp limit on most of the key players. Ericsson has recently weathered a difficult patch and NT, Siemens and IBM are in similar straits now. Siemens has just announced that public communications roders would be down 10-20% on the previous year. By many accounts, Alcatel faces a similarly sharp decline in turnover, and AT&T's fortunes remain unclear due to the company's vertical integration.

The Services Sector

In terms of revenues, the industry as a whole gets only a small percentage from operations which are based overseas from home markets. The lions share - over 95% - of international service revenues come from domestic voice and data services originating at home.

The origin of most international service revenue - typically between 12 and 20% of total revenues - is still captive-domestic customers. (See Table 2). Given the margins on international services - the published figure for BT is 81% profit on capital employed, and likely much higher for other carriers. They are a critical market segment. For the operator with an overall average of 10-12% profitability, and 15-20% revenues from international services, with a profit margin of 80% in that area, international would provide most of group profits.

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Table 2

<i>International Service Provider Revenues</i>				
	<i>Intl Revs</i>	<i>Total Service Revenues</i>	<i>% of revenues from Intl</i>	<i>Notes</i>
	<i>(\$million)</i>			
AT&T	\$6,162	\$39,580	16%	excludes equipment sales
Deutsche Telekom	5123	34578	15%	
France Telecom	3907	23164	17%	
BT	3282	23547	14%	
C&W	2666	5607	48%	HK and Mercury reliance
KDD	1930	1930	100%	International only
PTT Telecom	1538	5964	26%	
Telmex	1408	6636	21%	Inflated by acctg rates balance
MCI	1370	10562	13%	
Telefonica	1319	11279	12%	
Telstra (Australia)	1273	8899	14%	
Swiss PTT	1246	6012	21%	
Stentor	1076	11396	9%	US and Mexico only
Telia	954	6014	16%	Swedish Telecom
Teleglobe	900	1045	86%	Outside NA only
Saudi Telecom	854	2504	34%	
DGT (Taiwan)	761	3895	20%	
Belgacom	753	3217	23%	
Singapore Tel	750	1406	53%	
OPT (Austria)	740	3084	24%	
Sprint	735	9230	8%	
Iritel	714	NA	NA	was ASST, EC traffic only
Italcable	640	640	100%	Non EC intl service
Korea Telecom	638	6380	10%	
Bezeq	583	1704	34%	
<i>Total/Avg.</i>	<i>\$ 41,322</i>	<i>\$ 228,273</i>	<i>18%</i>	

Source: *Comm Week Intl*, authors

Revenues from value added network services play only a small part in overall cash flow. They generally provide between 2 and 4% of revenues for carriers worldwide (see Table 4).

Table 4

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*Global Telecom Service Providers
Revenues by Region*

	NAmerica	Europe	US\$ bn AsiaPacific	LatinAm.	Total
TO Revenues	160.54	138.11	79.62	21.3	396.61
VANs	3.24	3.88	3.58	0.4	10.82
Total	163.78	141.99	83.2	21.7	407.43
VANs Revs as % of Total	1.98%	2.73%	4.30%	1.84%	2.66%

Source: authors, CITI, NBI

2. *Entry barriers are still high*

Establishing a presence in new markets is an inherently costly and risky proposition for carriers. Rarely is there business demand in advance of such a presence, and the pressures on small country offices - usually short on resources and lacking critical long-term contacts to navigate political waters - are enormous. They are often given short timescales to develop significant business, based on products developed to another market, another set of customers.

New service providers or specialised networking vendors will face many other barriers: the same markets are coveted by larger firms with deeper pockets and greater political leverage. New entrants must combat loyalty to existing suppliers; reverse inherently conservative procurement regimes and overcome a marked reluctance of users "to be a workbench for their suppliers," and work to counter the industry-wide incentive to set floors on product life cycles. Nor will they escape the basic management issues facing the entire industry: adequate personnel expertise⁵ lack of new product and service concepts; and long investment cycles for new ventures in wireless, international or cable.

In addition to the problems of market presence and credibility, finance and culture, the types of services which users expanding internationally might request invite

⁵ A senior Cisco executive has said only half jokingly that there will be a world-wide nerd shortage in years to come.

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problems. There are few offerings in OECD countries which do not rely on cooperation with the domestic courier, which is also the source of problems the offering is geared to solve. Carrier infrastructure is also a common impediment - quality issues and provisioning delays too domestic and international circuits limit expansion in many high growth regions. Maintaining levels of service quality (especially under pressure of strict service level agreements most large end users now negotiate) in such an environment is virtually impossible. Nodes on public data networks are not sufficient guarantees for end-users, who can often source the same generic capacity directly, at lower costs (and with the same risk of network outages).

3. *Directions of Future Competition*

In the most competitive markets world-wide, the focus of both dominant carriers and new entrants alike has been on domestic voice competition. Since data communications are a comparatively low profit market business, and competition has naturally focused on voice provision opportunities. And nowhere is the cartel-like structure of the industry more evident than in international voice services. The US is the only country with international voice competition beyond a duopoly, and even there the focus of price competition has been on domestic service. It may be a global world, but most carriers remain focused on home markets, either in response to, or anticipation of competition. The bitter resistance of Europe's national monopolies to even the regionalisation of competitive cross-boarder long-distance services serves as a measure of the unwillingness to "think globally" (albeit in small doses, when backed by committed capital or in risk-sharing partnerships).

