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Electronic Commerce and secure telecommunications

Draft Final Report to STOA

submitted by

Teleport Sachsen-Anhalt (Sylvie Feindt)

Martech International (Ian Culpin)

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Executive Summary
Policy Options

1. THE ELECTRONIC COMMERCE MARKET (SYLVIE FEINDT).....	8
1.1 A GLOBAL MARKET	8
1.2 THE US MARKET	12
1.3 THE EUROPEAN MARKET	12
1.3.1 <i>The European Union</i>	12
1.3.2 <i>Central and Eastern Europe</i>	15
1.3.3 <i>The Mediterranean</i>	15
1.4 ASIA-PACIFIC MARKET	16
1.5 CONCLUSIONS.....	18
2. THE POLITICAL AND LEGISLATIVE CONTEXT (SYLVIE FEINDT)....	21
2.1 REGULATORY ISSUES	
2.1.1 <i>Competition</i>	21
2.1.2 <i>Business legal environment</i>	23
2.1.3 <i>Taxation</i>	26
2.1.4 <i>Intellectual Property Right</i>	29
2.1.5 <i>Data Protection</i>	33
2.1.6 <i>Encryption and Digital Signature</i>	37
2.1.7 <i>Harmful and illegal content</i>	42
2.1.8 <i>Payment Systems</i>	
2.2 EXTERNAL ECONOMIC RELATIONS	46
2.3 CONCLUSIONS.....	48
3. THE SOCIO-ECONOMIC IMPACT (IAN CULPIN)	
3.1 THE EFFECT ON WORLD TRADE (MACRO ECONOMIC)	50
3.2 BUSINESS PROCESS REENGINEERING (MICRO ECONOMIC).....	54
3.3 SOCIAL EFFECTS	56
3.4 A DEMATERIALIZATION EFFECT?.....	59
4. ANNEX: CASE STUDIES	63

Executive summary

The aim of this study on electronic commerce was to analyse market and regulatory developments and the socio-economic impact with the aim of defining policy options.

Regulatory and policy issues

There are many things that countries might reasonably want to regulate on the Internet. They include not just child pornography and incitement to racial hatred, but consumer protection, the defence of intellectual property rights, data protection and taxation. These are all issues on which countries or the Community legislate already. There is no obvious reason why a libel should be treated differently because it appears on a web site, rather than in a newspaper. There is no specific “nature” of cyberspace: some areas cannot be easily regulated and some definitely can. Therefore the problem is not whether the Internet *should* be regulated but *how*.

Ultimately the Internet could breed a new approach to regulation, less paternalistic and more trusting in market forces and the responsibility of the individual. Many markets have an incentive to regulate themselves, competing to offer consumers protection from unpleasant surprises. There is no total protection in the off-line world, so why should it be set up for the on-line world?

Areas where government and EU intervention is needed include data protection, intellectual property rights, harmful and illegal content and taxation. In October 1998 the data protection directive will have to be implemented by all Member States. There will certainly be a need to examine remaining loopholes and new privacy issues. Also, data protection legislation has a major impact on the position of the EU in other domains such as encryption and digital signatures.

International intellectual property right agreements and treaties including dispute settlement procedures are already in place. The key for the functioning of the system is its world-wide enforcement through co-operation between all players to implement effective rules which take new technologies into account and deal with all sides and concerns in a practical, technically feasible and economically reasonable way. Regarding the particular issue of the Internet domain name system, a Memorandum of Understanding on the Generic Top Level Domain Name space (MoU-gTLDs) was agreed last year. Incorporated in it is a dispute mechanism administered by the WIPO Arbitration and Mediation Centre. Despite its participation in the international negotiations, at the end of January 1998 the US government published its own proposal that keeps the domain name system under US control. The national approach of the green paper is contradictory to the joint EU-US Statement on electronic commerce of December 1997 and calls the fate of the MoU-gTLD plan into question.

The developing Information Society makes significant changes of the EU tax system unavoidable. A key question will be the modification of the definition of “permanent establishment”, as firms can be very mobile on the Internet. However there is the precedent of telecommunication services, where the place of establishment of the recipient is decisive for the determination whether the service falls within the scope of Community VAT. When the determination of the establishment location becomes more difficult VAT might generally need to be applied where the service is consumed. And, without changes, local retailers may be swept away by non-EU competitors. It will be

of major importance to strike a balance between ensuring a revenue base without moving to a more regressive tax system and avoiding the stifling of electronic commerce by creating unnecessary bureaucracy and additional taxes or leaving legal uncertainty.

Other areas such as competition, commercial communications, encryption and payment systems need a more liberal approach, i.e. a minimalist regulatory approach that however provides a minimum legal security which the market can develop. Electronic commerce is an emerging and pro-competitive market, which is not an issue for competition policy yet. However in the future issues could arise regarding software, browsers, payment systems and de facto standards, and telecom operators moving into the Internet market. Major challenges are expected for the international competitive environment both as regards the rush for the control of access to the Internet, as well as for control of the Internet backbone, where some operators seem to acquire such a major role that attention of competition regulators will be necessary.

As for commercial communications, the Commission is in the process of setting up a system of experts and procedures including an acceleration of the complaint procedure. The approach tries to strike a balance between the creation of a single market for communication services and public interest objectives. This approach leaves room for self-regulation and dispute resolution by intermediaries.

Economically the restrictions the US authorities have put on strong encryption are a great opportunity for European business. Europe has a potential for developing a strong and competitive industry. It is leading in smart card development and a growing number of European companies are offering advanced cryptography products. One needs to ask whether it is necessary to criminalise a large section of the network-using public to control activities of a very small minority of law breakers. The recent debate has highlighted the tension between confidentiality and law enforcement. Trusted Third Party architectures appear to offer a way of providing both key delivery and data recovery services to their clients and - subject to legal process - key delivery to law enforcement agencies. However, the system of key escrow is questioned world-wide. Critical points of such a system are doubts that it could really stop criminal activities and that the organisation of sufficiently secure key escrow systems on a large scale is possible.

International co-operation

The US is undertaking a huge marketing campaign promoting their market-led approach for electronic commerce. There are, however, sources which believe that the non-regulated approach sounds good but will ultimately stop electronic commerce from taking off due to a lack of trust. It would be valuable for the EU to define a common position before negotiating a global level, thereby also avoiding contradicting positions of Member States that weaken the position of the Community as a whole in international fora.

The EU and the US are undertaking bilateral negotiations which led, in December 1997, to a joint statement on electronic commerce. A different approach is the International Communications Charter initialised by Commissioner Martin Bangemann, which could be agreed in the course of 1999. It is, however, debatable whether it is not

too late for an International Charter defining the organisation of a process of strengthened international co-operation, as there are already well-established frameworks such as WTO, OECD or WIPO that deal with different aspects of the Information Society and electronic commerce. The question arises why there is need for an International Charter if existing frameworks and declarations are already ignored by certain parties. Rather, the work of international organisations such as WIPO should be strengthened and agreements should be implemented.

Whereas in some Eastern European countries a good number of Internet activities are developing, others such as Romania and the non-EU Mediterranean countries are lagging more and more behind. For the Southern Mediterranean countries Europe is the number one investor, exporter and importer of goods and services. By failing to adapt to electronic commerce techniques, trade activities between South and North Mediterranean countries will be largely affected over the next decade. There is, therefore, a political responsibility of the EU to support Internet and electronic commerce development in these regions. The appropriate frameworks and financial instruments for a co-operation with the non-EU Mediterranean countries and the CEE countries in electronic commerce are already available. Existing programmes (MEDA, PHARE) should include projects that stimulate electronic commerce in these regions. Within the Fifth Framework Programme participation of CEE and non EU-Mediterranean organisations needs to be further increased.

Socio-economic impact

Organisations committing to electronic commerce need also to commit to new organisational structures. Fast-growing organisations have far fewer staff, and rely far more on outsourced activity. These fast-moving and flexible organisations will naturally seek to optimise their advantage in the markets by aggressive use of electronic commerce. The lifespan of a successful corporation may be significantly reduced, with a successful virtual corporation defining, developing and dominating a global market within a few years. When a market stabilises it is likely that they will be overtaken by another new competitor, or that they transfer the stable business into the portfolio of a multinational.

Although jobs can be created in the short term, longer-term employment growth will only be achieved if the workforce has a skill set that is needed in a global market. Sustained employment will only be achieved if those skills are maintained. In general terms Europe does not lack the technical skills, but more the entrepreneurial skills and mechanisms to allow them to flourish. Despite the efforts of many national and regional initiatives to promote innovation, it would appear that European Industry is less willing to support start up businesses than many of Europe's competitors.

There is a clear case for ensuring that cultural and intellectual assets are not wasted, as these provide the raw material of the post-industrial society. The mixing of cultures has tended to produce innovation, as often through a process of constructive conflict as through integration.

Policy options

Characteristic of policies regarding electronic commerce is the interlink between national, European and international relation. Due to the global nature of electronic commerce a uncoordinated national approach makes little sense. Only a joint European policy, based on a defined common position adopted before negotiations on a global level begin, can avoid contradicting positions of Member States that weaken the position of the Community as a whole in international fora, and also allows the Community to take a strong position vis-à-vis the US, which itself has very pronounced positions on electronic commerce.

European Action Needed

As a consequence of the analysis undertaken the following actions are proposed:

Regulation

- promoting regulation and its implementation where EU intervention is needed including data protection, intellectual property, harmful and illegal content and taxation. At the same time use should be made of technologies such as pornography filters or systems designed for calculation and reporting of international tax, thus limiting legislation to what is strictly necessary as electronic commerce is still in an early stage of development. Whenever possible existing laws should be applied.
- promoting a minimalist regulatory approach in areas such as competition policy, encryption, commercial communications or payment systems that, however, provides a minimum legal security which the market can develop. In these areas electronic commerce is best served by erring on the side of too little regulation until Internet activities assume a clearer shape. In time, some solutions to Internet problems are likely to emerge from the market itself.
- lobbying Member States to abstain from national solutions, such as in the area of taxation. Regulation on the European level avoids the creation of new barriers in an emerging European electronic market.
- opposing the introduction of Internet specific taxes. Instead, the EU governments should choose a combined approach of modification and harmonisation of existing tax systems and the vigorous pursuance of tax evasion, as the UK government is currently undertaking. Government efforts will be supported by technological solutions that start to appear on the market.
- supervising the proper functioning of established experts groups and mechanism, as in the case of commercial communications. As the Commission is to keep the European Parliament informed about the implementation of the system the Parliament should use the opportunity to monitor how satisfactory it is in practice.
- promoting the availability of strong encryption, thus favouring a competitive industry and ensuring that the EU data protection policy is credible to the European net users. If the EU is to promote information privacy it will have to support the availability of strong encryption to protect that information. It is unacceptable that Europe's competitive industry is chained because of law enforcement considerations, or that EU data protection policy becomes incredible to the European net users.

- encouraging the Commission to push for data protection standards achieved in the Community to be applied on an international level. With its data protection directive the Community has set a standard and a common basis to speak with one voice in international negotiations. A WTO initiative, aiming at a multilateral agreement on trade-related aspects of global information flows whilst protecting the right of privacy and personal data, should have at least the same protection level for personal data as the EU.
- demanding a concentration of competence and initiatives on electronic commerce to a limited number of Commission services in order to ensure coherence of all efforts as well as transparency for the outside world.

Structural funds

- promoting awareness creation activities and the financing of electronic commerce projects and related infrastructure by the social and structural funds, in particular in the Southern Member States, to avoid perpetuation of major regional imbalances
- promoting the development and funding of the public part of the Internet, disseminating education, research, cultural and governmental information to the general public. A special emphasis should be put on effort in Spain, Greece and Portugal.
- promoting wide use in the EU of the social funds for the purpose of familiarising citizens with the new technologies, investing in scholastic programmes to teach young people and instituting technical training programmes to reach the adult population.

International co-operation

- fostering European solutions and regulation as a good negotiation basis for international fora, thereby avoiding contradictory positions of Member States.
- giving a preference to multilateral as opposed to bilateral negotiations
- strengthening international organisations and frameworks dealing with different aspects of electronic commerce, such as WIPO or WTO, thereby ensuring that there is no interference or contradiction of international agreements with existing EU regulation.
- urging the Commission to ensure that international or bilateral agreement have at least the Community level of protection
- encouraging the Commission to support the implementation of the international MoU approach and to stop the US from further dominating the Internet governance system
- urging the Commission and Member States to avoid duplication of efforts in different international fora and multiplication of international conferences
- promoting not only a closer co-operation with the CEE and the non-EU Mediterranean countries on electronic commerce issues, but to financially support the development of self-sustainable electronic commerce projects.

1. The Electronic Commerce Market

1.1 A global market

Although much has been written and discussed about electronic commerce, it is still in its infancy. There are forecasts that within the next five to ten years as much as US\$ 600 billion of purchases will be made annually using the Internet. This represents 7.5% of total estimated buying.¹ Still, most forecasts about electronic commerce emphasise the business-to-business area, where the process has been evolving before the Internet really took off (e.g. EDI). In the US, it is predicted that by the year 2000 30% of all business-to-business transactions will be conducted electronically. Combined with this speed of growth is the fact that the majority of the sites are small businesses: 80% of the commercial Web sites have sales figures of less than US\$ 10.000. Even one of the most well known electronic traders, Amazon Books, has only 50 employees.²

Just as in traditional commerce, electronic commerce requires a substantial infrastructure of intermediaries, which up to now have most profited from business related to the Internet. These intermediaries include software developers (e.g. Netscape), computer manufacturers (e.g. Sun Microsystems), and Internet Service Providers and enabling services (e-cash, authentication, advertising). Of the four categories, hardware is currently estimated to have the largest sales, followed by software. While currently only a small fraction of software (1-2%) is delivered electronically, industry experts expect that the ratio will jump to a third by 1998. Successful are also travel services, especially airline reservations.³ While these are the dominant electronic commerce activities between businesses to date, a whole range of services such as payroll services, financial information and legal services are beginning to appear. The new intermediaries providing enabling services is currently dominated by advertising which remains the primary business model of the Internet. In the first half of 1997 revenues totalled US\$ 343 million. While advertising spending rose in consumer and financial services, it declined in computing.⁴ However, more than 90% of the advertising revenues were concentrated on the TOP 100 sites.⁵

Individual consumers have benefited greatly by gaining relatively inexpensive access to huge amounts of information, which were either very costly or very difficult to obtain previously. This situation, however, is changing. Increasingly, publishers are demanding fees for accessing their most interesting sites. Investment information services, such as Quote.Com, Tipnet, and InvestorsEdge, now require fees. The increase in Web

¹ OECD, Gateways to the Global Market: Consumer and Electronic Commerce, Paris 1997.

² OECD, Measuring Electronic Commerce, Paris, 12-13 June 1997.

³ FT-IT 7 January 1998. Forrester Research estimates that on-line bookings alone will reach \$7.4bn by the year 2001; Ludvig Siegele, [http://www.sind die Gewinne?](http://www.sind-die-gewinne.de), Die Zeit, 14 März 1997: "Für viele Unternehmer", frotzelte kürzlich die New York Times, 'war die Suche nach dem Geld im Netz so frustrierend wie das Navigieren im World wide Web'. (...) Die größte Enttäuschung brachte bisher das Online-Shopping. (...) der virtuelle Warenkorb { ist } auch recht schlecht sortiert: Flugtickets machen rund die Hälfte der Online-Umsätze aus. Der Rest sind vor allem typische *boy toys*: Pornovideos, Compact Discs oder Computer."

⁴ CommerceNet; <http://www.commerce.net/stats/advert.html>.

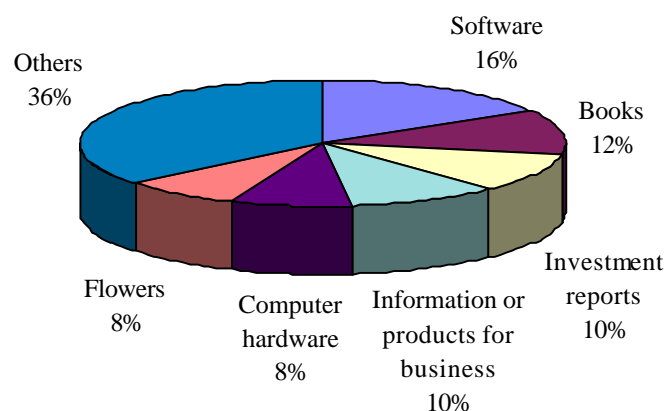
⁵ Morgan -Stanley Dean Witter, Internet Quarterly: the Business of the Web, 23 September 1997, <http://www.ms.com>. The Top sites include: Yahoo!, Netscape, CNET (technology news), ESPN Net SportsZone, Wall Street Journal Interactive, CNN Interactive, Pathfinder, Geocities.

advertising is also an indicator of the growing commercialisation of very few consumers are practising on-line shopping: only 1% of the US households and even a smaller percentage of Europe's.

While these on-line shopping malls are developing rapidly in North America, many of the European malls are often just part of Americans ones. For example Internet-Mall, one of the largest malls, gathers shops from all around the world; however, not all European countries are represented in this mall. For the moment, the UK, the Netherlands, and the Scandinavian countries are the most "Internet-educated" countries in Europe, and they seem to have the greatest presence in these electronic malls. In business-to-consumer commerce the largest segment is in fact intangibles like entertainment and software. This corresponds with the Minitel experience in France that showed that companies offering "intangible" goods and services initially stand as the main beneficiaries of on-line commerce development. Forrester estimates that adult entertainment accounts for 10% of all 1996 business-to-consumer electronic commerce.⁶ For some time now, many firms have sold and delivered intangible goods or services via the Internet, mostly related to software, hardware, marketing, accounting services, and the like. Increasingly, though, businesses are selling tangible goods and services on the WWW, including everything from books, plane tickets and travel packages, to clothing, flowers and fast food. Many of these categories are dominated by traditional retailers that have established electronic commerce operations such as La Redoute of France (traditional mail order), Marks&Spencer of the UK and supermarkets in the Netherlands. Another entertainment area where activity is large, but poorly understood, is on-line gambling. Most of the activity is on sites located in off-shore havens such as Granada.⁷

In the pie chart below, one can clearly see which businesses are taking advantage of the electronic commerce possibilities:

On-line purchases in 1996



Teleport Sachsen-Anhalt, based on Nua Internet surveys figures

⁶ CommerceNet; <http://www.commerce.net/stats/indust.html>.

⁷ OECD, Measuring Electronic Commerce, Paris, 12-13 June 1997.

Language

World-wide English is the dominating language on the net. However, a recent study came to the conclusion that the first languages on the WWW in Europe are the national languages. This is true for all non-English speaking EU countries. Even Nordic countries, which are known to be the most English-speaking European countries, show a high number of Web sites in national languages only (60% in Sweden, 50% in Denmark, 47% in Finland and 42% in the Netherlands). Only Flemish-speaking Belgium (47%), Greece (35%) and Luxembourg (30%) reveal a high share of English-only Web sites. No English-only Web sites have been detected in France and French-speaking Belgium, and only 3% in Spain.⁸ The share of bilingual and multilingual sites is higher in countries with small markets. Moreover poor Internet penetration fosters the creation of Web sites in English as the majority of the Eastern European countries reveal. This shows that the WWW moves towards a strong regionalisation. Many companies approach the WWW in a non-global commercial perspective. Possibly, we will soon see the development of national and regional characteristics in terms of structure, offer, content and information deployment across Europe.

