Review

European E-Business: A wide Range of Factors

Dotcoms are in their death throes and NASDAQ has plummeted, so global e-business must be in trouble, too? Hardly. Just as far-sighted companies are pushing ahead with e-business initiatives (though now with more emphasis on cost-cutting efficiencies), so countries are continuing to embrace the Internet as an ideal conduit to the global marketplace. For many, indeed, e-business represents a chance not only to connect with the rest of the world but also to catch up.

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Just how are countries around the world faring in their efforts to harness the Internet? Which are moving rapidly to upgrade their communications infrastructure and dismantle barriers to global e-commerce, and which are merely giving the Internet lip service? "E-readiness" is shorthand for the extent to which a country's business environment is conducive to Internet-based commercial opportunities. It is a concept that spans a wide range of factors, from the sophistication of the telecom infrastructure to the security of creditcard transactions and the literacy of the population. Countries need to tick off a long list of prerequisites, before they can stimulate the creative ferment that the US has witnessed over the past five years. Points of concern in the development of e-business are:

Policy matters

The legend of the Internet is that it has evolved so successfully precisely because it escaped government notice and thrived on self-regulation. It is true that an entrepreneurial culture is unambiguously good for e-business. But active government support is important as well. A prerequisite to affordable Internet access, for instance, is a competitive telecom market. So for countries where a monopoly provider has traditionally supplied a large chunk of state revenues, e-business cannot take flight unless the government moves boldly and firmly to liberalise the sector.

Connectivity

E-business simply cannot function without adequate telecommunications and Internet infrastructure. "Connectivity" measures the access that individuals and businesses have to basic fixed and mobile telephony services, including voice and both narrowband and broadband data. Affordability and availability of service (both a function of the level of competition in the telecom market) also figure as determinants of connectivity.

E-commerce Consumer and Business Adoption

Payment and logistics systems form the backbone of this set of criteria. Here we evaluate the extent of creditcard ownership as well as the existence of secure, reliable and efficient electronic payment mechanisms, the ability of vendors to ensure timely and reliable delivery of goods, and the extent of website development by local firms.

Legal and Regulatory Environment

The legal framework governing e-business is a vital factor that can enhance or inhibit the development of electronic trading. We consider the extent of legal support for virtual transactions and digital signatures. Ease of licensing and the ability of firms to operate with a minimal but effective degree of regulation are other criteria.

Supporting E-Services

No business or industry can function efficiently without intermediaries and ancillary services to support it. For e-business markets, these include portals and other online intermediaries, web-hosting firms, application service providers (ASPs), as well as website developers and e-business consultants.

Social and Cultural Infrastructure

Education and literacy are necessary preconditions to a population's ability to navigate the web and drive future domestic Internet development. Entrepreneurship and risk-taking play such an important role in building new e-commerce models.

Taking these points into consideration an extract of a European-wide perspective is presented in the following pages. It is interesting to understand and compare the effort that countries are taking to integrate e-business into their respective economies.

This review is useful not only for executives keen on using the Internet to expand into new markets, but also provide to an invaluable benchmark for the countries themselves.

Western Europe

Austria

Domestic business-to-business (B2B) e-commerce has been hampered by a chronic lack of transparency in Austrian business dealings, according to the consulting firm A.T. Kearney. Austrian firms in all sectors are prone to keeping company information under wraps and prefer to keep negotiations closed. As a result, online procurement has yet to take off in the country.

Some 110,000 Austrian households, or 3% of the population, currently buy goods and services on the Internet, according to a survey by Austrian polling institute Spectra. However, the numbers are not increasing as rapidly as pundits predicted, as Austrians have proved reluctant to buy online. Boston Consulting Group Vienna found that 16% of Austrians who are unwilling to purchase online claim that it is unsafe, 14% say the lack of human contact is the main drawback and 11% cite the inability to check out the goods.

Like the rest of Europe, Austria is suffering from a lack of IT specialists. By 2003, there will be an additional 13,000 open positions in the IT sector in the country, according to a study by research institute WIFO. There are currently some 58,000 workers employed in the domestic IT sector. However, though it is widely acknowledged that there are not enough qualified domestic workers to fill the positions, Austria, unlike Germany, has so far been unwilling to offer work permits to foreigners to cover the shortfall.

Watchlist

According to a study by Booz Allen & Hamilton, the Austrian e-commerce market will be worth ATS 6.6 billions ($ 447 m) in 2000, up from ATS 1.9 billions last year. Further growth potential is evident in the forecast increase in the number of Internet users, which is expected to rise to 3.25 millions in 2005 from 1.67 millions this year.

Infrastructure

E-commerce spending, per user 1998: E74
Internet penetration, 1999: 28%
Mobile penetration: 52%
Online sales, as a percentage of total retail sales: 0.23%

Sources: Booz Allen & Hamilton, Boston Consulting Group Vienna, ÖAW

Regulatory Environment

Austria has implemented the EC Directive concerning electronic signatures by adopting the Electronic Signature Act (Signaturgesetz), which entered into force on January 1st of this year.