Among the two leading contenders for the top spot as providers of global services, AT&T and BT have shown a marked reluctance to stray beyond familiar turf. AT&T's purchases of McCaw and earlier, NCR were not clearly aimed at fulfilling the company's stated goal to raise earnings from foreign markets to 50% by decades end. BT, for its part, sought a strong US partner while ignoring numerous opportunities in markets less mature or advanced. Indeed, by investing directly in the main competitor to its chief rival, BT chose to directly confront competition on well-known ground rather than advance into uncharted waters while its purchase of Tymnet provided the company with a leading position in the IVANs market. Attention and cash seem mostly focused on the North American - Europe market.

4. *The Market for Industry Solutions*

Much of the logic of global service provision is built around developing standard packages of services which can be provided to a range of competing customers in a

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particular industry sector, such as insurance or petro-chemicals. These solutions need to be effectively custom-tailored to specific business to command high value-added prices above standard costs for bandwidth capacity.

Note: Since the bundling of services with bandwidth is the only economic way to profit from capacity (i.e. with bandwidth costs in free fall, and new capacity being deployed its abundance will outrun demand) the global services market is largely limited to those which own bandwidth world-wide (e.g. Cable & Wireless) or have maintained strong correspondent relations (e.g. GEIS).

There is another problem in that many of the target customers for such services may not want to use the same services package as is available to its competitors. Many of the Global 1000 still see communications as a critical competitive differentiator (one of the many reasons why the outsourcing market will evolve much more slowly than people think).

Other drivers of global services while globalism suggests a spread of revenues on the providers side, it must be mirrored by a similar spread in customers operations. For example, cost reduction should not be overstated. Pressures on overhead and headcount are a central focus of every large organisation, yet the leading firms in a given market are often more concerned with deriving competitive advantage from telecommunications than slashing costs, and have not lost the budgets or flexibility to pursue new applications. Moreover, in many cases, adopting global services is more costly than existing private networks. These organisations are also keenly aware of new service concepts developed by rivals, and are conservative in adopting solutions outside standard industry practice. Therefore, global services face a specific paradoxical barrier : they must be generic enough to satisfy cross-border customer requirements and still meet the customised needs for a specific (temporal) edge which large organisations are more than willing to pay for.⁶ Therefore, cost plays only a small part in the equation of users choice.

5. Management difficulties

While the management of such carriers as SITA and SWIFT have long professed expansionist desires, their partnership structure impedes development of a global services vision. Infonet is likely to face similar problems as its partners develop alternative streams of business.

⁶ This view emerged in the course of interviews with senior IT executives at major German banks and financial institutions conducted in September, 1993.

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A telling comment on such potential problems was C&W's remark in the wake of the BT-MCI alliance, that it sought to partner with non-telecommunications companies, which reflected different strengths and customer bases, rather than joining other carriers. But C&W's answer - looking for a "multimedia" firm - was equally unsatisfactory, as was the AT&T projection of a percentage target for revenue growth to come from beyond home markets. These efforts do little to clarify the nature of global business (or indeed whether such a business relies upon the erosion of domestic business to make foreign investments look more attractive). The (justifiable) caution with which the RBOCs have approached developed markets in Europe is strong evidence against rapid expansionism.

Conclusions

- Investment will stay focused domestically and then regionally (witness the barely noticed \$1bn investment in 42% of the Mexican Cellular provider by Bell South, or Transpac's European buying spree of the past 18 months).
- Market structure, due to numerous entry barriers, will confine global services provision to a top "tier" of half a dozen entities.
- Equity stakes and cross-holdings will have to increase to ensure service level agreements with large global accounts are met (especially as the penalties for failure to meet the agreements grow more harsh).

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Table 3

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Western European Equipment Markets

Country	Pop	Mainlines per100 pop.	Equip Spend. 1992-1997	Switching 1992-1997	% Spend on Switching
Austria	7.9	43.5	\$ 5,077.00	\$ 844.00	17%
Belgium	10.0	44.7	4,354	756	17%
Denmark	5.2	58	2,420	420	17%
Finland	5.0	55.3	3,210	705	22%
France	57.7	53	33,837	5,188	15%
Germany	80.6	43.9	59,793	15,770	26%
Greece	10.3	43.6	911	177	19%
Ireland	3.5	37	NA	NA	NA
Italy	55.0	42.3	25,840	6,189	24%
Netherlands	15.2	49	10,533	1,558	15%
Norway	4.3	49.9	2,923	562	19%
Portugal	9.8	27.4	2,827	1,072	38%
Spain	39.4	34.7	23,540	2,578	11%
Sweden	8.6	68.7	11,691	2,686	23%
Switzerland	6?	75.7	6,010	1,834	31%
Turkey	100 M?	17.9	5,845	4,965	85%
UK	57.9	45.4	38,336	2,406	6%
Avg's/Totals	37.4	46.47	\$ 39,524.50	\$ 7,951.67	

European equipment market=\$40bn/year avg. 1992-1997

European switching market=\$8bn/year avg. 1992-1997

Source: CITI, NBI, Northern Telecom Europe