Infrastructure

A pressing issue is the fact that regulatory structures in most OECD countries limit market access. Although the telecommunication sector is being liberalised, regulations are likely to remain in place during the transition from monopoly to competitive market structures and to influence the framework in which users access and use communication infrastructures for electronic commerce. This is worth emphasising, since the current network is poorly suited: at present most households or business customers are connected via a pair of copper wires, called the local loop. This last mile is insufficient for sophisticated electronic commerce applications, requiring relatively high-speed and high-bandwidth data transfers. In addition, local telephone tariffs currently account for more than 60% of the average total cost of Internet access across the OECD.⁹

The future of the Internet depends on the development of the network Access Points and the capacity of the backbones. More important is the distribution of backbones: while in the US the majority of the backbone has a capacity of 622 Mbps, the capacity in Germany lies between 16 and 34 Mbps. The Indian subcontinent is connected via one 10Mbps line. Central American countries are only connected to the US via a 2Mbps, back markers Costa Rica and Cuba with only 64kbits, which is the capacity of a single ISDN line.

⁸ Databank Consulting, *Evolution of the Internet and the WWW in Europe*, October 1997, pp.31-32.

⁹ OECD, *Dismantling the Barriers to Global Electronic Commerce*, policy paper for the OECD conference in Turku, 19-21 November 1997; Net pressure on Europe's local call costs, *CommunicationsWeek International*, 24 November 1997, p.22: For instance, the privatised carrier Portugal Telecom is now offering two special prices for Internet users. Its Netline service is a second line dedicated for Internet access. For about US\$18 per month users can receive up to 200 call units, which equals to roughly 30 communication hours at off-peak times. The service Internet Amigo freezes the current local rates for Internet access numbers through 2000. Peak hours will be discounted at 40%.

Who is responsible for this situation? For the Internet service provider it is the slowly moving Telecoms operators, with their expensive tariffs. For the latter it is the Internet service providers which hinder, with their insufficient accounting model, the development of the Internet.¹⁰ In fact both sides are right. The difference between the two accounting models is enormous. In classical telephony the actual traffic is charged and the income is split between the operators involved, for example Deutsche Telekom and the Ghanaian operator. The Internet accounting model is based of the principle "sender keeps all". If a German user sends a message to Ghana or downloads information from a Ghanaian server, no costs occur for the provider; only capacity is reduced. On the other hand, the Ghanaian provider has to buy backbone capacity and charge this to its clients. In this way an economic unbalance develops to the disadvantage of scarcely populated regions in cyberspace. According to the InfoDev project of the World Bank the Internet connection of Ghana accounted for nearly 4 Million Dollar in 1996 - with only 300 users.¹¹

As a result of the liberalisation of the international telecommunications market, changes in accounting systems are inevitable, moving towards cost based termination charges. In the new WTO competitive system, the system of originating and terminating international telecommunications will ultimately have to be regarded a form of access agreement, replicating for international access the national agreements that will have to be set up. The same principles which are applied to fair access to telecommunication networks in the national contexts need to be applied internationally. However, some telecom companies will need to move more slowly, particularly in developing countries where accounting revenues are a vital part of national telecom revenue.¹² The issue is currently under discussion in the ITU working group 3; first results are expected 1998. The World Bank is involved in the discussion and enquiring the substitution of the high accounting rates with direct foreign aid. For infrastructure improvements will be generated for these countries from private investors and new technologies, in particular wireless.

Building a sophisticated backbone for high speed, large bandwidth, reliable communication system puts a new burden on developing countries. It is true that the added advantage is the availability of global exposure, but this exposure will be done in competition with developed countries that do not have the extra investment in infrastructure, a sophisticated backbone for high speed, large bandwidth and reliable communication to market their products world-wide. One can imagine that in 10 years from now the situation will be similar to the one in satellite TV: an overwhelming majority of broadcasting by developed countries and an insignificant presence of developing countries who are just watching for free some commercial programs and are pressed to pay for encrypted valuable ones.¹³

¹⁰ ITU Report, 1997. Tim Kelly, Pricing the Internet and pricing to compete with the Internet, IIR "Telecoms@The Internet", London, 22-24 April 1996.

¹¹ Detlef Borchers, Eine Welt, ein Netz? Die Ökonomie des Internet funktioniert nach dem Motto "Die Welt zahlt, Amerika kassiert", in: Die Zeit, 14 November 1997.

¹² Herbert Ungerer, Competition in Telecommunications - the Regulator' challenge, Asia Telecom 97 Forum, Singapore 10 June 1997.

¹³ Adel Danish, Cross-Cultural Issues in Electronic Commerce. Doing Business with Southern Mediterranean Countries on the Internet, OBEC'97, Malaga 21-26 April 1996, <http://emn.derecho.uma.es/obec>.

1.2 The US Market

The US electronic commerce market is the most developed in the world. Only about 10% of the “.com” domains are outside the US. Nearly two thirds of all US companies will be conducting E-Commerce by the end of 1998 and 68% of all companies believe that E-commerce demands a re-evaluation of traditional business models.¹⁴ This private engagement into electronic commerce is coupled with widespread use of the Internet among the US population: 56 million adults claim to use the Internet and a further 16 million expressed their intention to go on-line before the end of 1997. The amount of people sending money on-line has gone up to 8.7 million at the end of 1997.¹⁵

Internet commerce in the US is building on a specific structural strength: innovative micro-enterprises. The US is already boasting more than 250.000 cyber companies using the Internet commercially in a variety of ways. In the US, travel services and flower distribution are particular success stories. Travel services currently amount to more than half of electronic commerce. The current market leader is already claiming 250.000 users. There are nearly thousand Internet flower distributors on the web, with the market leader broadcasting \$30 million in sales in 1996.¹⁶ The Internet Advertising Bureau (IAB) announced an advertising revenue of(?) 91 million in June 1997. It is interesting to note the rise in consumer and financial services growth and the decline of computing advertising spending since the fourth quarter in 1996¹⁷.

CommerceNet Canada projects that by the year 2000 the Canadian Internet market will include 100.000 Canadian companies and 10 million consumers with annual revenues from retail transactions exceeding \$1,5 billion. About 25% of all business-to-business transactions will be conducted on-line.¹⁸

1.3 The European Market

1.3.1 The European Union

Although electronic commerce is not yet widespread in Europe, it is growing fast and is expected to reach some \$20 billion by 2000. However, this market will not be equally spread throughout the Union. The UK is by far the largest electronic commerce market in Europe today and it is forecast to remain so until 2000. Although 30% of British companies have a web site (twice the European average), only 17% of the companies are buying and selling over the Net. The numbers are expected to be 40% buying and 30% selling in 1998.¹⁹ Also, PC penetration is high with 27,8% at home

¹⁴ NUA Internet surveys, <http://www.nua.ie>.

¹⁵ Intelliquest survey, quoted by NUA Internet surveys, <http://www.nua.ie>.

¹⁶ European Commission, A European initiative in Electronic Commerce, COM(97) 157, 15 April 1997, p.5.

¹⁷ <http://commerce.net./stats/advert.html>.

¹⁸ CommerceNet Canada, <http://www.commerce.net/canada/about.htm>.

¹⁹ Alain Steward, Easier access to world markets, FT - IT, 3 December 1997, p.8.

and 40 % at work. In the Netherlands 53.4% have PC at home, 49,9% in Denmark, 47.5% in Sweden, 35.5% in Luxembourg and 33.6% in Finland. Scandinavia and the Netherlands are one of the most developed electronic commerce markets in the world, with high Internet usage (about 46% of PC users in Sweden, 29% in Denmark and 30% in the Netherlands have access to the Internet, against 18% in the UK and 15% in Germany). The Netherlands have a significantly high use of electronic commerce: 33% of Internet users buy on-line as against 22% in the US. The largest supermarket chain in the Netherlands offers innovative “Internet teleshopper” service.²⁰ However, social cohesion is not only an issue regarding the ability to pay, but also how different segments use the Internet. Substantial disparities in gender and age exist in the user population of the Internet. The Main user is a man, aged 15-24, who is either still a student or a person with higher education and higher income.²¹ However, it can be expected that only a small portion of the multimedia consumer will use the new technology for continuous education; the Benton Foundation estimates that less than 2% of the multimedia product will be educational multimedia.²²

The German and the French electronic commerce markets have not developed as rapidly for structural reasons. On the consumer side, French customers have access to the Minitel system and currently see no real advantages in moving to the Internet. On the business side, organisations in Germany and France have begun the process of downsizing and restructuring later than the UK. This change is a pre-cursor to effective business process re-engineering, which in turn is a necessary precondition for the uptake of electronic commerce by large organisations. Currently, only 12 % of the French companies and 7% of the German companies have web sites.²³ However, the situation is changing rapidly, in particular in Germany. Germany has not only a large number of Internet host today and a good telecommunications infrastructure, but its economic structure is characterised by a prevalence of SMEs, implying a high growth of web pages, and an on-average wealthy, educated and widely-travelled population. Together these elements provide a solid basis for rapid growth in both business and consumer markets which was already visible in 1997. French growth is expected to begin in 1998 and to overtake Italy in the year 1999.²⁴

Turnover in Electronic Commerce (Billion ECUs)

	1995	1996	1997	1998	1999	2000	2001
Benelux	0.01	0.05	0.22	0.70	1.92	3.69	5.32
France	0.00	0.01	0.11	0.51	1.89	4.64	8.29
Germany	0.00	0.02	0.18	0.83	3.03	7.42	13.20
Italy	0.00	0.03	0.16	0.53	1.50	3.00	4.52

²⁰ European Commission, A European Initiative in Electronic Commerce, COM(97) 157, 15 April 1997, p.6.

²¹ INRA, Measuring Information Society 1997, March 1997.

²² Till Ruger, Chaos auf dem Datenhighway - Multimedia und die Gefahren fur die Informationsgesellschaft, Politische Studien, July/August 1997.

²³ Alain Steward, Easier access to world markets, FT - IT, 3 December 1997, p.8.

²⁴ EITO 1997, pp.219-221.

Nordic	0.01	0.08	0.38	1.15	2.93	5.15	6.71
Spain	0.00	0.01	0.04	0.15	0.51	1.17	2.01
UK	0.02	0.15	0.65	1.97	4.90	8.42	10.58
ROE	0.01	0.04	0.21	0.69	1.95	3.85	5.72
Total	0.05	0.39	1.93	6.53	18.63	37.34	56.36

Source: EITO 1997

The WWW does not follow the same development model as the Internet as a whole: the Internet as an Infrastructure (i.e. in terms of host penetration) has precise trends in development, which show higher growth rates in Northern European countries, in particular Finland. Southern European countries have lower growth rates in terms of host penetration. An analysis of web page numbers in correlation show a somehow different picture. Databank Consulting²⁵ found a polarisation between the Northern European Web development model, which is characterised by relatively low ratios of Web pages on hosts penetration, and a Southern European Web development model. The extreme case of the latter is Italy with an unexpectedly high number of web pages and a high ratio of web pages per host. This shows that there is clearly a strong actual and potential demand in Southern European countries for the use of Web services, but there is also a risk that weaker infrastructure development may constrain its development and may lead to worse problems of congestion.

The Internet growth is driven by global indicators strongly linked with telecommunication infrastructures, while the WWW is driven by other logics, more linked to local rather than global needs. Since electronic commerce development is strongly connected with WWW development, the vitality of growth across Europe, including the Southern European countries, seems to confirm the growth potential in the whole European Union.

Public Internet

Education, research, cultural, medical and public information form the “public” part of the Internet. Assessing the presence of libraries, higher education institutions, schools and museums on the Web is one way of identifying possible information on “have” and “have not” situations among the EU countries. With respect to public libraries, four countries, Finland, The Netherlands, Sweden and UK account for 80% of the public libraries on the Web. Less favoured regions, and in general the Southern European countries, show a very low Internet penetration of the public library system. In August 1996 only 403 schools in the EU had a Web site (there are about 370.000 schools). In the meantime many EU governments have launched initiatives to increase Internet connection in schools. At the same time, about 580 higher education institutions had a Web site, universities being the majority of these institutions. In July 1996 there were about 200 EU museums with a web site. Again Sweden, the Netherlands and Finland had a relatively high share while Spain, Greece and Portugal had extremely low shares.²⁶ Governments also have begun to use electronic services,

²⁵ Databank Consulting, Evolution of the Internet and the WWW in Europe, October 1997.

²⁶ Aldo Geuna/Edward Steinmüller, Joining the Information Society: Internet Access Issues for Europeans, FAIR working paper No.17, February 1997, p.20-24.

such as for filling tax forms, and procurement. The US government is the leading practitioner with large amounts of information freely available on the Internet, but European governments such as the British are catching up.

1.3.2 *Central and Eastern Europe*

There is not much information specifically on electronic commerce development in Eastern Europe. However, to get an idea about potential electronic commerce in Eastern Europe the development of Internet hosts and Internet user description will be helpful. Only very few of the eastern European sites will be money making yet.

Among the Central and Eastern European countries the Czech Republic has most Internet hosts (about 49.000) followed by Poland (around 43.000) and Hungary (around 34.000). Slovenia follows with about 17.000, Slovakia with about 11.000 and Croatia and Estonia with around 6.500 hosts. Romania, Bulgaria and Latvia have between around 6000 and 5.200 hosts. Lithuania lags behind with around 2700 hosts.²⁷

A typical Internet user in the Czech Republic and Slovakia can be described as a young man who has just finished university with a technical orientation. He generally works in towns and in organisations dealing with IT or generally services. Experience with buying on-line is rare, but results show significant interest to try it. The major barriers to buying on-line are missing payment cards and fear of fraud. The user would particularly buy on-line travel, tickets, books, software and audio-video products.²⁸ For Hungary, the typical user description is very similar: a young male, living in Budapest or Szeged, having a University degree and working in computing. Nobody knows exactly how many Hungarians use the Internet. Commercial access providers in Hungary seldom reveal their customer numbers as the market is very competitive. However, the number is estimated at well over 100.000.²⁹ In Estonia, the Internet use is also dominated by younger people. Worth mentioning is the increasing number of women (38%) among users in Estonia.³⁰

1.3.3 *The Mediterranean*

The non-EU Mediterranean countries are not very much present on the Internet and information on electronic commerce in this region hardly exists. While Israel has about 82.000 and Turkey about 33.000 Internet hosts, Cyprus 3100 and Egypt 1.800, followed by Morocco with 1000 and Malta with around 900 hosts. Algeria has only 37 hosts.³¹ Lebanon has 1100 and Tunisia 15 hosts.³² Although the host penetration has to

²⁷ Network Wizards, www.nw.com. The figures date from July 1997.

²⁸ Internet user survey, Feb-Sep 1997, organised by Department of Informatics, FAST Technical University of Brno and DirectNet, an Internet consulting company, <http://vip.fce.vutbr.cz/pruzkum/survey.htm>.

²⁹ Steven Carlson, Hungarian Market Growth, 13 February 1997, <http://vip.fce.vutbr.cz/pruzkum/world/hu.htm>

³⁰ Usage of Computers and Internet among Population of Estonia, February 1997, <http://vip.fce.vutbr.cz/pruzkum/world/ee.htm>.

³¹ RIPE net, www.ripe.net. figures date from October 1997.

³² Network Wizards, www.nw.com. The figures date from July 1997. RIPE net did not give any figures for these two countries.

be coupled with the ratio of web pages per host, such low host numbers as in Tunisia, Algeria, but also Lebanon, Morocco and Egypt, do not raise high expectations for much electronic commerce activities.

The Internet does not appear to have “taken off” in Israel. It is estimated that between 80.000 and 140.000 households are connected to the Internet. This is a 5-9% penetration in a country where PCs can be found in at least 45% of the Jewish households. Hebrew is the dominant language in terms of use, but shares a common technological problem with Arabic: it is written from right to left while browsers normally display written text from left to right.³³ The dominance of English on the Net is in itself a barrier for many Israelis. Despite the barriers, domain name registration have more that doubled.³⁴

Egypt was one of the first Arab countries to introduce the Internet. After a one year period of free access to all users, private sector ISPs, are now handling all commercial sites and there are about 30.000 users, probably a third of them students. No control of any kind has been imposed either on these users or on the servers content, although requested by several newspapers. In Morocco the national telecom operator has signed an agreement with commercial Internet Sservice Providers. The service is targeted at the banking and insurance sectors, universities and multinational corporations.³⁵

The main barrier to expanding the Internet connectivity across the Southern Mediterranean countries is the lack of telecommunications infrastructure. While Israel, Cyprus and Malta³⁶ have reached a development level comparable to that of the EU member states, the Magreb and Mashrek have only just recognised the importance of information and communication technologies for the development of their economies.³⁷ Even where some infrastructure is available, its poor quality of service and its inadequate capacity to handle high speed and large volume digital data transmissions are additional impediments to overcome. Lack of funds and lack of technical expertise are two other major factors that adversely affect networking in Southern Mediterranean countries.³⁸

1.4 *Asia-Pacific Market*

Japan and the Asian/Pacific region are catching up rapidly. Spurred by industry and government, these countries are enjoying huge growth in Internet connectivity and electronic commerce. Based on today’s growth rate and investments, they could rival Europe in terms of electronic commerce revenues by the year 2000. International Data Corporation expects an Internet user growth in Singapore and Malaysia to 1.5 and 2.2

³³ The lack of a national standard can make browsing Hebrew sites problematic, requiring the user to re-set his preferences each time he encounters a different type of Hebrew site.

³⁴ Brian Negin, The Internet in Israel, 19 January 1998, <http://www.collegehill.com/ilp-news/negin2.html>.

³⁵ Adel Danish, Cross-Cultural Issues in Electronic Commerce. Doing Business with Southern Mediterranean Countries on the Internet, OBEC’97, Malaga 21-26 April 1997, <http://emn.derecho.uma.es/obec>.

³⁶ The EU has co-financed the up-grading of the Maltese telecommunications network.

³⁷ ERCIM, Les Telecommunication dans les Pays Tiers de la Mediterranée, background paper at the Rome conference, 14 February 1996, <http://www-ercim.inria.fr>.

³⁸ Idem.

million respectively by the year 2001. Malaysia is expected to generate US\$ 1 billion in revenue in 2001, while Singapore is expected to make as much as US\$800 million in revenue from electronic commerce. Thailand, Indonesia and the Philippines are expected to generate around US \$200 million.³⁹ However, the current economic crisis could lead to a review of investments and plans for the Internet usage.

Singapore provides a good example for the symbiosis of public and private sectors in the development of electronic commerce: a national policy initiative was initiated to improve infrastructure (wired intelligent island) and introduce a government wide electronic procurement system. This is coupled with a business restructuring process in the private sector.⁴⁰

Also the MITI initiated in 1994 the development of a Japanese “informatisation infrastructure” and proposed a fibre optic upgrade of the entire network by 2010. Full informatisation of the government should be achieved within five years. Specific electronic commerce initiatives depend very much on the strength and flexibility of Japanese industry. Electronic commerce received an enormous amount of attention from the MITI, mainly through the Electronic Commerce Promotion Council (ECOM), funded with US\$300 million. ECOM is directed at developing the technological and social infrastructures necessary to promote electronic commerce . Principle projects include virtual shopping mall models, standards for product information, security, smart card technologies, and authentication centres. The 350 participating companies include European and other foreign companies such as Siemens, BT, IBM and Master Card.⁴¹ Nevertheless, there is some evidence that Internet-related business is also flourishing outside government endorsed projects. While it remains difficult to get reliable figures on actual e-commerce market sizes, the following figures are quoted for some Internetshop operators: Sofmap 100-300 mln Yen (software), Daiichi 230 mln Yen (books), Maruzen 240 mln Yen (books).⁴² Also, Japan has the second largest number of Internet hosts in the world and access from home reached 54% in June 1997.⁴³

Two approaches to the Internet are being undertaken in China: the first is the top-down approach, whereby the government is constructing a nation-wide backbone. China’s investments in the national infrastructure are estimated at more than US\$40bn. National ISDN and Frame relay networks are under construction; ISDN covers more than 20 cities. ATM based broadband networks will be in service in 2000 in large cities. In July 1997 China had already 25.000 Internet hosts.⁴⁴ In a parallel bottom up method the Internet is being popularised among the public. The number of Internet subscribers grew at a rate of 400% per year and amounted to 900 thousand in December 1997. China has become the second largest PC market in Asia, and by the year 2000 10% of the urban population will have a PC. In the more developed cities of

³⁹ International Data Corporation, quoted by CommerceNet, <http://commerce.net/stats/wwstats.html>.