Belgium

E-Business Marketplace

Belgians appear to have taken to e-commerce more slowly than citizens of other Western European countries. Belgium is a wealthy and sophisticated nation with advanced telecommunications and transport, a well-educated workforce and highly developed financial and legal systems.

Company Strategies

Belgian-based Internet companies have been innovators in such areas as online financial services, electronic payments and security systems. Like their large international rivals, they treat the entire European Union as one large open market.

Internet Penetration and Infrastructure

Belgium has a well-developed and liberalised telecom market in which most competitors are fully or partially foreign owned. Mobile phones and Internet connections have expanded rapidly, and broadband has enjoyed a recent surge in popularity.

E-Readiness Ranking

Belgium ranks as an "e-business contender", according to the ratings that we have developed. Its relatively high score, 7.1 out of a possible 10, results from the favourable conditions it offers for e-commerce, but place it slightly behind most of its closest neighbours.

Watchlist

Total Belgian e-commerce revenues (both business to business and business to consumer) amounted to $ 186 m in 1999, according to the US State Department. Its analysts expect trade to grow to $ 13.8 billions by 2004. Online retail sales totalled EUR 72 m in 1999, according to Forrester Research, which predicts that such purchases will amount to 7.6% of all retail sales by 2005.

Infrastructure

Internet penetration rate (June 2001): 26 per 100
Number of ISPs (2000): 75
PC penetration (1999): 31.5 per 100
TV ownership (1999): 52.3 per 100
Cable TV subscribers (1999): 37 per 100
Fixedline teledensity (2000): 51.4 per 100
Mobilephone teledensity (2000): 55.2 per 100

Sources: Europe Media; International Telecommunications Union; Internet Service Providers Association; Pyramid Research; World Bank.

Regulatory Environment

Belgian laws generally must follow legislation adopted at the EU level, and these respect intellectual property rights and maintain high standards of data security. National laws uphold electronic signatures and impose taxes on e-commerce transactions; meanwhile, the authorities have cooperated to resolve these issues as they arise on the European level.

Denmark

In Denmark, getting people to use the Internet has proved to be rather simple; Scandinavians are earlyadopters in general and the levels of Internet use in these countries are among the highest in Europe. While Internet usage is high despite expensive per-minute rates from phone-line charges, e-commerce is only beginning to get rolling. Denmark's heavy debit card (as opposed to credit card) usage is one stumbling block, but one that will certainly be overcome in the fierce competition to win the hearts and wallets of the affluent Danes.

Watchlist

With Danish and European Union legislation either in effect or about to come into force, digital signatures will have the validity of paper signatures.

The Dankort debit card is many times more popular than credit cards. Unfortunately, this limits Europe-wide online payment potential because the card is not accepted outside Denmark. Denmark has an excellent telecommunications infrastructure, with the third highest penetration in the world of fixed and mobile subscribers combined (after Sweden and Finland).
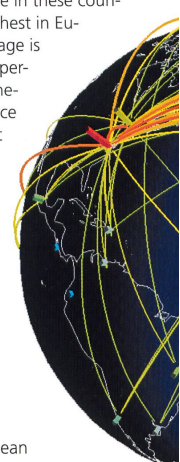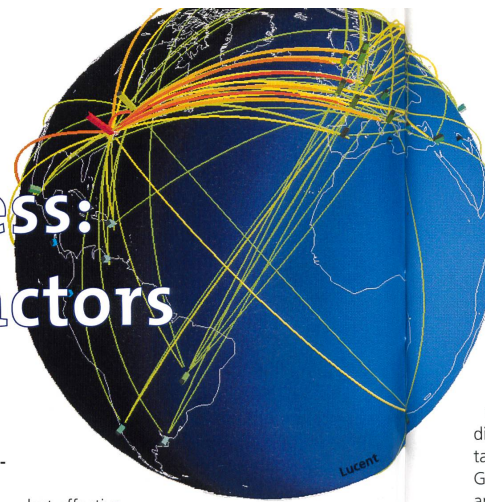
Infrastructure
ISPs: 6 major, many more smaller (US & Foreign Commercial Services)
People online: 1.9 m (Jupiter Communications)
PCs: 61% of homes (US & Foreign Commercial Services)
TV penetration: 97% (Eurodata TV)
Cable/satellite TV subscribers: 69% of homes (Carat Denmark)
Main phone lines (mid-1998): 3.3 millions
Cell phones (mid-1998): 2 millions, 36.5% of population (UMI Telecommunications) 1999 figures, except as noted.

Regulatory Environment
The Consumer Ombudsman of the Danish Consumer Agency (http://www.fs.dk) is responsible for content regulation. Laws applying to non-electronic aspects of business and society are applied to the Internet (eg, consumer protection, corporation laws). The Ministry of Trade and Industry studies the industry and issues reports about directions for growth. The Ministry of Research and Development works on potential e-commerce legislation.

Finland
Finnish Internet users have been reluctant to purchase goods over the Web, with only 17.5% of individual users shopping online in 1999. This is expected to increase significantly by 2002 to 36.8%, according to Jupiter Communications. The implementation of new security measures is expected to help consumer confidence and encourage the growth of e-commerce.