⁴⁰ OECD, *Opportunities and Challenges for Government*, Paris 1997, p.66.

⁴¹ *Idem*, p.74; Takuma Yamamoto, Chairman Emeritus, Fujitsu Limited at the Conference on “Dismantling the Barriers to Global Electronic Commerce, Turku, 19-21 November 1997.

⁴² Japan Insite BV, *Frontier: Japan 1997-1998 Special Issue “Overview: Information Society in Japan 1997*, 15 March 1998, p.17.

⁴³ Commerce Net, <http://commerce.net/stats/wwstats.html>.

⁴⁴ Network Wizards, <http://www.nw.com>.

Beijing, Shanghai, Guangzhou and Shenzhen it may grow to 20 or 30%.⁴⁵ The Chinese government sees the IT and Internet development as an indicator of how well the country is competing globally and how productive it is being locally. This comes in spite of concerns over content controls. Even though it is still in its infancy, a full spectrum of electronic commerce services including yellow pages, Iphone/fax delivery, cyberbanking, on-line stock exchanges, real estate, travel, etc. have come into being targeting personnel and business users in China and abroad. However, China is confronted with unique challenges, including uncertainty on regulating telecommunications as a whole, the lack of mature banking systems and a low penetration of credit cards, as well as issues around control of foreign exchanges for international transactions, rigid Internet connections and the language barrier facing the average Chinese user of the Web browser.⁴⁶

A good example for a private initiative are the activities of the Asian Sources Media Group (ASM), a publishing company based in Hong Kong. The firm's Web site serves as a shop window for more than 7,000 Asian suppliers, mostly small-to-medium-sized factories in Hong Kong, China, Taiwan and Korea, selling everything from cheap plastics to multimedia electronics. On ASM's site most of the commerce is genuinely electronic - by E-mail. Before ASM's sales representatives came, most of the current clients did not have a computer, let alone an Internet connection. ASM provided them with what they needed, trained the staff and included the new customers products in the on-line catalogue of nearly 200,000 products. In commerce-minded Asia it is not the universities and consumer services who lead the way like in the US, but the key-chain and rubber-duck makers.⁴⁷

1.5 Conclusions

The US dominates electronic commerce, and will continue to do so in the beginning of the next century, thereby presenting US businesses with an excellent "home market" for conducting Internet commerce, even as the Internet commerce challenges geography-based advantages of suppliers. International Data Corporation (IDC) forecasts the Asia/Pacific region to bypass Western Europe in Web population and commerce conducted over the Internet by, jumping from number three in 1997 to number two in 2001. The Asian Pacific countries surveyed by IDC appeared more interested and ready to use the Internet to accelerate their economic development than do many Western countries. As a whole, Western Europe seriously lacks both the US and Asia/Pacific in Internet attitudes and activity levels.⁴⁸ Looking at the overall picture of how intensively the Internet is being exploited, both for home and business use, most observers would agree that Europe is lagging some 2-3 years behind the US. This time lag is a significant handicap in such a fast-moving field, and to ensure that European firms operate in "catch-up" mode, rather than undertaking innovative developments themselves. The effect of this time lag, which may not sound threatening, is pernicious, in that it effectively means that very much of the leading-

⁴⁵ Denis Simon, Growing Opportunities in China, FT-IT, 3 December 1997, p.7.

⁴⁶ Idem.

⁴⁷ The Economist, 26 July 1997.

⁴⁸ International Data Corporation, Internet leapfrog: The impact of the Internet on global economic competition, <http://www.idc.com/f/Ei/gens15.htm>.

edge work on new Internet applications is being carried on outside the European Union. We risk seeing major electronic commerce applications develop with a distinctly American flavour.⁴⁹ This will in turn tend to the perpetuation of US dominance in this field.

Of course, these are forecasts, which might turn out to be wrong. In Asia, the recent economic crisis underscore the fragility of some economies in the region, which could dampen the current investments and plans for Internet usage. Western Europe, however, has potential if there is concerted action to accelerate Internet usage. Even though the Internet benefited from public awareness campaigns and broad media coverage, 40% of Europeans still do not know what the Internet is.⁵⁰ The European Union and its member state governments need to become more proactive in this area, in particular the Southern European ones. Knowledge, understanding and awareness regarding electronic commerce needs to be increased among SMEs and intermediaries such as chambers of commerce, legal and professional service providers, banks and regional development bodies. Research in electronic commerce needs to be continued, and the transfer of knowledge between organisations active in developing electronic commerce projects and trials needs to be facilitated, in order to accelerate development of best practice, and increase opportunities for commercial exploitation. Electronic commerce should also have a more prominent role in the structural and cohesion funds. Recently the Commission started co-financing the development of regional plans and projects under the mechanisms of Article 10 of the ERDF and Article 6 of the ESF. First results are the RISI Network or Article 10 projects such as the European Internet tourism project, which is to start early 1998.⁵¹ Another good example is the "Internet Akademie" (see best practice example in the Annex) which is funded by the European Social Funds.⁵²

Whereas in some Eastern European countries quite some Internet activities are developing, others such as Romania and the non EU Mediterranean countries are lagging more and more behind. For the Southern Mediterranean countries Europe is the number one investor, exporter and importer of goods and services. By failing to adapt to electronic commerce techniques, trade activities between South and North Mediterranean countries will be largely affected over the next decade. There is, therefore, a political responsibility of the EU to support Internet and electronic commerce development in these regions. The appropriate frameworks for co-operation with the non-EU Mediterranean and CEE countries in electronic commerce are already available:

The Barcelona Declaration of 1995⁵³ provides the political framework and the MEDA Programme the financial resources for a fruitful co-operation with the Mediterranean countries. Parts of the funding could be made available for ICT and in particular electronic commerce projects. Participation of these countries in Community R&D

⁴⁹ The Future of the Internet - What role for Europe? Interim Report of an Advisory Group, 1997, <http://www.ispo.cec.be/eif/nextgen/InetFuture.html>.

⁵⁰ INRA, Measuring the Information Society 1997, March 1997.

⁵¹ Call for proposals 96C 162/09.

⁵² [Http://www.akademie.de](http://www.akademie.de).

⁵³ Barcelona Declaration adopted at the Euro-Mediterranean Conference 27 and 28 November 1995, <http://europa.eu.int/en/comm/dg1b/en/den-barc.htm>.

activities could be mutually beneficial. Also, the Southern EU member states would benefit from a prosperous electronic commerce development in the Mediterranean region.

The Third EU/CEEC Information Society Forum on 9-10 October 1997 concluded that business and the private sector should take on more responsibility in the challenge of driving the development of the Information Society forward: electronic commerce will provide an environment and structure for future growth. The process should be backed by the reoriented PHARE Programme and the Fifth Framework Programme.

2. The Political and Legislative Context

2.1 *Regulatory issues*

2.1.1 *Competition*

European competition rules mandate three basic positions: prohibition of anti-competitive agreements or concerted practices, prohibition of abuse of sole or joint dominant positions and the abolition of special and abusive rights where they induce the abuse of dominant positions. These basic concepts of competition law could apply in the area of Internet and electronic commerce to problems such as pricing, tying and access agreements.⁵⁴ A right balance needs to be struck between ex ante rules and ex post decisions.

In general, the Commission regards electronic commerce as an emerging and pro-competitive market, which is not an issue for competition policy yet. In the future issues could, however, arise regarding software, browsers and de facto standards, and telecom operators moving into the Internet market.

Major challenges are expected to the international competitive environment both as regards the rush for the control of access to the Internet, as well as for control of the Internet backbone, where some operators seem to acquire such major role that attention of competition regulators will be required.⁵⁵ World-wide, telecoms are entering the Internet access market, and some of them enter content provision as well. A study by the UK-based consultancy Yankee Groupe Europe sees the Internet access provider share of telecoms companies rising to 47% by December 1999 from 36% at the end of 1996. At that time 1996 T-Online (Deutsche Telekom) claimed 1.7 Mio customers, the Telecom Netherlands' Planet Internet had 70.000 subscribers, France Telecom's Wanadoo 31.000 and for BT 20.000 were estimated. Currently, T-Online is reluctant about giving any figures on its revenues or even revealing if it is making a profit. However, it does stress that it is not giving loss-leading deals to new subscribers which could distort the market.⁵⁶

The growth of Intranet systems may also threaten the traditional concept of the Internet, by internalising vast tracts of business internal communications and information requirements, and the openness of the system which is the very basic

⁵⁴ See: Draft Notice on the application of the competition rules in the telecommunications sector, COM (97) 649, 10 December 1996.

⁵⁵ "Telecom and backbone operators are becoming major players in the Internet market; large ISPs [Internet Service Providers] will become part, or closely allied, with telecom operators; non-carrier Internet service providers will have difficulties in order to survive in the Internet service provision business. Databank Consulting, *Evolution of the Internet and the WWW in Europe*, October 1997, P.76.

⁵⁶ Telecoms firms net cyber market, *European Voice* 25 September 1997. BT claims that already the income from an Internet user is about double what it expects from a traditional customer. MCI predicts that by 2002 it will carry more Internet traffic than voice on their networks. Interview with Robert Foster (Manager of BT's Internet and multimedia applications) in: *EuroInfoTEch*, 6 November 1997.

feature of the Internet may be at stake.⁵⁷ Keeping the Internet open and out of control of the major conglomerates that are now shaping with the advent of electronic commerce will be an indispensable condition for an open market place. The Commission notice concerning the status of voice on the Internet comes to the conclusion that it cannot be considered as “voice telephony” in the sense of the Directive on competition in markets for telecommunications. Internet Service Providers now typically operate under a data transmission or value-added service licence. The use of the service for voice telephony by some customers remains essentially within the ISP’s licence.⁵⁸ Internet telephony in Europe is forecast to be worth \$591,7 million by 2001. Yet the market is dominated by US manufacturers and ISPs. Microsoft will release an Internet telephony product, bundled with its Windows’98 and Internet Explorer 4.⁵⁹

Current pricing policies are also used for access to the Internet. On the one hand, where there is “free of flat rate” local charging such as in the US, the incumbent network operators are starting to complain about unfair overuse of the local loop and congestion problems as customers stay on-line for hours. On the other hand, where local charges are still measured and are relatively high, the use and growth of new services such as the Internet may be discouraged and retarded by comparison.

With the development of global markets, it is recognised that investigations, under competition rules, of dominance and competitive impact of commercial behaviour must have an increasingly global perspective. The European Commission has bilateral co-operation agreements with the US Department of Justice, Japan, Australia, New Zealand and Canada. A ban on exchanging confidential information has created a major obstacle to close co-operation. The Microsoft case (Summer 1994) is unusual in that respect as the company consented to an exchange of information. This permitted closer co-operation whereby the two competition authorities jointly negotiated an eventual settlement.⁶⁰ According to a Commission official companies now often agree to the exchange of files and the different competition regulators come to the same conclusions. An expert group on competition policy in the new world order concluded that existing forms of co-operation, namely the bilateral agreement, should be deepened in the future. In parallel, a multilateral framework with dispute settlement mechanisms for international competition issues initially with a limited number of interested countries should be set up, with the possibility of progressively extending its geographical scope.⁶¹

⁵⁷ Herbert Ungerer, *Competition in Telecommunications - the Regulators’ Challenge*, Asia Telecom 97 Forum, Singapore, 10 June 1997.

⁵⁸ Notice by the Commission concerning the status of voice on the Internet under Directive 90/388/EEC, OJ C 140, 7 May 1997, p8.

⁵⁹ EuroInfoTech, 23 October 1997, p.12.

⁶⁰ Report of an expert group, *Competition policy in the new trade order: strengthening international co-operation and rules*, July 1995, p.10, <http://www.ispo.be>.

⁶¹ *Idem*, p.20.

2.1.2 Business legal environment

Most rules and regulations for conducting business are challenged by electronic commerce. The situation is complicated by the inconsistency of codes among countries, many of which are a reflection of cultural norms. The OECD proposes an international harmonisation of these laws by drafting a model law for commercial practices at international level which can serve as a common framework. UNICATRAL has already drawn up such a model contract with the aim of offering national legislators a set of internationally acceptable rules as to how a number of such legal obstacles may be removed and a more secure legal environment can be created. The model law covers general provisions defining the sphere of application and definitions, the application of legal recognition of data messages and the formation and validity of contracts.⁶²

The following issues can be identified a crucial for the updating of commercial codes:

Place of establishment

Within the EU a wide range of regulations at national level including different professional requirements, different supervisory systems, notification and licensing requirements, as, for example, for regulated professions and financial services, could hinder the establishment of service providers across frontiers. The new virtual environment makes it more difficult to determine where a service provider is located and whether he is complying with all relevant legal conditions. This can create uncertainty about which Member States' law is applied in disputed cases. It also complicates the single market principles, in particular the 'country of origin' control principle.

Liability

Responsibilities need to be clarified across the chain of liability that extends from consumers to network access and service providers, software developers, intermediaries such as certification authorities and electronic payment providers, and electronic commerce merchants themselves. For example, in 1996, both America Online and AT&T guaranteed users protection from losses for purchases made from an approved merchant (AOL) or using their payment system (AT&T). Some malls have recently made similar guarantees. It is worth recalling that it was only when the credit card industry assured users that their exposure to criminal misuse of their cards was limited that confidence in that form of payment developed. Perhaps the limited liability concept is insufficient to deal with potentially catastrophic risk.⁶³

Germany was the first European country which deals with the liability issue in a specific act. The Teleservices Act makes Internet Service Providers legally responsible for their own content on the Internet. However, third party content hosting services should not be expected to exercise prior control on content which they have no reason to believe is illegal. The automatic and temporary storage of third-party content due to

⁶² UNICATRAL Model Law on Electronic Commerce with Guide to Enhancement 1996, New York 1997, <http://www.un.or.at/unc.../electcom/ml-ec.htm>.

⁶³ OECD, Dismantling the Barriers to Global Electronic Commerce, Turku 19-21 November 1997, p.11.

user request shall be considered as providing access.⁶⁴ Under the Bonn Declaration the participating countries backed the German concept.⁶⁵ New software developments put this concept into question: Filtering software is now available that can automatically identify child pornography on hard disks. This programme puts a question mark behind the argument of Internet providers that they only provide access and they are not in the position to check the content of their customers. The question whether providers can be forced to use such filtering software remains controversial.⁶⁶

In a number of Member States, Internet access providers and host service providers have already set up systems of self-regulation. In the UK at the initiative of the industry, a code of conduct has been agreed and an independent body, the Safety Net Foundation, has been set up to provide rating services and a hot-line. Similar steps have been taken in Germany and the Netherlands.⁶⁷

A directive on contracts negotiated at a distance and a certain number of horizontal and sectoral directives including unfair contract terms in consumer contracts, misleading advertising, consumer credit and travel packages already exist providing a minimum level of protection for consumers. This legal framework is also applicable to electronic commerce transactions. Liability is a horizontal issue concerning not only copyright, but also issues of defamation, privacy, unfair competition, pornography, and racist and violent content.

An industry report requests absolute liability for those initiating an infringing act and liability of an intermediary (e.g. service provider) only when and if he has effective knowledge of and control over the infringer, and no liability should exist for pure carrier services. The report also requests the implementation of a practical notice and takedown procedure.⁶⁸

Commercial communication

Any on-line service provider or company establishing a Web site is subject to divergent regulations on commercial communications including advertising, direct marketing, self-promotion, sponsorship and public relations. This situation creates legal uncertainty and hampers the use of efficient and creative cross border commercial communications. At present member states apply restrictions to the marketing of particular financial services to protect the public interest. As a result, the market for financial services, including those traded electronically, is fragmented.

Another issue for consideration is the impact of global reach of advertising gained by the marketing on the Web. In some member states advertising of alcohol and cigarettes

⁶⁴ The English version of the law is available at: <http://www.iid.de/rahmen/iukdge.html>; EuroInfoTech, 17 July 1997, p.3.

⁶⁵ Global Information Networks Conference 1997 - Ministerial Declaration, <http://www2.echo.lu/bonn/final.htm>.

⁶⁶ Christiane Schulzki-Haddouti, Kinderschänder im Netz, Pornoscanner filzen Festplatten automatisch nach verbotenen Bildern, in: Die Zeit, 26 March 1998.

⁶⁷ Nils Bortloff, Recent court decisions about ISPs Liability in Europe, 23 June 1997, <http://www.collegehill.com/ilp-news/bortloff.html>.

⁶⁸ Memorandum of Understanding, open access to electronic commerce for European SMEs, Guidelines, January 1998, p.27.

are forbidden. If a web page is considered as advertising, no company producing alcohol or cigarettes could have a Web page. For example, under French law advertisement of alcoholic drinks at sporting events is forbidden. Complaints reached the Commission after the French prevented the transmission of sports events taking place in other Member States on the grounds that there were adverts for French alcoholic drinks in the stadia. A green paper on commercial communications was issued in May 1996 in response to the growing amount of cross border advertising. The aim is to ensure that national rules are adopted in a manner which takes into account new cross-border opportunities, instead of adopting an interventionist approach which could lead to over-regulation and fragmentation of the single market.⁶⁹

This highlights the difficulty in controlling or legislating for misleading claims or negative comparative advertising. Some member states control this by legislation while other follow a code of self-regulation similar to the US model. The new EU directive on comparative advertising amends, after five years of inter-institutional discussion, Directive 84/450 on misleading advertising to include comparative advertising. Comparative advertising can be authorised, provided that it is not misleading, takes account of objectively comparable goods and services, does not give rise to confusion on the market, does not discredit or denigrate a competitor and does not address goods or services that are reproductions or imitations of protected names and trade marks. Provision is made for avenues of appeal. Given the extensive nature of harmonisation achieved, Member States will not be authorised to maintain or adopt more restrictive provisions on comparative advertising. However the directive does not prevent bans by member States in respect of certain goods and services.

Also accuracy and quality of information beyond the scope of advertising is of crucial importance to the influence of purchase and the condition of the market. NASDAQ, the US stock exchange has introduced regulations and a software based checking tool to assess the accuracy of all company information, as misleading information on the Internet can influence the purchase of shares under false pretences.

What is needed is a legal framework at least at European level that leaves some room for self-regulatory approaches to ensure enforcement and implementation, complying with a minimalist regulatory approach but providing a minimum legal security. Such a framework could include the scenario that financial intermediaries play an important role in preventing and resolving individual disputes, while law enforcement authorities control systematic fraudulent and misleading conduct. In March 1998 the Commission issued a follow up to the green paper on commercial communication.⁷⁰ The approach tries to strike a balance between the creation of a single market for communication services and public interest objectives. To this end actions envisaged include the application of a transparent assessment methodology testing the proportionality of measures undertaken by a Member State and conformity with Court jurisprudence, the creation of an expert group as well as an academic expert network, the setting up of a database on national and community regulations and self-regulatory codes and a Website to facilitate information flow and accelerated complaint processing. The

⁶⁹ EuroInfoTech, 23 October 1997, p.23.

⁷⁰ COM (98)121.

implementation of this “system of experts and procedures” will show how far they are satisfying in practice. It appears to be a rather bureaucratic approach, that however leaves room for self-regulation and dispute resolution by intermediaries.

2.1.3 Taxation

Electronic commerce has implications for the operation of the tax systems. As physical location of an activity becomes less important, it becomes more difficult to determine where the activity is carried out. Also, requirements for proof of identity on the Internet are very weak. In addition, the frequent elimination of reporting and withholding institutions poses a problem for tax administration: obtaining acceptable documentation of proof will become more difficult. The elimination of the intermediaries may cause problems in the collection and administration of cross-border withholding taxes resulting in revenue losses - the disintermediation (?) will remove convenient “taxing points”. Electronic money, which can be fully anonymous, can create situations for money laundering and facilitates the use of off-shore banking centres. From the standpoint of the would-be tax evader, the optimal bank is one that is at least as accessible and well-run as any local institution, but it remains beyond the reach of the domestic tax authority.⁷¹

These issues will become more pressing as a result of increased international trade, especially in services, and increased mobility. Now, firms, capital and, to a certain degree, people are more mobile and can exploit tax differences between countries. For example, in May 1997 several large Swedish companies announced that they were considering moving out of the country because of too high personnel income taxes which make it difficult to recruit highly-skilled personnel. As professionals are more mobile than two decades ago taxation of personnel income of this group is becoming harder.⁷² Also globalisation gives plenty of scope to reduce tax bills by shifting operations or crafty transfer pricing. Foreign subsidiaries of American companies report higher profit margins in low-tax countries than in high-tax ones. However, no one has yet been able to measure the revenue loss for governments as a result of companies avoiding taxes, individuals becoming tax exiles or people buying goods over the Internet. Two trends can be identified: tax nets are already torn and globalisation and new technologies are worsening a problem that already exists. To understand the impact of globalisation on taxes a look at the development of taxes in the European Union is enlightening: the average rate of tax on income from capital and self-employed labour fell from almost 50% in 1981 to 35% in 1994; the average tax rate on wages rose from 35% to 41%.⁷³

The challenge for governments in the information age will be to protect their revenue base without hindering the use of new technologies. All major sources of revenue - taxes on income and consumption - need to be reviewed:

⁷¹ OECD, *Electronic Commerce: The challenges to Tax authorities and tax payers*, November 1997.

⁷² *The Economist*, 25 October 1997, p.47; *The Economist* 31 May 1997, p.11.

⁷³ Vito Tanzi, *Globalisation, Tax Competition and the Future of Tax systems*, IMF Working Paper 96/141.

Income taxation is governed by two basic concepts of source and residence: while a profit can be derived from electronic commerce, it may be difficult to determine, where, in a physical sense, it was derived. Similarly, a taxpayer's Internet identity does not necessarily provide evidence of that tax payer's true residence status. Perhaps computer servers or Web sites may have to be included in the notion of what constitutes a 'permanent establishment'. Present income characterisation principles may require modification to cover the electronic world. Given the difficulties countries face in trying to enforce residence taxation, the increased risk of capital flight will put further pressure on their ability to impose taxes on capital income.

Taxes on consumption now account on average for 30% of the tax revenues in the OECD area. Apart from services related to the financial sector, the vast majority of services in question are normally taxable at a positive VAT rate when supplied for domestic consumption and at a zero rate when qualifying as exported services.⁷⁴ Consequently, VAT rules governing the accountability of international services have always posed problems for tax administrations. Such problems are greatly amplified for electronic commerce services, particularly in respect of the time, place and value of the supplies. Suppliers of financial services need no longer incur non-recoverable VAT - generally the use of the Internet may result in huge VAT savings, in particular in the area of intangibles. This includes "up-grading software" for a delivered washing machine or a security system, as the "value" is increasingly in the software which is downloadable.

The international tax regime for corporate tax is likely to change or converge under competition. Also, higher rates on luxury goods may have to be abandoned. In contrast, opportunities for arbitrage on low value, high volume products such as food are limited. Differences will remain between countries' general sales taxes, which now range from 5% in the US and Japan to 25% in Sweden. For standard rates of income tax the answer may also be "no", as big social and economic obstacles to the movement of individuals across border persist.⁷⁵ Thus, governments might be forced in the coming years to shift further their tax base to consumption and labour. And even here, it might become harder to tax income from the consumption of goods and services over the Internet. In a world of mobile capital, labour is likely to bear a growing share of the tax burden. Add in the fact that the Internet will effect sales of basic necessities less than sales of luxury goods, the result will be a more regressive tax system.

Thus far the Internet is free to sophisticated users like governments, colleges and laboratories that have direct access to it. Everyone else who goes through a professional Internet Provider has to pay a fee. A change from flat rate pricing to unit pricing of Internet usage would also make it feasible to impose a genuinely new tax.⁷⁶ Proponents of such a byte tax, Luc Soete and Karin Kamp of MERIT, view the Internet as a finite resource and want to impose a very small tax to cut down on

⁷⁴ All EU member states use the credit invoice method. It requires taxable persons to calculate VAT at the appropriate rate on all taxable supplies made. In addition to taxable supplies VAT is also charged on imports.

⁷⁵ The Economist, 31 May 1997.

⁷⁶ Lee A. Sheppard, What does WorldCom/MCI Mean for Internet Taxation? In: Tax Notes International, 20 October 1997, p.1303.

information pollution and congestion.⁷⁷ For the US an Internet usage tax should rather be seen as government trying to recover maintenance costs and tax businesses fairly. This however is only true for the US.⁷⁸ Although the Internet provider billing methods of the future would make those taxes technically feasible, the Wyden Bill prevents a tax on bytes transmitted or time spent online.⁷⁹ The basic problem of the bit (or byte?) tax is that it is indiscriminate: it taxes not just on-line transactions, but all digital communications. It would hence inhibit the growth of that industry. Moreover, on-line transactions would simply take place in a state where there is no such tax. The EU Commission has formally rejected the idea of a bit tax.

The Clinton administration rejects the idea of any new taxes on the net. The US proposes to declare the Internet as a tariff-free environment whenever it is used to deliver products or services. The US believes that the concept of the Internet as a duty-free zone should be limited to goods and services delivered electronically. When physical goods are ordered over the Internet and delivered through conventional means, the transaction should be subject to any generally applicable duties, as if the goods had been ordered via telephone or mail.

No government to-date has issued new laws or regulations or instructions on how to apply existing concepts to activities carried out on the Internet. The OECD, therefore, proposed that a moratorium should be imposed on any new tax initiatives for the Internet. Nevertheless for months the German Finance ministry has been preparing months a computer based system which automatically collects VAT if a good or service is purchased. The Deutscher Industrie und Handelstag already rejected the government initiative: a taxation of payment transaction is legally not acceptable as under current EU VAT legislation the simple transfer of money is not a taxable result.⁸⁰ A European approach seems more appropriate. In April 1997 the Commission set up a working group with VAT experts from member states to examine the problem in the widest sense. Up to now VAT was an abstract concept applicable to any sector and business, in electronic commerce VAT rules have to take sector specifics account. Results are expected during the course of 1998.

To combat harmful competition in the taxation domain, as well as to avoid frauds made possible by the opening of Markets subject to different taxation regimes, the Commission issued a communication after the meeting of the Economics and Finance Ministers on 13 September 1997. The report recognises that taxation competition has the beneficial effect of reducing tax pressure, but uncontrolled competition in which mobile factors are at stake may mean that the tax systems penalise employment. Governments are contemplating development of a code of good conduct in the

⁷⁷ Luc Soete/Karin Kamp, *The bit tax: taxing value in the emerging Information Society*, Maastricht 1996, p.10.

⁷⁸ Lee A. Sheppard, *What does WorldCom/MCI Mean for Internet Taxation?* In: *Tax Notes International*, 20 October 1997, 1304: "The guts of the Internet are 13 root servers ... Five root servers are maintained by network Solutions Inc., which also controls the domain names. Another root server is at USC's Information Sciences Institute. One is at a NASA research centre in California. One is at an army research laboratory in Maryland. One is run by the non-profit Internet Software Consortium in California. Yet another is at the Royal Institute of Technology in Stockholm."

⁷⁹ *Idem*, 1307.

⁸⁰ Christiane Schulzki-Haddouti, *Bundesfinanzministerium spinnt OECD-Pläne alleine weiter*, in: *Telepolis*, 28 April 1998, <http://www.heise.de>.

corporation tax field in order to remedy the taxation distortions created on the basis of invoicing, income from capital, fees and interest. The accompanying measures will particularly concern the design of management software, Chartered Accountants' ethics, and the liability of auditors who, in particular, sign European business financial reports. The States are obviously going to tighten their monitoring of commercial operations subject to VAT by relying on Electronic Commerce methods - to cut tax evasion and to improve company transparency.⁸¹ An example is the investigation that the UK government has stepped up on companies undertaking electronic commerce. From a business point of view, uncertainty about tax cost could cause companies to think twice about selling over the Internet, as nobody wants to face a multi-million dollar tax back bill. In a KPMG survey of nearly 300 large companies, one-third thought that state and local taxes would hurt their electronic commerce efforts and some planned to move their operations offshore to avoid them.⁸²

In addition, technical solutions start to appear on the market. TAXWARE for example offers a system designed for the calculation and reporting of international tax, including Value Added Tax (VAT), consumption tax, Goods and Services Tax (GST) and sales tax. The TEN-Telecom project TELEPOLIS is setting up a clearing and billing system, including VAT calculation and reporting.

As a consequence of the above, significant changes of EU VAT system are unavoidable: A key question will be the modification of the issue of permanent establishment, as firms can be very mobile on the Internet. However there is the precedent of telecommunication services, where the place of establishment of the recipient is decisive for the determination whether the service falls within the scope of Community VAT. When the determination of the establishment location becomes more difficult VAT might generally need to be applied where the service is consumed. And, without changes local retailers may be swept away by non-EU competitors. New international agreements are required on the levy of VAT/sales tax. It will be of major importance to strike a balance between ensuring a revenue base without moving to a more regressive tax system and avoiding the stifling of electronic commerce by creating unnecessary bureaucracy and additional taxes or leaving legal uncertainty.

The EU governments will have to pursue a combined approach of modification and harmonisation of existing tax system, use the emerging technologies and vigorously pursue tax evasion as the UK government is undertaking.

2.1.4 Intellectual Property Right

For most of the period since 1945, knowledge has flowed easily and cheaply around the world. Governments paid for most of the basic research and, with the exception of military technologies, encouraged its worldwide dissemination. A recent US study found that 73% of private patents were based on knowledge generated by public source such as universities and non-profit or government laboratories. As the government role in R&D now declines, the need for stronger private incentives grows.

⁸¹ Electronic Commerce Europe, Trends in Management Methods for Small and Medium-Sized Enterprises in the Context of Electronic Trade and of the Euro, 6 November 1997

⁸² The Economist, 13 July 1996.

The standard incentive is to give the inventor a monopoly right to produce the products that can be created with the knowledge of the copyright holder.⁸³ Intellectual property rights (IPRs) are thus crucial in providing security and trust with respect to investment and trade in ideas and cultural activities by guaranteeing commercial returns. The growing importance of intellectual content means that these rights are crucial for the development of electronic commerce. Yet, the digital nature of the content and the availability of new technologies render it relatively easy to make exact duplicates. At the same time new technologies, such as digital watermarking and encryption, can help to protect or prosecute IPR violations.⁸⁴ Major growth industries such as microelectronics, biotechnology, software and telecommunications, are brainpower industries. If their intellectual property can be copied easily, they will not be able to generate either wealth for their owners or high wages for their employees. The key regulatory question in this area is whether the existing copyright law is sufficient to protect the right of authors and other copyright holders. If copyright holders are not protected, on-line distribution will be discouraged. A consistent system of copyright law world-wide will facilitate the development of global infrastructure and services. It is, therefore, of general interest to implement updated and balanced copyright legislation promptly.

Accordingly, European and international copyright law should be harmonised, taking into account the interest of all stakeholders, i.e. the content creators, the copyright owners, the technology and infrastructure providers, the various service providers and the consumers. To this end, there are a number of international agreements, such as the TRIPS Agreement, the two WIPO Treaties and a copyright directive proposed by the European Commission in December 1997. The TRIPS Agreement, which came into effect on 1 January 1995, is the most comprehensive agreement on intellectual property. Its three main features are the definition of minimum standards to be provided by each member, general principles applicable to all enforcement procedures and the fact that TRIPS obligations are made subject to the WTO dispute settlement procedures.

At the WIPO diplomatic conference in December 1996, two new significant treaties were concluded to address on-line copyright and neighbouring rights issues, the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty. A third treaty dealing with the protection of databases did not pass. These new treaties can be considered as contributing towards an international copyright law as new technologies are included. It is important to note that the EU has played an important role in achieving them.⁸⁵ In parallel the Commission has published a Green Paper on Copyright and related Rights in the Information Society⁸⁶, which leads to the proposition of a directive harmonising aspects of rules on copyright and related rights in the Information Society. It harmonises rules on the right of reproduction, communication to the public right, the distribution right and the legal protection of

⁸³ Lester C. Thurow, Needed: A new system of intellectual property rights, in: Harvard Business Review, September-October 1997, p.98: "A Democratic president has promised to cut federal R&D spending by 14% by 2002; a Republican Congress has promised to cut it by 20%.

⁸⁴ OECD, Dismantling the barriers to global electronic commerce, Turku 19-21 November 1997, p.21.

⁸⁵ Brownlee, L.M., Grosveld, J., International governance of the Internet.

⁸⁶ COM(95) 382 final, 19 July 1995.

anti-copying systems and information for managing rights. At the same time, the directive implements the obligations of the two WIPO treaties.

The goal should be co-operation between all players to implement effective rules which recognise the realities of the new technologies and deal with all sides and concerns in a practical, technically feasible and economically reasonable way. Key for the functioning of the system will be the international enforceability of these intellectual property right laws, which is de facto becoming more difficult with the new communication technologies. In addition, the system must in practice be able to determine rights and resolve disputes quickly.

A second issue in the area of copyright questions are Internet Domain Names and Trademark. Network Solutions Incorporated, a private US corporation, and Inter NIC have been primarily in charge of the registration of domain names. The domain name system generates the root of Internet addresses (com, org, net as generic top-level domains) for Internet hosts and is a crucial component of the Internet routing system. The current system grants de facto monopoly power to a few DNS registrars. With its growth the system has become strained and subject of extensive criticism. In July 1995, NCI instituted a policy that gave a trademark owner the possibility to claim a domain name, if it had a corresponding trademark.

The registration of domain names referring to existing (famous) trade names and trademarks has already resulted in several litigation proceedings. In the case of a “national” conflict the basis for solution could be a specific national law. But what will happen and what law will be applicable if conflicts cross national borders arise? With the continuing growth of the Internet and the absence of specific rules and laws these problems, such as cypersquatting (wholesale registration of attractive domain names) and pirating will increase.

In May 1997, WIPO organised a consultative meeting on trade names and Internet domain names in Geneva. The purpose of this meeting was to discuss the possibilities of an effective system of protection of trademark and other IPRs in the Internet. The following meeting of the WIPO working group discussed the issue of the creation of a database of registered trade marks. In the context of the WIPO Consultative group on trademarks and Internet domain names, the Commission actively contributed to the definition of internationally acceptable solutions, such as on-line arbitration, mediation and challenge panels. It promoted competition in and expansion of the domain name expansion system, a consensus-based self-governing system, the internationalisation of the Domain Name System and the creation of world-wide trade-mark databases.⁸⁷

At the same time a Memorandum of Understanding on the Generic Top Level Domain Name space (MoU-gTLDs) of the Internet domain name system was signed in Geneva. Under this Memorandum, additional gTLDs will be implemented and registrations under these gTLDs will be undertaken by a number of registrars to be established throughout the world. A specially created committee will govern the registration

⁸⁷ Issues involving the registration of Internet domain names. European Commission reply to the Department of Commerce (NTIA) enquiry, Brussels, 30 July 1997.

procedures and obligations of the registrars. This MoU is highly internationalising what was once within the exclusive control of the US company NSI.

Incorporated into gTLD-MoU is a dispute policy for second level domain names, on-line mediation and arbitration and administrative Challenge Panels (ACP), that are to be administered by the WIPO Arbitration and Mediation Centre . As administrative, non-judicial bodies, the ACPs do not preclude resort to national courts. The Panels composed of one to three experts knowledgeable in trademarks and Internet will work on-line, except when parties want to meet. The system was supposed to be operational in the first month of 1998.

These reform proposals were not welcomed in the US. Members of Congress protested against giving up control over an infrastructure, which was established with US tax payers' money. Therefore, the US government published its own proposal at the end of January 1998, developed by Ira Magaziner. The US wants to introduce additional domain names and competition between the registry companies; the new market should be managed by a non-profit organisation supervised by the US government the latest until September 2000. The supervising non-profit organisation is to have its headquarters in the US, even if a board of directors from around the world is foreseen. No reference is made to the WIPO acting as an arbitration centre⁸⁸, despite the intensive international effort undertaken in 1997 in the framework of WIPO and the participation of the US in the preparation of the dispute resolution procedure. Instead the US green paper envisages a separate dispute resolution procedure and a new "study".

This proposal neglects the international nature of the Internet and simply ignores all efforts to find an international agreement that have taken place last year. As it keeps the domain name system under US control, it can only be considered as a slap in the face of all other nations and organisations that tried to find the much-needed international governance solutions. The minimum dispute resolution procedure laid out in appendix 2 of the US proposal does not present an alternative to the dispute policy foreseen in the MoU. Instead it tries to hinder the internationalisation of what so far has been a US controlled domain. The EU criticises the green paper for not taking a more international approach and being contradictory to the joint EU-US Statement on electronic commerce of December 1997. The European Community requests that no decision should be taken as to the creation of new gTLDs before an international consensus is reached.⁸⁹ Also, CORE, the Internet Council of Registrars, opposes the approach that the Internet is governed by a single national government. Many issues raised in the green paper have been addressed and resolved in the gTLD-MoU consensus process.⁹⁰

Who will prevail in this dispute will not least depend on the position that the European Commission will take. The International Communication Charter proposed by Mr Bangemann also includes discussions on the domain name system. However, the

⁸⁸ US Department of Commerce, A proposal to improve technical management of Internet names and addresses, discussion draft 1/30/98.

⁸⁹ Council of the European Union, European Commission, Internet governance. Reply of the European Community and its Member States to the US green paper, Brussels 16 March 1998.

⁹⁰ Comments on the green paper from the Internet Council of Registrars, 22 March 1998.

necessity of new discussions does not seem to be convincing: there is already a Memorandum of Understanding signed by companies and organisations from many countries and the WIPO Arbitration and Mediation Centre is preparing for its role of administering on-line dispute resolution procedures by offering programmes to train future mediators and arbitrators.⁹¹ The fate of the gTLD-MoU plan has been brought into question by the US governments green paper, setting forth its proposal to revise the system. It is important that the EU supports the implementation of the international approach of the MoU and opposes any attempts of the US to further dominate the future Internet management system.

2.1.5 Data Protection

Today's advanced communication technologies permit both government and the private sectors to know more about individuals and to use this information for public surveillance and commercial issues. The Internet creates conditions for the fast transmission of large quantities of data to any computer system and the routing of personal data via countries without or insufficient data protection. Unclear responsibility for data protection between providers, inadequate anonymity and authentication, message headers which contain information on the routing and subject of messages and special news groups containing articles holding personal data add to the problem. While users in the Internet have an interest in the integrity and confidentiality of information, many providers are interested in the identification and authentication of users' personal data for charging, and there is an incentive for network operators to collect as much transaction generated information about customer behaviour as possible.⁹² An opinion poll carried out at the request of the European Commission came to the conclusion that two thirds of the respondents are worried about tracks of personal information that are left behind on information networks such as the Internet. Consequently many Europeans are not prepared to use these services and technologies if there is no control over their use of their private information.⁹³ The Electronic Privacy Information Centre (EPIC) analysed the 100 most visited Websites regarding the collection of personal data, the use of cookies and the admittance of anonymous visitors. According to EPIC none of the sites fulfilled basic data protection requirements; however, most sites admit anonymous surfers.⁹⁴ Ensuring the protection of citizens' privacy and personal information seems to be a precondition for the uptake of electronic commerce in the consumer market.

Social communities have created and continue to develop norms to facilitate harmonious co-existence. These are sometimes formalised by institutions. Privacy is one of these norms and, in some countries recognised through an informal code of conduct and in others supported by legislation. Article 17 of the United Nations "International Covenant on Civil and Political Rights" states that "No one shall be subject to arbitrary or unlawful interference with his privacy, family home or correspondence, nor to unlawful attacks on his honour or reputation" (United Nations

⁹¹ Electronic Commerce and Law Report, 4 March 1998, p.285.

⁹² Mansell, R., The implementation of data protection legislation and its workability, FAIR working paper No.24, February 1997, p.2.

⁹³ INRA, Eurobarometer 46.1 - Information Technology and Data Privacy, January 1997, p46. INRA, Information Technology and the Protection of personal data. A qualitative study, 30 July 1997.

⁹⁴ Computer Zeitung Nr 26, 26 June 1997, p.8; [Http://www.epic.org/reports/surfer-beware](http://www.epic.org/reports/surfer-beware).

ICCPR, 1976). The involvement of the European Union in data protection began in the 1970s when Parliamentary initiatives sought the introduction of legislation. The Commission introduced a recommendation to the Member States to sign the Council of Europe Convention of 1981 for the protection of individuals with regard to the automatic processing of personal data.⁹⁵ However this convention is, not legally binding for the members of the Council of Europe. In 1980 the OECD issued Guidelines on the protection of privacy and transborder flows of personal data. In order to enable information flow, data protection needed to be on equal levels. In 1995 an EU directive on the protection of individuals with regard to the processing of personal data and the free movement of such data was adopted by the Council.⁹⁶ EU Member States have until 25 October 1998 to bring their own legislation in line with the new directive. Neither the OECD nor the EU are privacy advocates, since their prime concern is the free flow of information, and for the Commission this aims more specifically to facilitate the Internal Market. In the EU, however, data protection is regarded as a human right. Another driver on this issue is the US, which follows a self-regulatory approach. Japan has, after a few scandals, published a series of non-binding guidelines concerning the protection of personal data in electronic commerce in the private sector.

Three key aspects of the data protection issue can be identified: (1) the legal, (2) the technical and (3) the international dimension:

(1) The goal of the framework directive is to ensure that the level of protection of the member states is “equivalent” and that protection extends to automatic and manual processing of data. Collection of data should be as transparent as possible, giving individuals the option of whether to provide the information or not. In effect, the directive grants individuals, for the first time, the right to object to the processing of their personal data, where those data are being processed exclusively by automated methods to evaluate aspects of their personal life. The directive calls upon non-EU countries to ensure an adequate level of protection. It requires the country of origin of data to enforce its privacy. Individual Member States must impose sanctions against those breaching the law. It is widely recognised that this will be difficult to enforce in an open network like the Internet.

The most controversial provision in the directive is article 25 prohibiting the export of data to a third country which “does not ensure an adequate level of protection”. This potentially includes the US where data protection is left to self-regulation within each industry sector and is not enshrined in law. The EU is concerned about the lack of an institution to deal with complaints and the lack of protection of sensitive data. If there are no steps taken to bring US data protection law more in line with EU legislation the export of electronic data to the US could be banned at the end of 1998.⁹⁷ However, no side can be interested in a trade war. Furthermore US consumer advocates have unanimously expressed their conviction that self-regulatory methods neither provided adequate protection nor the means to solve the existing problems. Companies have

⁹⁵ The Convention has been signed by the 15 Member States, Norway, Iceland and Slovenia. Switzerland is expected to ratify it in the near future.

⁹⁶ Directive 95/46/EC

⁹⁷ EuroInfoTech, 11 September 1997, p.19-22; EuroInfoTech, 6 November 1997, pp.5-6; EuroInfoTech, 25 September pp.2-3.

proved unable to police themselves and a good 55% of the population would like to see new privacy laws.⁹⁸ A major step for EU acceptance of US privacy policy would be the setting up of a US body to act as a link with EU data protection regulators and to deal with complains.⁹⁹

Due to the national division of competencies, implementation might be a problem: within the Member State the Ministries of Interior are responsible for the transposition of the directive. However, the new German Multimedia Law, for instance, de facto transposes a part of the data protection directive without making reference to it. In a Memorandum of Understanding, European industry urges Member States to consult the industry before implementing the data protection directive, thus avoiding “over-protective” legislation. At the same time industry requests that the transfer of data within a company or a family of companies should be permitted without further consent. International companies that agree to observe data protection policies in compliance with the Data Protection Directive - whatever that means - should be permitted to export data and conduct data processing operations anywhere in the world.¹⁰⁰ Although the Data Protection Directive encourages self-regulatory codes, it is doubtful that the latter request is in line with the directive.

In December 1997 the Council adopted a directive which applies specifically to telecommunications equipment and services and which complements the data protection framework directive. Member States have to ensure via national regulations the confidentiality of communications by means of public telecommunications networks and publicly available telecommunication services.

A legal framework for data protection clearly exists which also applies to electronic commerce. A working party on privacy and data protection including representatives from the European Commission and national data protection commissioners has been created in 1995/96 to discuss policy issues and harmonise legislation.

(2) Another crucial issue for data protection is anonymity. The guiding concept should be that what is possible off-line should be possible on-line, for instance, electronic payment. If paying with electronic cash does not remain anonymous, there is a danger, that the payment data may be used to collect extensive usage and consumer profiles. Another example of potential infringement of privacy are digital Ids as demonstrated in the example of VeriSign (see the following chapter on encryption and digital signature). The proposal for the Fifth Framework Programme contains in the Information Society section a research area called “privacy enhancement technologies”. This includes technologies that minimise the use of personal data, such as anonymous forms of E-mail, browsing or payment. The framework programme, responding to industry interests, also comprises research on advanced technologies for assessing, filtering and analysing information that enable consumer profiling as a

⁹⁸ EuroInfoTech, 25 September 1997, p.3; Casey Linde, The Big Cookie: What’s Behind Internet Privacy Concerns, 2 July 1997, <http://www.collegehill.com/ilp-news/lide2.html>.

⁹⁹ EuroInfoTech 17 July 1997, Susan E.Gindin, As the cyber-world turns: The European Unions Data Protection Directive and Transborder Flows of Personal Data, 22 December 1997, <http://www.collegehill.com/ilp-news/lide2.html>.

¹⁰⁰ Memorandum of Understanding, Open access to electronic commerce for European SMEs, Guidelines, February 1998, p26.

research area of interest to the private sector, which impinges privacy. The challenge is on to see if technology can be found to counter the “sniffers” and “cookies” that permeate the Internet and to examine whether further regulation is required.

(3) The obligations and rights set down in the data protection directive are based on those of the Council of Europe Convention, which in turn are not dissimilar from those in the OECD guidelines or the UN guidelines. It would therefore appear that there is a degree of consensus as to the content of data protection rules well beyond the fifteen member states. However, data protection rules only contribute to the protection of individuals if they are followed in practice. It is therefore not only necessary to consider the content, but also the procedural mechanisms in place to ensure the effectiveness of such rules. In Europe data protection rules are embodied in law, which provides the possibility for non-compliance to be sanctioned and for individuals to be given the right of redress. The data protection directive reflects these procedural aspects with its provisions on liabilities, sanctions, remedies, supervisory authorities and notification.

Outside the Community it is less common to find such procedural means for ensuring compliance with data protection rules. Parties to Convention 108 are required to embody principles of data protection in law, but there are no requirements for additional mechanisms. The OECD guidelines carry only the requirement to be taken into account in domestic legislation. The later UN guidelines include provisions on supervision and sanctions, which reflects a growing realisation to properly enforce data protection rules.¹⁰¹

The OECD follows very much the US approach, relying on private sector initiatives, codes of conduct and technical means to protect privacy. Many countries have data protection law in the public sector but not in the private. In the US the situation is even more complex, in that specific laws exist for certain particular areas, such as credit reporting and video rentals, but not in others. Also the Council of Europe is preparing guidelines for the protection of privacy. However, once there is a Community directive, a policy becomes the competence of the Community, which implies that it speaks with one voice in international fora. To this end the Commission has launched a Community consultation for the Council of Europe guidelines under discussion. For the Commission, this is also a test on how far the directive applies and which lacunae remain. It is interesting to note that European industry take the position that the EU should “strive to avoid the risk of damaging disputes with 3rd countries over data protection.”¹⁰²

At the ministerial conference in Bonn in July 1997, 29 Ministers of European countries agreed that “personal data of users of Global Information Networks should only be collected and processed where the user has given his informed consent or where such collection or processing is permitted by law, and that appropriate legal safeguards and technical tools should be provided to protect the user’s right to privacy”. The principle that where a user can choose to remain anonymous off-line he should have

¹⁰¹ Working Party on the Protection of Individuals with regard to the processing of Personal Data, First orientations on transfers of personal data to third countries - possible ways forward in Assessing adequacy. Discussion document adopted by the working party on 26 June 1997.

¹⁰² Memorandum of Understanding, *idem*, p.31.

the same choice on-line was explicitly recognised. The Ministers further agreed to work towards global principles on the free flow of information whilst protecting the fundamental right of privacy and personal and business data.¹⁰³

In fact, the Commission would prefer the WTO, rather than the OECD, as international forum to discuss the data protection issue. Membership in the WTO is broader (avoiding the creation of data protection heavens) and agreements are binding and include a dispute settlement procedure. Ideal in the Commission's eyes would be an agreement on information flow with data protection elements, similar to the TRIPS agreement. Sir Leon Brittan has flagged the subject in his statement at the Ministerial Conference in Singapore in December 1996.¹⁰⁴ Also, there are new discussions to extend the GATS agreement to meet electronic commerce developments. The current GATS agreement (Article II bis) provides an escape clause that allows Members not to disclose information if, for instance, it is contrary to the public interest.¹⁰⁵ This article could be used a hook to integrate data protection elements in a revised agreement.

The joint EU-US statement on electronic commerce of 5 December 1997 contains the data protection issue in the future work programme between the two partners. Yet the positions are still too different: the US, suspecting distortion of trade by data protection rules, prefer a self-regulatory approach, whereas the EU prefers a regulatory approach. However the US and the EU seem to be moving closer together, even if their approaches remain different. A commerce department discussion paper demands that effective self-regulation involves substantive rules as well as the necessity that consumers know the rules, that companies comply with them, and that consumers have appropriate recourse when injuries result from non-compliance. The Federal Trade Commission insists that companies which do not live up to their stated privacy policies could face enforcement action including the withdrawing of the right to use a certifying seal or logo, to be posted on a publicly available "bad-actor-site", etc.¹⁰⁶

There is certainly a need to further study new privacy issues, different means for solutions and the response of the different Member States. It will be important for the Community to speak with one voice in international negotiations. A WTO initiative aiming at a multilateral agreement on trade related aspects of global information flows whilst protecting the right of privacy and personal data will be pursued by the Commission.¹⁰⁷ Community legislation can only be a starting point. The global nature of electronic commerce requires international agreements.

2.1.6 Encryption and Digital Signature

¹⁰³ Ministerial declaration, Ministerial Conference, Bonn 6-8 July 1997, www2.echo.lu/bonn/conference.html.

¹⁰⁴ WT/MIN(96)/ST/2, 8 December 1996, Statement of Sir Leon Brittan.

¹⁰⁵ GATS Agreement, <http://www.wto.org/wto/services/2-obdis.htm>.

¹⁰⁶ Electronic Commerce and Law Report, 4 March 1998, p.279.

¹⁰⁷ European Commission, A European Initiative in Electronic Commerce, COM(97) 157, 15/4/97, p.18.

As electronic commerce develops users are concerned with security. Encryption is the foundation for safe Internet commerce; it covers not just the coding or scrambling of messages but authentication, message integrity, proof of delivery, non-modification of content, digital signatures and other security related issues. Without encryption, e-mail containing sensitive private information or financial details, such as credit card numbers, can be read at numerous points as messages pass through the net. Good authentication relies on strong cryptography. The use of digital signature provides the authentication needed to guarantee the validity of both parties as well as the basis for non-repudiation.

Encryption

For long, cryptography has been a primarily military domain. However, with the international economy becoming increasingly dependent on global networking capability, secure and private communications are essential part of the communication infrastructure. Users of cryptography are now both military and non-military agencies, the commercial sector and private individuals. Cryptography in the last 20 years has undergone a major increase and a shift from the military to the commercial sector, and also from the commercial US market to other, mainly European, markets. In parallel there has also been a shift of the locus of innovation away from the military domain into the civilian can be stated. Security of information systems depends not only on the hardware and software used, but also on good managerial, organisational and operational procedures. However, strong cryptography raises concerns about concealed criminal activities and the availability of governments to carry out legitimate law enforcement activities, including taxation. Export control regimes are employed in the interest of national security to control the diffusion of technology outside national boundaries. Uncertainty over interpretation of export control regulations and confusion over what is not encryption, has also hindered implementation of non-encryption policies such as digital signatures.¹⁰⁸ This results in a clash of interests between commerce and military, at a domestic and at international level, inhibiting the international commercial trade of a technology. There are for instance considerable attempts by the UK military to influence what exactly is provided by the commercial market in order to meet their own requirements.¹⁰⁹ While the US chooses government approved standards for cryptography used within their national boundaries, France and Russia require a declaration and authorisation for the use of cryptography.¹¹⁰

The issue of encryption has received more attention in the US than anywhere else. Intelligence agencies in the US have stepped up a campaign to outlaw the production and selling of encryption systems unless the government can break the code. Looser (?) would also be the ordinary users of electronic commerce or E-mail. In 1997 the DTI presented a proposal for a network of licensed agencies that would provide and keep copies of everyone's encryption codes or keys (key escrow). If sent a warrant, the Trusted Parties would hand over the key within an hour. The initiative was criticised as a bureaucratic structure to regulate encryption services that would isolate the UK from global electronic commerce. Also France is in favour of key escrow. However, with a new law of February 1998 France liberalised the use and sale of

¹⁰⁸ OECD, Gateways to the Global Market: Consumers and Electronic Commerce, 1997, p.12.

¹⁰⁹ Uta Wehn, International Governance of Cryptography, FAIR Working Paper , August 1996, p.24.

¹¹⁰ Idem, p.36.

encryption products using algorithms of less than 40-bits. However, only algorithms of at least 90-bits are considered to be secure.¹¹¹ Whereas law enforcement officials oppose any further liberalisation beyond this ceiling, business is lobbying for extended liberalisation to much stronger encryption products, arguing that a failure would hamper French participation in global electronic commerce.

Is it necessary to criminalise a large section of the network-using public to control activities of a very small minority of law breakers? Last year, David Herson, a former official of the British Government Communications Headquarters and current EU official responsible for information security told two European journalists: “We’re talking about foreign intelligence ... that’s what it is all about. Law enforcement is a smoke screen”.¹¹² In general the US and the EU are at odds on the subject of encryption policy. The US, which has attempted to gain international backing for a global framework that would ensure law enforcement and intelligence access to decryption keys, in garnering EU support.¹¹³ One reason why the EU has a different stand on encryption is that the issue is closely linked with privacy. How can the EU pursue a data protection policy that promotes information privacy if users do not have confidence in the technology that will secure and protect that information. There is general agreement that police have the right to access electronic files in some cases, but do not agree on the circumstances under which the access should take place, e.g. whether or not a court mandate would be needed.

Economically the restriction the US authorities have put on strong encryption are a great opportunity for European business. Europe has the potential for developing a strong and competitive industry. Research in cryptography is at a very high level. It is leading in smart card development and a growing number of European companies are offering advanced cryptographic products. Due to controls on intra-Community shipments of cryptographic products the European market is fragmented. Such export licenses require extensive, time-consuming paper work and granting practices vary by Member State.¹¹⁴ Winners will be those countries, such as Germany and many Asian countries that apply more liberal encryption policies. In 1997, Japan tightened the export controls on encryption by lowering the threshold by which businesses need to obtain a license from 100.000 to 50.000 yen. According to a MITI official the change resulted from an increased sensitivity in the international community and not from US pressure.¹¹⁵

At international and national levels groups have been set up to debate issues related to information security. In the international arena the US has a strong influence in the agenda setting. The OECD has adopted cryptography policy guidelines in March 1997. The European Commission has adopted a communication of digital signatures and

¹¹¹ Gunhild Lütge, Ludwig Siegele, Verschlüsselung im Internet: Was darf geheim sein? in: Die Zeit, 9 Mai 1997.

¹¹² The Guardian, 17 September 1997.

¹¹³ Electronic Commerce and Law Report, 4 March 1998, p.279.

¹¹⁴ European Expert Hearing on Cryptography in Copenhagen, 23-24 April 1998, Theme Paper; Peter Landrock, Opportunities and Barriers in Europe, European Expert Hearing on Cryptography in Copenhagen, 23-24 April 1998.

¹¹⁵ Frontier: Japan 1997-1998 Special issue “Overview Information Society in Japan 1997, 15 March 1998, p.8.

encryption in October 1997. Despite US support from Britain and France, both organisations have backed and encouraged open use of cryptography. UNICATRAL has initiated work aiming at the preparation of uniform rules on digital signatures and the related services (Certification-authorities). In the Bonn Declaration the Ministers encourage the use of strong encryption and the importance of digital signatures and commit themselves to the removal of barriers and the provision of legal and mutual recognition of certificates.

No single government department or company can offer a complete solution to information security. Collaboration between government and industry, and between countries, is the most likely route to greater information security. Recent debate, especially in the US has highlighted the tension between confidentiality and law enforcement. Trusted Third Party (TTP) architectures appear to offer a way of providing both key delivery and data recovery services to their clients and - subject to legal process - key delivery to law enforcement agencies. However, the system of key escrow is put into question world-wide. Critical points of such a system are justified doubts that such a system could really stop criminal activities and the organisation of a secure escrow system on a large scale. Business, for their own protection against economic espionage, and data protection lobbyists are in favour of a liberal approach. In fact, the OECD cryptography guidelines follow an approach which leaves the development of cryptography to the market. This is a defeat for the US who place the issue on the OECD agenda in order to convince the industrialised countries of their approach. Great Britain and France are in favour of key escrow. In Germany the Ministry of Interior plans to include a chip in strong cryptography products that provide a keyhole for law enforcement services. Deutsche Telekom and Siemens have already refused to co-operate on this chip. A strong coalition of industry, data protectionists, scientists and online freaks is forming to act against the plans of the Ministry of Interior. Also, the liberal coalition partners resist the plans of the conservative Minister.¹¹⁶

Digital Signatures

One has to distinguish between the TTPs and Certification Authorities (CAs), the role and the legal basis need to be distinguished from one another, although it is not excluded that the TTPs act as a CA. CAs can perform a range of functions with regard to digital signature, such as issuing public key certificates for their subscribers. Although in its infancy, the sector raises a lot of interest. Financial institutions, in particular credit card companies, network providers, and specialist trade and professional bodies are already seizing the commercial opportunity associated with becoming a CA.¹¹⁷

VeriSign Inc is an example of a CA providing digital ID/certificates for “trusted electronic commerce”. A not-so-secondary function of VeriSign, however, is to facilitate direct/database marketing and the creation of consumer profiles. There are

¹¹⁶ Christoph Drösser, Ein Höllendung fürs Internet, in: Die Zeit 19 Februar 1998; Christiane Schulzki-Haddouti, Der lange Marsch, 1 Dezember 1997, in: Telepolis, <http://www.heise.de>; Gunhild Lütge/Ludwig Siegele, Verschlüsselung im Internet, Was darf geheim sein?, in: Die Zeit, 9. Juni 1997.

¹¹⁷ EITO 1997, p.197; Ingrid Standen, The Use of Encryption in On-line services, FAIR Working Paper, February 1997, p.4.

thus competing interests. In fact, VeriSign violates fundamental fair-information practices of “notice” to the “consumer” and consumer “consent” for information collection. The Web site of VeriSign itself states the “Digital Ids provide a unique identifier for each user that you can use to ... personalise the information and advertising displayed to a user, match behavioural patterns with a user’s profile. ... You can even link a visitor’s Digital ID to customer-specific information, such as purchase history, that resides in your database.” VeriSign’s Certification Practices Statement (CPS), a 107-page website document is accepted by the end-user during the registration process (probably without careful reading). It is worth mentioning that it is privately held and has been funded by companies including VISA, Ameritech, AT&T, Microsoft, Softbank, Cisco, etc. It also has strategic partnerships with virtually every significant Internet commerce company, including the CommerceNet alliance (which funded the Trust programme). Being a creature of companies which stand to profit from an unrestricted database marketing network, the “trustworthiness” of the service to the end-user is rather doubtful.¹¹⁸

A CA’s trustworthiness remains essential to digital signature authentication. A Memorandum of Understanding from European Industry therefore recommends a non-regulatory approach: the development of a set of guidelines regarding the operating procedures of the CAs, reflected in Certification Practice Statements. The establishment of trusting relationships between the CAs could be handled by an industry-led body which oversees the EU guidelines for Certification Practice Statements. The ICC ETERMS Repository is suggested as the organisation to register and archive the Certification Practice Statements and the certificate policy documents.¹¹⁹ Whereas the US favours as usual a non-regulatory approach relying on private initiatives, the Commission sees a need for a uniform legal framework specifying requirements for CAs in the EU as well as the setting up of liability rules.¹²⁰ It is therefore planning to issue a draft directive on a common framework for electronic certification services on 13 May 1998. Under this proposal, data authenticated with an electronic signature issued by an accredited CA can be used as evidence at court in the same manner as if the data had existed in a manually signed form. The Commission wants the Member States to implement the directive, once agreed, before 1 January 2000. This would, in a very short time frame, pave the way for a widespread acceptance and use of digital signature in electronic commerce. A working draft of the directive defines a general accreditation scheme for CAs ruling out any discriminators schemes and national temptations to fill create additional revenues through charging for licensing beyond the coverage of administration costs. It also defines CA requirements and liability limits. The latter is one of the major problems for creating a framework for digital signatures. It is also important that the compliance with the EC data protection directive a condition for providing certification services. A rapid adoption and implementation of the directive would be favourable for the acceptance of electronic signature and thus favourable for the development of electronic commerce.

¹¹⁸ Casey Linde, The Big Cookie: What’s Behind Internet Privacy Concerns: Part II, 18 August 1997, <http://www.collegehill.com/ilp-news/lide2.html>.

¹¹⁹ Memorandum of Understanding, Open Access to Electronic Commerce for European SMEs, Draft Proposals, December 1997, pp.12-17.

¹²⁰ European Commission, Towards a European Framework for Digital Signatures and Encryption, COM(97)503, p.8.

2.1.7 Harmful and illegal content

The vast majority of Internet content is for the purpose of information for totally legitimate usage. However, as for any other communication technologies, the Internet can be misused for harmful or illegal content or as a vehicle for criminal activities. A range of distinct areas are concerned including instruction on bomb-making, illegal drug production, terrorist activities, violence and pornography, incitement to racial hatred or instructions on pirating credit cards. Of all these issues, pornography over the Internet has received by far the most media attention over the last couple of years. However, pornography is a social issue which has different meanings and accepted levels for different people, communities and cultures.¹²¹ The exact definition of what is illegal varies from country to country, and what is considered harmful also depends on cultural differences.

The main actors in this area are certainly public authorities driven by the media coverage and the perceived public opinion. Commercial interests are anxious to preserve the free flow of data, thus preferring self-regulation and private initiatives such as rating systems.

The Commission has recognised the need to strike a balance between the free flow of information and the protection of public interest. Applying the principle that what is illegal off-line remains illegal on-line, the above mentioned activities fall under the existing legal framework. In its initiatives to protect minors and human dignity from harmful and illegal content on the Internet and in audio-visual information services¹²², the Commission is urging co-operation among Member States to enforce existing legislation and encourage the development of self regulation. It is also encouraging the introduction of filtering software and rating systems and recognising the need for an international discussion of the need for a convention on harmful and illegal content. The Commission seeks a balance between ensuring the free flow of information in the market place and guaranteeing protection of the public interest. In an interim report on initiatives in EU member states with respect to combating illegal and harmful content on the Internet, the Commission concludes that Member States have stated to combat illegal and harmful content. Some countries such as Germany, Denmark, Finland, Belgium and Italy have altered or are in the process of altering legislative measure. These legislative activities are coupled with a self-regulatory approach by the industry. Other Member States such as Sweden, UK, the Netherlands, Greece and France rely on self-regulation and awareness creation and initiatives related to technical issues.¹²³

Technical means for voluntary controls on the Internet information are being developed to block access to certain documents. For example the Platform for Internet

¹²¹ Ingrid Standen, 'Porning' Privacy in Cyberspace, FAIR Working Paper, December 1996, p.5.

¹²² Green Paper on the protection of Minors and human dignity in audio-visual and information services (COM(96)0483); Communication on illegal and harmful content on the Internet (COM(96)0487).

¹²³ European Commission, Interim report on Initiatives in EU Member States with Respect to Combating Illegal and Harmful Content on the Internet, Version 7, 4 June 1997, <http://www2.echo.lu/legal/en/internet/wp2en-chap.html>.

Content Selection (PICS), was launched in May 1996 by the World Wide Web Consortium based at INRIA in Europe and the MIT Laboratory for Computer Science in the US. The success of PICS will depend on the speed of up-take by Internet sites. In addition, rating systems are developed by content providers. Rating systems and “parental control devices” are viewed somewhat negatively by consumer electronic manufacturers especially if there is a suggestion that a single specific technological standard should be adopted.¹²⁴ Effective rating does however, require a combination of automated rating and personnel reviews of particular sites. To come even close to rating the entire Web in this way will require immense resources that will only be possibly financed by a plethora of subscribers. Thus, rather than a great variety of rating systems it is likely that competition quickly narrows the field down to a few large companies providing content filtering or site blocking to a large number of subscribers.¹²⁵ Although blocking programmes are restrictive, they do not infringe privacy in the way that network surveillance by system administrators does.

The “caching” of content of servers in the US or any other country makes it difficult to determine whether it is of domestic or foreign origin. Formal regulatory policies such as the Communications Decency Act in the US have been received unfavourably and the Act has recently been overturned by the US Supreme Court as unconstitutional. The Commission has adopted a proposal for a directive on the establishment of an information and co-operation procedure between Member States in order to ensure the freedom of provision of services with appropriate protection of information about individuals and from exposure of unwanted material.¹²⁶

Although access providers do not directly control the content available on the Internet, or what information their customers choose to consult, they have been investigated in some cases by authorities because of the existence of illegal and harmful content which users can access through the technical facilities of the provider. Where access providers have introduced controls they are accused of arbitrary censorship, and have been sued for breach of contract. A number of provider have nonetheless taken the initiative of drawing up a blacklist, consisting of a number of sites and specific types of messages which they will refuse on their servers. Such an approach remains however of pure symbolic usefulness, as there is nothing to stop users from bypassing their local server and connecting to another. Recently, filtering software has been developed by informatics staff the hessische Landeskriminalamt that can automatically identify child and animal pornography on hard disks. The pornography scanner met great interest when it was presented at an international workshop on crime against minors of international police organisations such as the FBI, Interpol and Scotland Yard.¹²⁷

It remains nevertheless doubtful whether an access provider can be made liable for the content over which he is has limited or no control. Although expensive and time

¹²⁴ Mansell,R., The Implementation of Data Protection Legislation and its Workability, Working Paper No.24, February 1997, p.17.

¹²⁵ Joshua Marshall, Internet Rating Bureaus: How many will there be?, The Internet Practice Newsletter, 20 October 1997 (<http://www.collegehill.com/ilp-news/>).

¹²⁶ European Commission, Directive for the establishment of an Information and co-operation procedure between member states, COM(96) 392 final.

¹²⁷ Christiane Schulzki-Haddouti, Kinderschänder im Netz, Pornoscanner filzen Festplatten automatisch nach verbotenen Bildern, in: Die Zeit, 26 March 1998.

intensive, the classification system, is preferable to mass blocking by different countries. Mass-blocking has implications for contravening free speech.

Monitoring the Internet for pornographic material via electronic means at points of access is likely to curtail “freedom of expression” and infringe individual’s privacy. An informal regulatory structure could be appropriate. In a number of Member States, Internet access providers and host service providers have set up a system of self-regulation. At the initiative of the industry an independent body has been set up to provide a rating service for news groups and a hot-line to which content that is considered to be illegal can be reported.

The Commission requested the principle of legal traceability to be incorporated into national and European codes of conduct for mailing activities. Various techniques which allow anonymous use of the Internet facilitate sending illegal content by making it difficult or impossible to identify the offender. However, as discussed in the data protection chapter, effective privacy protection includes the ability to use anonymous use of the Internet. It will be necessary in the long run to strike a balance between the two conflicting interests of privacy protection through the legitimate need for anonymity and traceability of offenders.¹²⁸

2.18 Payment Systems

The advent of electronic payment systems is an inevitable part of the increasingly commercialised Internet. This will have serious consequences for taxation, banking and even monetary policies. A key issue of payment systems is certainly security: encryption and digital signatures but also anonymity, untraceability and authorisation. Currently most companies, in particular SMEs, are still likely to use the simple system of invoice and payment. For Germany it is estimated that 95% of the electronic commerce currently undertaken is paid with traditional off-line methods. Also, consumers are wary of using what is perceived an insecure medium for payments, particularly the transmission of credit card details. At this point the Internet is used primarily as a vehicle for search and negotiation rather than for a fully integrated transaction cycle. Going “off-line” to make the payment detracts from the overall convenience of an Internet-based transaction.

The continuing focus on enhancing security of electronic payment systems addresses the possibility that electronic commercial transactions will not flourish unless the participants are convinced that the risks are acceptable, given the level of security provided in the delivery infrastructure. For trust in electronic payments to develop, the payment system service provider has to bear the risk of electronic payment. It is not the technology that gives people the confidence, but the promise that another party is bearing the major share of the risk. This is comparable to the current situation with credit card payments, which are trusted because the credit card companies bear most

¹²⁸ See EP report on the Commission communication on illegal and harmful content of the Internet, A4-0098/97, 20 March 1997.

of the risk, even though the public knows that the currently operational credit card payment systems are far from tamper-proof.

Several technologies are available including credit card transactions, E-cash and electronic purses or smart cards. It is most likely that future on-line shops will accept a variety of these payment modes.

Credit-card transactions

In 1997 SET has been accepted by European Committee of Banking Standards as the de facto standard for credit card payments over the Internet. SET 1 details how payment card transactions on the Internet and other open Networks will be secured using encryption technology and digital identification. One reason for the wide acceptance of SET is that its use will not fundamentally change the current relationship between customers, banks and merchants. With credit cards consumers leave a continuous trace of data, and for micro-payments they are far too expensive. Although micro-payments are unlikely to become the dominant payment mode for consumer commerce, they appear useful for particular segments such as games or pay per view. Electronic cash seems the viable option for these micro-payments.

Electronic cash

Electronic money is still very much at an experimental stage, for instance approximately 100 Internet sites except currently DigiCash, one of the best known approaches to on-line cash. Trials have taken place in the US (Mark Twain Bank, St.Louis), Finland (EuNet and Merita Bank) and Germany (with Deutsche Bank) and Sweden (Post Bank). The progress of micro-payments continues to fuel the debate about their future developments and prospects. At present, different architectures for micro-payments are proprietary. In addition customer acceptance is still limited. For example, out of the one million people who downloaded CyberCoin wallet from DigiCash, only 5.000 were using it as of June 1997. Micro-payments are unlikely to become the dominant payment mode for Internet consumer commerce. Optimistic estimates do not go beyond 10% market share in the year 2000.¹²⁹

Smart Cards

The likelihood of a large scale deployment of smart cards by the financial services industry in the US is judged rather sceptical. The experience of trials such as the one undertaken by Visa and a group of banks during the Olympic Games 1996 in Atlanta showed limited consumer interest. However, due to its ability to combine several functions on a small size support, the smart card technology is still seen as a strategic tool. Not only does it strengthen security and authentication, it also offers potential for other services and loyalty features reinforcing the relationship between the card issuer and the customer.¹³⁰

Banking supervisory authorities are cautious to legislate and regulate at this early stage. However, there are a range of approaches to implement controls. For example, Germany, France, Italy and Sweden apply deposit insurance schemes to electronic

¹²⁹ Charles Goldfinger, Electronic Money in the USA: an update. European Commission Financial Issues Working Group mission, 10-24 July 1997.

¹³⁰ Idem.

cash. With respect to licensing, in France, the Netherlands and Italy, all issuers must be credit institutions. In Canada and the US no restrictions on non-financial institutions exist on the issuing of electronic money; but authorisation is required for banks to invest in electronic cash activity or to establish a subsidiary.¹³¹

There is justifiable concern with banks as well. The facilitating effect of electronic cash on commerce may undermine the banks' role as intermediaries. The solution the banking sector seems to favour is granting it the privilege of being the sole institutions permitted to issue electronic cash. EU central banks feel that at this early stage of the use of electronic money systems, they should remain flexible and not introduce any significant new measure. However, it is most unlikely that central banks and governments will remain passive if electronic cash really takes off.¹³² The Commission, the European Monetary Institute and the Member States are currently considering the appropriate supervisory framework for the issuing of electronic money, with a view to the stability and soundness of issuers. The US government is particularly concerned that the new payment technologies will be used for money laundering.

In July 1997 the Commission issued the communication concerning electronic commerce and financial services¹³³ in which it outlines a broad approach to develop a sound, user-friendly, efficient and secure payment systems. The Commission issued a recommendation that sets out minimum standards to be met by electronic payment instruments which are to be implemented voluntarily by industry until the end of 1998. At the end of this year the Commission will take stock and propose a binding directive if there is no satisfactory self-regulation. However, as the market and the technologies are evolving rapidly, no administrative barriers should be built that restrict competition in this area.

2.2 External economic relations

Banking and financial services, insurance, engineering, accounting, consultancy, advertising, public relations, legal services, research and development, management, market research and architectural services will be subject to increased trade. The recently concluded agreements in WTO and APEC will give further impetus to trade and these services. Capital mobility is also likely to increase substantially. This trend will be further enhanced by electronic commerce.

The US are currently undertaking a huge marketing campaign promoting their market-led approach for electronic commerce. There are, however, sources which believe that the non-regulated approach sounds good but will ultimately stop electronic commerce from taking off due to a lack of trust. It would be valuable for the EU to define a common position before negotiating a global level, thereby also avoiding contradicting positions of Member States, that would weaken the position of the Community as a

¹³¹ Dimitris Kyriakou, Electronic cash: The two sides of the coin revisited, in: The IPTS Report, No 23, April 1998, p.25.

¹³² Ludwig Siegele, Cash für den Cyberspace, in: Zeit Punkte. Der Mensch im Netz Nr.5/96, p.79

¹³³ COM(97)0353.

whole in international fora. Japan's position seems to be closer the EU than the US; however it is less outspoken than the two other parties.

On 5 December 1997 the US and the EU signed a joint statement on electronic commerce. The paper remains ambiguous but it sets directions. The joint statement was difficult to negotiate as there was little room to manoeuvre on both sides, the Commission being tightly supervised by the 113 Committee before version 22 was finally accepted. In particular Southern EU countries showed reluctance, as they see no possibilities of benefit from electronic commerce.

The statement contains seven of guidelines, which are based on the Bonn Declaration . Guidelines two and three confirm "the role of government" in creating a legal framework, including the protection of "public interest objectives". As the US promotes a hands-off approach for everything except for encryption, intellectual property rights, customs, tariffs and taxation, the acceptance of government involvement to ensure adequate protection of public interest can be considered a success for the Community. Unnecessary existing legal and regulatory barriers shall be eliminated. However this accepts implicitly that some barriers might be necessary. Regarding taxation, the declaration states only that it should be "clear, consistent, neutral and non-discriminatory". Close co-operation and mutual assistance is foreseen in this area. The US would have preferred the mentioning of the OECD as the co-operation framework. .

The two parties committed themselves to discuss issues on which no agreement could be reached, in (existing) international fora such as OECD, WTO, WIPO and UNCITRAL. Within this work programme three items are of particular interest:

- (1) A point of dissent was the definition of "goods and services". The whole US concept is based on an open market approach, using the term "virtual goods to which only tariffs apply and avoiding existing service regulations. The EU and its member states are of the opinion that on-line delivered "goods" such as software are in fact a service. As there was little room to manoeuvre, the declaration makes a distinction between goods that are ordered electronically and delivered physically and "all other cases" relating to electronic commerce. The term "all other cases" leaves the question of whether a service or a good is meant open. Discussion on this difference will continue in the WTO.
- (2) The declaration put the ratification and implementation of the WIPO Copyright Treaty and the WIPO performance and Phonograms Treaty on the working agenda. The Commission decided to implement the two WIPO agreements by a copyright directive. The House (which?) Judiciary's Subcommittee on Courts and Intellectual Property voted favourably on 26 February for the WIPO Copyright Treaties Implementation Act.¹³⁴
- (3) The data protection issue has already been discussed in the respective chapter.
- (4) Discussions between the two parties including government and private sector participants will continue to define the regulatory framework. The involvement of the two groups is a compromise of the EU and US approaches. On the agenda will be issues such as liability, commercial communication, contracts law, regulated professions etc.

¹³⁴ Electronic Commerce and Law Report 4 March 1998, p.279.

A different approach is, however, the International Communications Charter initialised by Commissioner Martin Bangemann, which proposes to define guiding principles at an international level. A new superstructure dealing specifically with electronic commerce is not envisaged.¹³⁵ In the meantime the purpose of the charter seems to have changed: it would "... contain an understanding on how a process of strengthened international co-ordination should be organised, with as wide as possible participation of the international community."¹³⁶ The Commission estimates that the Charter could be agreed in the course of 1999.

It is, however, debatable whether it is not too late for an international charter defining the organisation of a process of strengthened international co-operation, as there are well established frameworks such the ITU, WTO, OECD or WIPO that are already dealing with different aspects of the Information Society and electronic commerce. It is worth mentioning in this context that despite the joined declaration and the agreed "...creation of a global market-based system of registration, allocation and governance of Internet domain names ..." the US government issued a green paper in January 1998 that consolidates permanent US jurisdiction over the Internet as a whole, including dispute resolution and trademark issues. It also ignores, as stated above, all international efforts that have been made in 1997 in the framework of WIPO. The question arises: why is there need for another framework if existing ones are already ignored? Rather, the work of international organisation such as WIPO should be strengthened.

It is time to arrive at concrete solutions and implementing agreements creating an appropriate framework for electronic commerce activities. Also, governments and the EU need to take the task of avoiding duplication of effort among supranational organisations much more seriously.

2.3 Conclusions

In fact, there are many things that countries might reasonably want to regulate on the Internet. They include not just child pornography and incitement to racial hatred, but consumer protection, the defence of intellectual property rights, data protection and taxation. These are all issues on which countries or the Community have legislated already. There is no obvious reason why a libel should be treated differently because it appears on a web site, rather than in a newspaper. The problem is then not whether the Internet should be regulated, but how. First, using existing laws whenever possible, and second, always erring on the side of too little regulation until Internet activities assume a clearer shape. In time, some solutions to Internet problems are likely to emerge from the market itself. Pornography filters are not perfect, but they are sharper than the blunt instruments government censors wield. Shady businesses may be easier

¹³⁵ Martin Bangemann, A New World Order for Global Communications. The need for an International Charter, Telecom Inter@active '97, Geneva 8th September 1997.

¹³⁶ Communication from the Commission, Globalisation and the Information Society. The need for strengthened international co-ordination, COM(98)50.

to set up on-line than in the physical world, but with plenty of information available to all, investigating them is easier for consumers too.

Ultimately the Internet could breed a new approach to regulation, less paternalistic and more trusting in market forces and the responsibility of the individual. Many markets have an incentive to regulate themselves, competing to offer consumers protection from unpleasant surprises. There is no total protection in the off-line world, so why should it be set up for the on-line world?

Characteristic for policies regarding electronic commerce is the interlink between national, European and international relation. Due to the global nature of electronic commerce an national uncoordinated national approach makes little sense. Only a joint European policy, based on a defined common position before negotiating a global level, can avoid contradicting positions of Member States that weaken the position of the Community as a whole in international fora and allows to take a strong position vis-à-vis the US which as very pronounced positions in this area.

3. The socio-economic impact of electronic commerce

Currently there is little published material specifically on the socio-impact of electronic commerce. There is a broader body of information relating to the impact of information technology and advanced communications. In this respect the trends and impacts can be explored by implication. Again the impact of electronic commerce must be viewed in a broad definition embracing marketing, trading, investment etc.

3.1 The effect on world trade (macro economic)

Introduction

In recent times world trade has been consistently growing more rapidly than world output. This can be accounted for in a variety of ways.

1. Barriers to international trade are being demolished.
2. Traded goods are getting “lighter”, that is to say, physically smaller or non-material.
3. Information and Communications technology has been facilitating international trade and co-operation for some time and is increasingly important not only for goods and services but also in capital flows and investment essential to business development.

Electronic Commerce (EC) is one of the foundations on which a global information society will be established. Electronic commerce impacts on two areas:

- Business to business activity,
- Business to consumer relations.

EC in its broadest sense already plays a significant role in the largest corporations and multinationals. The most recent wave of IT implementation over the last 10 years has significantly impacted on many procedures in procurement, logistics and manufacturing and finance.

Whilst the numbers of large companies involved active in international trade are small in comparison to the total, they are the most significant contributors to current world trade levels. Output from multinational corporations (output from assets owned and controlled from another country) had already surpassed the volume of international trade in the 1970s, and over half of this output was concentrated in just 420 of the 35000 multinationals.

Currently supplier to consumer electronic trade is small in national markets and insignificant in terms of international trade.

The macro economic effects of electronic commerce must be seen within the context of these potent forces that have existed for some time, well before the concept of the information society, namely globalisation and dematerialisation. These two factors

appear to have been reinforced by the impact of information and communications technology.

Globalisation may be defined as the tendency of economically developed and economically developing countries to become more interdependent and showing a tendency to converge.

Globalisation is arguably not a new phenomenon, with the late 19th Century producing a rate of globalisation equivalent to or even greater than that currently in effect. This was only halted and reversed by the growth of protectionism during the 1930s, largely instigated by the USA. It has taken a 50 years to dismantle many of the barriers erected during that period. Today with the USA championing the cause of global openness, it may be worth reflecting on the possible impact of a US administration reverting to a more isolationist approach.

Then, as now, globalisation was primarily due to improved communications and particularly changes in relative transportation costs.

Underlying the effect of globalisation, world trade is increasing far more rapidly than GNP, over the last 10 years, approximately twice as fast. Direct Foreign investments have increased by a factor of 3 (invariably multinational investments), and transborder share transactions by a factor of 10.

Electronic commerce is growing most rapidly in the dematerialised sector, where it offers the greatest benefit to supplier and consumer. This includes software, journals, music samplers, images etc. However one cannot ignore the successful purchase of traditional products such as books, flowers and CDs. There are now many manufactured items on the market that can be upgraded by software changes, ranging from modems to washing machines and automobiles. This implies the value of a basic product can be significantly improved by adding immaterial value.

As the value in manufactured goods shifts from the material to the immaterial, manufacturing siting is increasingly less dependent on low cost labour, but more on the availability of local skills and, in many cases, satisfying political needs. Direct labour represents less than 10% of production costs in the industrialised world, whilst transportation costs can still represent a substantial proportion of a large manufactured item. With increased intellectual content, it is now more viable than ever to implant manufacturing/assembly operations close to target markets, and add value from remote locations. This will increase the incidence of truly multinational companies, with no one market considered as the "home" market.

High added value items (processor chips, disk drives, and electrical components) are increasingly easy to transport, with these costs playing an diminishing part in overall cost. This trend will continue to its logical conclusion in non-material goods.

IT&T (Information & Telecommunications Technology) has been a key driver and although the average costs of international telephone calls has only reduced by less than 10% a year over the last 50 years, the trend has been much stronger over the last decade, with the impact of deregulation and liberalisation. Equally, computing power is increasing by 30% per annum per purchasing unit.

Key issues

Will electronic commerce enable global trade to be dominated by relatively few multinationals?

Studies indicate that although cross border co-operation is increasing, generally this is involving less direct control (via equity holdings) than in the past, and is more oriented to joint ventures in R&D and market development. This is true of the traditional manufacturing and distribution industries, including IT. It would appear to be less true for the industries dealing in products with a high information content, where it would not seem necessary to be a true multinational to dominate a global market. It would seem that EC will not substantially affect the trend already in place for the rising importance of multinationals in global trade.

Will electronic commerce significantly increase global trade?

Yes, but it is likely to benefit trade within national borders far more. Electronic commerce in its broadest sense has already had a major impact on large trading corporations. It will enable trading companies to upgrade their market ambitions from current geographic level to the next geographic level, i.e. local businesses will aspire to national activity, national will aspire to regional, and regional will aspire to global. In the longer term, the current trend for increased trade is largely enabled by business to business electronic interchange, and so much of this effect can be discounted. It will be some time before significant direct consumer consumption has any significant impact on international trade except within trading blocks such as NAFTA or the EU.

Current and future trends

Current

International trade will continue to rise faster than production, provided that technological advances and liberalisation continue. However production by multinationals is increasing faster than international trade, indicating that in general business and consumers prefer dealing with local entities rather than transborder.

Companies target their potential markets according to local geographical, linguistic and cultural considerations. Thus for example a company domiciled in Wallonia with poor language skills will tend to target French speaking markets locally and then remotely before crossing linguistic barriers.

Manufacturing will tend to move closer to the target market, especially with physically bulky goods, automobiles, white-goods etc. The rationale for purchasing from outside the "local" supply even via electronic commerce will not exist. Today the cost of purchasing PC's is noticeably lower in some countries than others, however the cost of shipment makes it impractical for the end user to actually purchase outside of his own region. It may be practical to purchase cross border with neighbouring states.

Conversely the lightweight or weightless products can be made in one location and distributed globally because relative transport costs are acceptable. This can be demonstrated in Singapore's dominance in computer disk manufacture, and Taiwan's

dominant position in memory chips. This in itself may point to another trend, namely that of smaller countries or autonomous regions to react more rapidly than larger ones in taking a dominant position over a single product or service. The smallest countries in Europe tend to have the greater per capita GNP, and this tends to hold true around the world. Increasing global trade, will tend to favour smaller entities, and is fuelling the rise of autonomous or independent regions. This is supported by the obvious exceptions of the USA & Germany, but can be accounted for by their federal structures, especially in the USA where the individual states have significant control over their economy. The relaxing of central control in the nation state is a current trend, analogous to the empowerment process in larger corporations, giving autonomy to smaller business units.

Future

India and China between them represent over 40% of the world's population. In both cases entrepreneurial culture has driven them to establish global extended family trading networks, without recourse to electronic commerce.

India with a middle class in excess of 200 million individuals is well positioned between the western and oriental worlds. The entrepreneurial flair and zeal of the Indian and Chinese cultures are evident, and it is the "entrepreneurial culture" that is the key to their future growth.

In the short term infrastructure rather than skills is the current constraint for these economies; however costs and time-scales for implementing appropriate infrastructure have reduced dramatically in recent years. Slow-moving bureaucratic procedures are also a major constraint in such highly-populated countries, but if autonomous regions are freed of these constraints then the strengths of the extended family will again have a proven value in trading relationships. Electronic marketplaces will benefit from such cultures, being closer to the concept of virtual corporations than current western models.

There is a final issue surrounding the increasing economic power of the multinationals, which are less dependent on a single market for regulatory control. IT&T has facilitated much of this independence, and the powerful influence they have over national and multinational policy may exceed the power of those bodies to influence the behaviour of multinationals.

Policy options (Macro-economic)

In global economy terms relating to Electronic Commerce, there are two primary options:

- Continued support for open trading environments and the globalisation process.
- Adopt a more protectionist stance hoping to protect slow-moving European industry from the ravages of global competition in its home markets.

Whilst the second option is not a serious contender in the current political climate, there is significant support for protectionist views in some arenas. A faltering recovery

in the EU, or a significant global recession induced by the current crisis in SE Asia, might enable such voices to wield real influence. It would only require such a reversal of national policy to occur in one or two of the main industrialised countries, to slow or reverse the process of globalisation.

3.2 Business process reengineering (micro economic)

Companies now need to react more rapidly than ever before to a clientele that is more demanding in terms of quality, choice and service. Business will change to meet this demand or new competitors will arise that will meet this demand. The lean organisation is key, providing the best products and services to customers by extracting the best performance from its resources. Brand loyalty has been under pressure for many years, with customers prepared to swap suppliers to gain advantage in the time, quality, and price mix. Obviously electronic markets can enable almost instantaneous comparison of prices and delivery times, with electronic agents able to handle the initial information searching. This has led to the proposition of the “death of competition”. However customers won on price alone are hard to keep, as inevitably there is always someone else that is prepared to bid at a lower price. The qualities of the product and of customer service are more difficult to assess electronically, but provide the basis to build stronger customer bonding.

Companies dealing on a business to business basis have been under pressure for some years to meet these demands from their customers. Organisations dealing with consumers directly or through agents have had less exposure to such demands. Partial or total disintermediation (the removal of intermediaries such as distributors and agents from the supply chain) will leave suppliers exposed to a clientele that is demanding personal service at wholesale prices.

Key issues

The burden of costs being driven down will be passed on to smaller entities in a value chain. This can result in small businesses being technologically tied to larger entities. In some cases this may constrain the ability of smaller companies to compete for other businesses. This is likely to be reinforced by the continued rise of the multinationals with their greater capability of exploiting cost differentials internationally.

Can the majority of existing businesses adapt their working processes to meet the new demands, or will the real advantage go to new vigorous start-ups willing to deal with shifting strategic horizons of a couple of months?

There is little doubt that organisations that can innovate successfully using electronic commerce will reap benefits. The most innovative of the multinationals have already benefited, equally there are many small companies that have managed to develop world-wide brand recognition (e.g. Amazon).

Current and future trends

Current

Disintermediation

There are obvious benefits to eliminating links in the supply chain that do not add value, and apparently replacing traditional intermediaries of products and services. However this is successful on the understanding that the customers know what product or service they want, and knows where to find it. Direct manufacturer/customer contacts are not always successful and it has been adequately demonstrated that suppliers and consumers do not always perceive value in the same way.

New business structures

There can be little doubt that organisations committing to electronic commerce need also to commit to new organisational structures. Marketing and distribution methods may need radical change.

In 1991 Nintendo generated over 1.5 million dollars of profit per employee, with much of the technical development being outsourced to small companies or independent programmers. Fast-growing organisations have far fewer staff, and rely far more on outsourced activity. These fast-moving and flexible organisations will naturally seek to optimise their advantage in the markets by aggressive use of electronic commerce.

The lifespan of a successful corporation may be significantly reduced, with a successful virtual corporation defining, developing and dominating a global market within a few years. Such organisations will have skills based on rapidly changing environments, and when a market stabilises it is likely that they will be overtaken by another new competitor, or that they transfer the stable business into the portfolio of a multinational.

Future

New intermediaries will tend to emerge to add value to the process. This has already happened to a certain extent in the direct sales channels of technology, where numerous publications act as independent advisory intermediaries.

Global Brands

In the past the building of a brand name has taken many years, and very substantial investment in advertising and market research. The WWW has given new entrants the opportunity to develop globally-recognised brands for a fraction of the traditional cost. The recognition of these brands may of course be limited to the community accessing the www.

The reshaping of the corporation will place even more emphasis on global brands, and as hard assets play less of a role on the corporate balance sheet, the value of such brands will have a proportionately greater impact on the balance sheet.

Policy options (Micro Economic)

The options in the micro-economic arena are straightforward. Policy can facilitate corporate change or it can attempt to slow the pace of change. The lower the burden of administration and bureaucracy the more freedom is afforded to meet market demands.

Any administrative burden imposed on electronic commerce will inevitably slow uptake and reduce the ability of companies to compete with those without such constraints. The notion prevalent in the USA that “good corporate citizens” can be trusted to act in the best interests of the broader community is clearly not true when extended to issues such as the environment or even social welfare. Thus clear boundaries need to be established to avoid conflicts of interest.

3.3 Social effects

Key issues

Employment

It is paradoxical that we live in a society of high unemployment but one of significant skill shortages. Skilled labour is already cited as a serious barrier to growth even in the USA which can be arguably cited as a magnet for the intellectually-skilled.

Manufacturing will become less important in the world’s leading economies. Opportunities for employment of the intellectually-unskilled are decreasing and will continue to do so. Intellectual skills are being rewarded, so, for example, although US median salaries have dropped since the beginning of the 90s, those of computer programmers have consistently risen (13% for male, 20% female).

There is a wide-ranging debate on the effects of technology on the labour markets. Wood (1995) notes the "five points of fact" on which most participants in the debate agree. These are:

"First, the demand for unskilled labour (defined as workers with no more than a basic education) has fallen substantially over the past couple of decades, relative to the demand for skilled labour, in most developed countries. This shift in demand has increased wage inequality, or, where labour market institutions have propped up unskilled wages, as in Europe, raised unemployment among the unskilled¹³⁷.

Second, over the same period in these countries, employment in manufacturing, as a share of total employment, has fallen much faster than would have been predicted from its earlier trend¹³⁸.

Third, the timing of these changes in labour markets has coincided with rapid growth of imports of low-skill-intensive manufactures from developing countries¹³⁹.

¹³⁷ Freeman, 1994.

¹³⁸ Sachs and Shatz, 1994, pp. 6-7; Wood, 1994, pp. 201-3

¹³⁹ Sachs and Shatz, 1994, p.34; Wood, 1994, pp. 257-60

Fourth, these changes in labour markets have also coincided with rapid diffusion of computers in the workplace, and hence the most plausible alternative explanation of the declining demand for unskilled workers is an autonomous surge of technical progress biased against them.

Fifth, most empirical studies find that trade has made some contribution to these changes in developed-country labour markets, but only a small contribution, and so conclude by default that the main casual force must have been new technology. "

"The debate concerns the causes of past events, but what about the future? It is striking that even some of the people who argue that trade has so far had only minor effects go on to predict that it will have major effects in the future (for example, Sachs and Shatz, 1994, pp. 51-7; Slaughter, 1994). They argue that the emergence as exporters of labour-intensive manufactures of such vast countries as China and India will greatly expand the effective world supply of unskilled labour, to the serious detriment of the unskilled in developed countries.....

*Relatively unskilled workers in developed countries do, however, have two other things to fear from trade in the future. One is stiffer competition in the world market for middling-skill-intensive manufactures, partly through developing nations such as Korea accumulating skills and partly from the countries of eastern Europe and the former Soviet Union, whose labour forces are already well educated. The second worry is increased tradability of services, due to changes in technology and trade rules, which will expose the unskilled to foreign competition in previously sheltered sectors. And it is clearly just a small step from discussing trade in services to the even more thorny issue of unskilled immigration. "*¹⁴⁰

Given such views, it is not surprising that there are continual pressures to revert to mechanisms to protect employment markets. It is widely agreed that such steps would be of more harm than good. However there are vocal bodies of opinion in many countries that view globalisation as a threat.¹⁴¹

A sharp downturn in the current economic climate and an obvious failure of the "new economy" of low inflation growth could lead to the rise of protectionism.¹⁴²

Education & Training

For Europe to benefit from electronic commerce it is essential that key skills are in place, at a technical level, at a business level, and at an entrepreneurial level. Skill shortages are already constraining the growth of EC in the USA, and in other countries wishing to move rapidly. Aggressive acquisition of technological and entrepreneurial skills by US companies will undoubtedly exacerbate the skill shortage in Europe. The economic migration option will remain attractive as long as real purchasing power incentives remain significant.

¹⁴⁰ Wood, 1995, pp77-78

¹⁴¹ Sir Leon Brittan (Vice-President of the European Commission) Globalisation vs Sovereignty? The European Response. Rede Lecture, Cambridge University 20/2/97

¹⁴² Krugman Paul (MIT), Requiem for the New Economy, Fortune 10/11/97

Economic Migration

For thousands of years the pursuit of improved living conditions and wealth have prompted individuals and family groups to migrate to centres of commercial activity and wealth. Many of these migrants are the most gifted and entrepreneurial of their home environments. Their migration impoverishes their original community, and enriches the new host. In the long term development of electronic commerce should enable migratory pressures to be reduced. New working practices typified by telework will enable organisations to confidently employ talented individuals without the necessity of long term relocation. Although this will inevitably enable labour cost differences to be exploited, competition for scarce resources will tend to create a degree of parity based on purchasing power if not absolute remuneration.

In the medium to long term this could give sufficient impetus to the local economies to inhibit the growth of economic migration, and eventually narrow the gap between established and emerging economies.

Social isolation

Several European supermarkets are experimenting with electronic shopping accompanied by home delivery services. These are not new; home delivery of fresh products was a common feature in the UK and other countries, until the cost of sale became uncompetitive with supermarkets. Web-based ordering and payment could significantly reduce the cost of sale and lead to a resurgence of home delivery services. Initially the ability to shop electronically will appear to be of benefit, and indeed, for many it will alleviate hardship. For many however this is the only excuse they have to participate in a broader community and this could in time encourage isolation in certain social groups, notably the aged, disabled, young mothers and others.

Small Business Community issues

Widespread acceptance of electronic shopping could further impact shopping facilities in smaller communities. Many small businesses are stable, providing services to a local community. In recent years the development of out-of-town shopping malls and hypermarkets have impacted on many of the small businesses. In some countries legislation has been enacted to restrict the growth of out-of-town shopping centres.

Increasing numbers of business start-ups will look to electronic means to develop, market, deliver and support their products and services. Currently this type of activity is often the result of incubator sites such as science and technology parks, where high-tech companies cross-fertilise ideas and activities to produce innovation. Increased virtual business collaboration could enable these incubators to be more widely spread, rather than focused in one region (Silicon Valley is the obvious example in the USA). Such mega-incubators tend to become the focus of attention of financial resources, with economic benefit accruing to the geographic region.

Electronic commerce will enable new start-ups to remain in their originating region, without having to migrate. The key is in the ability of such start-ups to gain funding within their home community. This will not greatly affect the “mega incubators” as they will still be able to rely on innovative start-ups spinning off from their activities.

The small business community in Europe is also disadvantaged when attempting to develop web-based electronic commerce. Currently credit cards are the primary mode of payment across the web, and arguably security mechanisms now in place offer greater protection than the traditional paper-based systems still in use in many retail establishments. It is extremely difficult for SMEs to gain acceptance from European Banks to take “mail order” credit card transactions, and too often when granted, the associated fees are several percentage points higher than equivalent rates in the USA. This is in part attributable to the conservatism of the issuing banks, but it will remain a major constraint to the participation of smaller companies if such a disparity continues.

Current and future trends

Current

At present there is accelerated economic growth with continued high unemployment. This reflects poor distribution of skills rather than lack of opportunity.

A shrinking, ageing population in Europe will mean a significant reduction in the potentially economically active. If we also assume that the young are more open to acquiring new skills, then potential skill shortages could be a significant constraint to future economic growth.

For the foreseeable future the USA will continue to be the driving force of technological entrepreneurship.

Future

Convergence between industrialised and industrialising nations will become more evident. For example Singapore has already achieved the median per capita GDP of the E-U. Both China and India promise to bring massive “middle class” consumer potential and entrepreneurial intellectual workers to the global markets.

Policy options

Although jobs can be created in the short term, longer-term employment growth will only be achieved if the workforce has a skill set that is needed in a global market. Sustained employment will only be achieved if those skills are maintained. In general terms Europe does not lack the technical skills, but more the entrepreneurial skills and mechanisms to allow them to flourish. Despite the efforts of many national and regional initiatives to promote innovation, it would appear that European Industry is less willing to support start up businesses than many of Europe’s competitors.

3.4 A dematerialization effect?

The dematerialisation of the economy is an undeniable change that has been evident for some time. Danny Quah qualifies it further:

“By dematerialisation, I mean that situation where an increasingly greater fraction of GDP comes to reside in economic goods with little or no physical manifestation. Examples of such commodities include computer software, telecommunications,

mathematical and biological algorithms, semiconductors, video entertainment, and database content. These differ, obviously, from either agriculture or traditional manufacturing industry. And neither are they straightforwardly regarded as services: they certainly differ from gardening, hairdressing, or bed-making."¹⁴³

So dematerialisation is not merely the shift from manufacturing towards a service-based economy. There are the new products that have no physical manifestation or weight, and they are characterised by infinite expansibility.

*"An economic object is said to be infinitely expansible when its use by someone does not physically detract from its usefulness to someone else. Thus, the set of computer instructions underlying a word-processing package is infinitely expansible."*¹⁴⁴

Quah in his article further states

"But dematerialisation has other interesting economic implications, not just in the form of externalities determining the inefficiency or efficiency of aggregate growth rates. Dematerialised objects cannot be transferred, but merely replicated: the originating agent in a transaction cannot physically and credibly relinquish ownership of the object. For these commodities, trade is not exchange, but instead reproduction.

"Intellectual property is an instance of a dematerialised commodity. Yet, many models of intellectual property rights continue to carry a corn-leek mentality. In that anachronistic way of thinking, control of intellectual property means controlling its distribution—for commercial software, that would happen by imposing restrictions on its duplication."

The notion of distributing software free of charge is now well established, with many of the world's largest vendors distributing software that can be sampled for a limited period of time, or with reduced functionality. The full potential can only be released by purchasing the right to use a "key" to unlock this power.

Such intangible products can define, create and address unique market niches that can be exploited with relatively few resources. Innovation and industry can be rewarded.

*"Put differently, the potential for income mobility—the originally poor overtaking rich, and in turn become the winners—increases, and with it the incentive for technical progress. Producers work hard on a software product to take over the entire marketplace—the rewards are immeasurably large—and can do so, with reasonable expectation, by pushing the envelope of ideas, not by minor tweaks on the same old idea."*¹⁴⁵

¹⁴³ Danny Tyson Quah (CEP's CentrePiece 1997 February) THE WEIGHTLESS ECONOMY: NINTENDO AND HEAVY METAL

¹⁴⁴ Danny Tyson Quah (CEP's CentrePiece 1996 October) Growth and Dematerialization: Why Non-Stick Frying Pans Have Lost The Edge -

¹⁴⁵ Danny Tyson Quah¹⁴⁵ (CEP's CentrePiece 1996 October) Growth and Dematerialization: Why Non-Stick Frying Pans Have Lost The Edge

Key issues

Access costs to global markets are much lower via electronic commerce, and thus markets with strong entrepreneurial cultures will tend to produce even more starters than they do currently. Europe could be further disadvantaged by this, as the entrepreneurial ambitions of young Europeans already fall short of those in Asia and the USA. For example a recent survey of French school-leavers indicated that over 50% of them hoped to have a career as a civil servant.

Emerging economies can participate and succeed in electronic trade. There is potential for emerging economies to leapfrog the industrial age, provided that they have a sufficient skill base.

A high skill base in the economically active is essential for all countries wishing to gain positive trade benefit from electronic commerce. Such a skill base needs to be maintained throughout the working career of the participants.

Current and future trends

Current

Physical geography is becoming increasingly irrelevant e.g. (microchips are a typical example: the transport costs are negligible in relation to value, they are conceived in one place, are designed in one or more others, and manufactured in several others, tested and packed in others. Overall more than a dozen countries may be involved before product is finally delivered for sale. Each country is using its own relative advantage.

Tracking international trade is becoming more difficult, in 1995 the US Advisory Commission on Intergovernmental relations estimated that 3,3 billion USD of local and state taxes were lost due to mail order sales.

The first entrepreneurial organisation capable of exploitation of a market niche can take a lead to early and potentially global market domination. For example, there were early WWW web browsers, but it was Netscape that managed to exploit and initially dominate the market. Even the might of Microsoft could not dislodge Netscape, and arguably is now only achieving success by tightly integrating www paradigms into the desktop applications arena where it does dominate. Thus a single producer can end up by dominating a global market. Contrary to the industrial age this may not be a bad thing, provided that they cannot prevent new entrants creating new markets niches.

Future

The potential return for innovation by producing a winning idea should increase significantly.

In an increasingly dematerialised economy the economically active will need to rely increasingly on intellectual skills and talents, with manual skills of dexterity and physical force being of less consequence.

The increasing proportion of “intellectually” unemployable will continue to chase a shrinking number of low added value service jobs. The so-called McDonald’s effect, driving down pay and job security will be the result.

Policy options

“With dematerialization no economy can sit back and copy the progress of another – there are no rewards for coming second”.¹⁴⁶

There is a clear case for ensuring that cultural and intellectual assets are not wasted, as these provide the raw material of the post-industrial society. The mixing of cultures has tended to produce innovation, as often through a process of constructive conflict as through integration.

¹⁴⁶ Danny Tyson Quah¹⁴⁶ (CEP’s CentrePiece 1996 October) Growth and Dematerialization: Why Non-Stick Frying Pans Have Lost The Edge

4. Annex: Case studies

The case studies represent best practice cases from different areas highlighting specific achievements. They comprise an example of a publicly finance tele-learning project for SMEs (Internet Akademie), an on-line innovation network (Innonet), an international business network (World Trade Exchange), a global office network and competitive collaboration of innovative on-line magazine (Men's health).

Case Study 1

Internet Akademie

(www.akademie.de)

This Internet service is an example of a successful, publicly financed pilot project with the aim of strengthening "Internet proficiency" of SMEs in Germany. The continuously growing number of participants demonstrates the need for an unbureaucratic telelearning service among SMEs and in particular micro-enterprises that cannot afford to spend enormous amounts of time and money on Internet education for their employees.

In a pragmatic approach the Internet academy provides an on-line on-the-job knowledge programme. Participants have access through the Internet to the modular course system including topics such as Internet basics, development and promotion of Web sites, integrating data bases in Web sites, the development and use of an Intranet system within the company, electronic commerce, marketing and legal and social implications. Through tests on the net the comprehension is tested. In exercises, such as the design of an own Web page the knowledge is applied in a practical business oriented way. Teachers of the akademie correct the trials and suggest improvements. Communication functions via E-mail, mailing list and fora. In addition the projects experiments with workshops over work group servers, chat, video, Internet telephony conferences and Web surfing in groups.

The BizlinX service of the akademie is a country oriented course system for the establishment of international business contacts. The catalogue was established to provide German SMEs with trade information to lower barriers for their international engagement. The service contains "hand selected" trade information and business relevant links in the WWW for 13 countries in the Asian Pacific region. Besides economic information and contact addresses tips are given for entering the foreign market. An extension of the service to Eastern Europe and South America is planned.

The service is limited to German SMEs with less than 250 employees. Companies involved must be prepared to have one or more employees take an active part in the programme. That means that they permit participating employees to spend time for learning and practising during working hours and provide the necessary infrastructure. Currently 2270 participants from about 1700 SMEs take part in the project. The vast majority, 71,3%, of these SMEs belong to service sector, 18,5 % are in the retail sector, 8,2% are from industry, 0,6% from transport and 1,4% are from other sectors. Also, 91% of the participating companies have less than 50 employees, about 76% are micro-enterprises. As a result of its training programme the akademie has created quite a few success stories such as a real estate agency in Potsdam or the book shop

F.J.Lehmans in Berlin, which realises an annual turnover of one million DM over the Internet.

The “akademie.de” is a non-profit project supported by the German Federal Ministry of Labour and is financed by the European Social Funds. Funding will continue until mid 1999.

Case Study 2

Innonet AG Coordination

www site: <http://www.innonet.ch>

Background

The Innovation Network was designed to provide a presentation and communication platform / meeting point for Swiss innovation and business over the internet. It serves as an information system for researchers, inventors, the industry, innovative entrepreneurs and company founders, but is also of interest to economic promoters, financiers and branches of the industry that represent growth potential and to all those interested in economic development and innovation in general. The CASH Entrepreneur Exchange is integrated into this network. Through the Exchange, those offering a service or product come in contact with potential partners - both cooperative and business - as well as licensees and financiers.

There are five categories:

- The Entrepreneur Center: meeting point for entrepreneurs and SME's; tips and hints for getting started in business, overcoming barriers, streamlining the organization and growing successfully
- The Business Center: Virtual Market for innovative ideas, products and companies; hints and tips for marketing; INNOFAIR, a 24-hour, 365-day internet exhibition of the absolute latest; Swiss products at World Fairs
- The Finance Center: Everything on venture capital, capital forums and corporate finance; who invests and why, how they decide, how to make a professional presentation, foundations that award innovative ideas with start-up funding
- Research & Development: Platform for scientists, researchers and inventors; useful organizations to contact for contacts, universities and their special interest activities, EU R&D programs, organizations that pool and coordinate research efforts
- Business Location: Presentation of potential research and worksites in Switzerland; organizations that promote the economy, cantons that provide optimal developmental conditions, tax information

The Outcome

Because INNONET is an interactive service in the internet, INNONET “only” acts as an intermediary, so we presently have no figures to reflect concrete results. We are in contact with several institutes who will be analyzing the results of our work in the future.

Purely the number of users/subscribers, however, testifies to the necessity of an innovation network. With over 26,000 hits per month, INNONET occupies a top position in providing information for small and middle-sized companies and young entrepreneurs.

Case Study 3

World Trade Exchange™ / Internet Tradeline, Inc.

WWW site: <http://www.wte.net>

Background

World Trade Exchange™ (WTE) is an international, business to business network which provides free and universal access to updated, detailed information about SMEs and their products. The system facilitates spontaneous, electronic commerce transactions by allowing business to business browsers to select products displayed on WTE and immediately initiate the exchange of purchase orders, acknowledgments, and invoices, using the WWW as the medium. WTE is now available in both English and Russian-language versions.

Additionally, WTE links together WebCommerce sites. These sites, created for individual companies, use the WWW as a medium to facilitate daily business operations, by exchanging commerce documentation, communicating pricing and other product offering changes, and facilitating the sales process.

ITI, an American-based company, was incorporated in 1994. ITI's services are currently available through local representatives throughout Central and Eastern Europe. It is expected that in the course of 1997 additional partnerships will be formed in Western Europe, West Africa, the Middle East, the Pacific Rim, and Latin America.

Locations:

Austria, Belorussia, Bosnia-Herzegovina, Croatia, Czech Republic, Cyprus, Former Yugoslav Republic, Germany, Greece, Hungary, Italy, Kazakhstan, Komi Republic, Moldavia, Poland, Romania, Slovakia, Slovenia, Switzerland, Tatarstan, Ukraine, USA

Organizations Involved:

Internet Tradeline, Inc., ITI Switzerland, ITI Polska, ITI Hellas, ITI Cyprus, ITI Italy, International Trade Management, Fair Business Line Holdings, Internet Fair Business Line Slovakia

Best Practice Elements:

ITI's electronic commerce services are particularly well suited to the needs of small and medium-sized enterprises because of the range of integrated services provided, the cost-savings which the services offer, and the universal accessibility of the services.

ITI provides a wide range of electronic commerce services, thus eliminating much of the complications facing SMEs when entering the electronic marketplace, as well as most of the financial investment (in hardware purchase, technical training and support personnel) otherwise required. These services include both a private network for conducting commerce with current business partners, and exposure within an international, business to business network, including detailed product information, for making new business contacts. Furthermore, ITI provides all data processing, hosting, and maintenance, in addition to user training, so that SMEs do not need to contract multiple providers.

This integrated solution further benefits the SME because the company and product information is accessible with hierarchical access levels through both the public and

private network. This allows SMEs to maintain and update all of their electronic corporate and product information in one location, eliminating redundancies and errors. All purchasing activity is based on the SME's online product catalogs, which can be changed by the client from its own desktop. This minimizes the errors, manual processing time, and therefore the cost of transactions, enabling SMEs to better compete in the global marketplace by decreasing their traditional operations costs, and gaining greater access to international markets on a cost-effective basis.

Furthermore, all of the client's online product and company information is developed from its existing marketing and sales materials, thus minimizing the investment required for creation of additional, online marketing materials. ITI's processing and hosting charges are cost-effective not only relative to other electronic commerce services, but as a supplement to traditional methods of printing and disseminating such information.

ITI's services utilize the existing infrastructure of the World Wide Web because of its universal accessibility. Furthermore, system requirements are limited to a personal computer with Windows operating system, thus minimizing additional hardware purchases. ITI's internal Systems Consulting Group can also provide a back-office feed to integrate the company's online order submission through its WWW site with their legacy back office system, to maximize efficiency.

Finally, ITI's international network of representatives provides an active, local representation for the project. These international partners proactively market the benefits of electronic commerce within their local business communities and as appropriate for the local culture.

Ongoing Outcome:

All of the electronic commerce tools mentioned above have already been completed, tested, validated, and are operational. They are widely available for immediate deployment by SMEs.

ITI currently provides information on more than 30,000 companies through World Trade Exchange. These companies represent a cross-section of industries and geographic regions. The information provided on each company ranges from a directory listing with contact information, vendors' gross annual sales, and specialty, to online product catalogs, corporate publications, and multimedia presentations.

In addition to making their product and company information available through World Trade Exchange, a number of companies are currently in the process of establishing WebCommerce sites to facilitate transactions with their current business networks. In meetings with its customers, ITI has been advised that its electronic commerce services will significantly improve their business results.

ITI expects that the full implementation of these systems will result in the following:

- Increased competitiveness, and reduced isolation on a global scale for SMEs
- Improved global access to company and product information related to individual SMEs
- Facilitation of online commercial transactions
- Promotion of electronic commerce as a valuable tool for SMEs to conduct international business
- Increased access for SMEs to electronic commerce tools
- Decreased communications costs

Reduced operations costs through elimination of manual processing and errors in order processing, as well as significantly improved media for publishing and distributing product and other marketing information.

Case Study 4

Global Office Network

WWW site: <http://www.gon.org>

Background

Take an international association with members in excess of 60 geographical locations spread over more than 20 countries, which are run by multi-cultural and multi-lingual individuals, add a dash of the need to cross-refer clients from all over the globe, whip up the problems caused by operating on different time zones, stir in the need to promote the association effectively in the global marketplace and, believe it or not, you do not have a recipe for disaster.

The Global Office Network is just that – an association of companies that rent office accommodation and services to small companies or stand alone executives who do not want the hassle or overheads of running an office and employing staff, or companies which are setting up international offices and need temporary accommodation.

The rapid growth of GON provided some initial problems. At the simplest level it meant the phone calls between members had to be made at socially difficult times. Distribution of agendas, minutes and other paperwork was an expensive business, both in terms of the amount of paper it consumed and having a member of staff standing at a fax machine for hours on end feeding the machine with paper.

At a more complex level, decision-taking was slowed down by the fact that presence meetings were often dominated by small, often trivial, details and many of the major topics for discussion never got their relevant allocation of time.

In 1995, Richard Nissen, co-chairman of GON, approached Kevin Tea who was a web marketing consultant who was also a manager on a forum on CompuServe which dealt with teleworking. It was agreed that GON should be allocated a private area within the forum with the messaging section acting as a virtual or electronic boardroom, and the library area as an access point for storing minutes, agendas, etc.

One of the immediate benefits was that the free software donated by CompuServe gave members an email address and this straightaway enhanced communications between members. Members in Asia could pick up messages from members in Europe when they logged in at the start of their day and their replies were then received when the Europeans came into their office the following day.

Despite the initial success of the CompuServe experiment, it became clear that it was not the panacea at first envisaged as many members in Europe and Asia did not have local dial-in nodes and connecting to CompuServe was an expensive option. After 18 months it was decided to leave CompuServe and establish a web site of their own.

The initial site was a simple “suck it and see” experiment, with very little in the way of interactive information. A couple of basic, introductory pages, lead to a list of members my country and a simple contact page completed the site. Despite its rather Zen minimalist approach, the site generated a lot of interest among members and potential clients and it was decided to invest further to enhance the site.

First it was moved away from a slow and limited Unix-based server solution to a new host running Windows NT with FrontPage extensions. Members, as well as having a general listing, were given the opportunity to have links to their own web sites or have sub-pages built into the main site which provided the facility to provide more information about themselves and their companies.

Possibly the most important new addition was that of a WebForum facility. This provides threaded messaging in a predetermined number of conference areas where

visitors can ask questions of GON members, discover more about the services and facilities they have on offer and even pre-plan their arrival in a city and book an office over the web. For those with Java enabled browsers, there is the opportunity to hold real-time conferencing via a special “chat” option.

GON has recently strengthened links with the American market by entering a co-operative agreement with the Alliance Network in the USA and preliminary talks between the two organisations on sharing data via respective web sites are underway.

Best Practice Elements

A clear demonstration of culturally diverse organisations with a common business objective, finding the most effective collaboration mechanisms. Collaboration is not an exact science, several iterations may be necessary before the correct formula is found. Above all a clear business goal needs to be defined, to ensure the driving motor for cooperative activities.

Case Study 5

Men's Health, Esquire and Rolling Stone - Competitive collaboration.

WWW site: <http://www.menshealth.com/>

Background

This next case study in most senses has little to do with electronic commerce, except that it exemplifies the way in which smaller organisations can co-operate in a new environment to combat an all powerful competitor. Despite being natural competitors for the second position in this market, the collaborators found a way to take on and defeat the market leader. The conduits for this co-operation could just have easily been e-mail, video conferencing, rather than fax and face-to-face meetings.

With a circulation of around 1.3 million copies, *Men's Health* magazine is the second largest men's magazine in the USA. Despite being a newcomer it has rapidly overtaken its two long established competitors--*Esquire* and *Rolling Stone*. The combined circulation of these three just about equals that of *Sports Illustrated*, the largest men's publication with around three million subscribers.

In 1995, the three smaller competitors were stimulated by a potential advertiser, Haggar, to collaborate in a virtual team rather than compete. Obviously, the incentive would need to be strong! Under normal circumstances, *Men's Health* would compete with *Rolling Stone* and *Esquire* for the same advertising budgets. In this case, however, the agency representing "Haggar" a men's clothing manufacturer, approached the three competitors with a proposal. It was offering to buy its new advertising campaign jointly from the three competitors or from a combination of titles within Time Inc., which included *Sports Illustrated*. The campaign was large with multi-page spreads in all three magazines over a two year period, including a special publication for Haggar customers that would also be distributed as supplements to in-flight magazines and in health clubs. The proposal required a rapid decision to start collaboration within a week, and three weeks later they had won!

Results

Using what we now consider largely traditional mechanisms of telephone conferencing, faxes, and normal meetings, the three competitors spurred by a common goal managed to achieve a high degree of co-operation. In this period the internal groups had established the strategy, developed the marketing approach, laid out the final campaign and had been selected by Haggar in preference to their dominant competitor. This co-operation was hailed by the industry as an example of new business approaches, both for the innovative suggestion of the customer, and the response of the three competitors. Such shifts in attitudes are increasingly necessary for the smaller competitors in many industries, with ad hoc collaboration levelling the playing field where global giants appear increasingly invulnerable.