Watchlist
Companies such as Visa and Nokia are gearing up for the advent of shopping by mobile phone. Nokia expects that m-commerce will soon become more important than e-commerce.
The Finnish government is providing Finns with national e-dentification cards, which are expected to facilitate online commerce.

Infrastructure
ISPs, 1998: 65
People online, Q1 2000: 2.2 millions
PCs, 1999: 42% of all households
Cable TV penetration (TV households, 1997): 47%
Satellite penetration (TV households, 1997): 14%

Main phone lines, 1998: 2.86 millions, per 100: 54.8
Cell phone subscribers, 1999: 57.1 per 100
ISDN lines, 1998: 1.13 per 100

Source: Country Profile, Telecom Finland Helsinki Telephony Company, Ministry of Transport and Communications

Regulatory Environment
Consumer protection laws are the same for standard transactions as for e-commerce purchases. The government is encouraging self-regulation and is following the standards set by the EU. The government recently made spreading viruses over the Internet a punishable offence.

France
It would be fair to say that France was late to realise the full significance of the Internet and e-commerce, but it is now making efforts to catch up with some of its European neighbours who were faster off the starting block.
French traffic over the Internet rose by 240% in 1998 and there were 2.5 times more websites than in the previous year. The number of Internet users doubled the following year and it is now estimated that there are around 4m people using the Internet for either personal or professional reasons.
France still only accounts for less than 1% of the total number of global websites, far behind European neighbours such as Germany and the UK.
Opinion is divided as to whether France has been handicapped by the development of e-commerce by the very existence of Minitel, an online service launched in 1983. Run by France Telecom, Minitel allows users to seek information and shop online through a small terminal. Still in use by some 13 millions of France's 59 millions people, Minitel has developed independently of the World Wide Web and competes directly for online commerce revenues. French consumers may take some convincing to leave their Minitel terminals behind.
A growing number of domestic Internet entrepreneurs is competing for the opportunity to do so. Fed by a sharp increase in venture capital funds (an estimated $ 320 m in 1999) Internet start-ups have begun to populate a Paris neighbourhood dubbed "Silicon Sentier". France's new high-tech stockmar-

ket, the Nouveau Marché, modelled after the US Nasdaq and Germany's Neuer Markt, provides the exit strategy to stoke aspirations of Internet millions. More than 20 Internet stocks filed for IPOs on the Nouveau Marché in the first two months of the year.

Watchlist
Legislation aimed at guaranteeing the security of electronic transactions (Loi sur la societe de l'information) was to be presented to both houses of parliament in 2001.
France Telecom relinquished its monopoly on local loop service by 2001. The newly liberalised market will encourage competition in the potentially lucrative market of high-speed Internet access. According to a study by the Benchmark Group, business-to-business (B2B) dominates e-commerce activity. B2B revenues were estimated at about ten times the scale of business-to-consumer sales in 1999.
Societe Generale, the second largest French bank, reported in May that online banking was growing by 50% annually. Fimatrex, the bank's online brokerage, was growing by 100%.

Infrastructure
ISPs, 1999: 200
Internet penetration, 1998: 5%
PC penetration (% of households): 26%
Cable TV subscribers, 1998: 2.5 millions
Main phone lines, 1998: 34.1 millions
Mobile subscribers, 1999: 15 millions

Sources: Pyramid Research, IDC, ART, Ecran Total

Regulatory Environment
The first step towards defining the legal framework for electronic contract was completed in early 2000, when both houses of parliament approved a bill granting legal recognition of electronic signatures.

Germany
Internet growth in Germany has been remarkable and the country's large, mostly affluent population has enormous market potential. With a top-notch technological infrastructure already in place, Germany may outshine all other European nations in terms of e-commerce growth. Nevertheless, Germany and the EU as a whole still have a way to go to develop

the same sort of dynamic entrepreneurial culture as that in the US. A German initiative to allow increased immigration of programmers and engineers is helpful, but most of the stars will still want to go to the US.

Watchlist
At the end of 1999 Germany led the EU in terms of Internet usage, with 19.5 millions people surfing the Web. Government officials are studying a proposal for a tax break on stock options to encourage growth in Internet startups. Domestic consumers have driven demand for higher-speed Internet connections. ISDN technology currently has a market penetration rate of 30% in Germany.

Infrastructure
Internet hosts, 1998: 1.4 millions
Internet access (no. of households), 1999: 10 millions
PC penetration (% of the population), 1999: 25
Cable TV subscribers, 1998: 18 millions
Main phone lines, 1998: 37 millions
Cellular subscribers, 1999: 23 millions

Sources: Deutsche Telekom; EITO; Debitel.

Regulatory Environment
Few areas of commerce have not been invaded by Internet ventures. Vitago.de (www.vitago.de), an online drugstore based in Munich, is attempting to break into Germany's pharmaceutical market, considered one of the most restrictive in the world. For example, pharmaceutical chains are forbidden in Germany and advertising is strictly limited. Regulatory authorities will have to loosen some existing rules to allow the venture to grow to its full potential, but such a move is likely.

Greece
E-commerce is in its infancy in Greece. In 1999 there were some six Internet hosts per thousand people in Greece compared with more than 20 on average in the rest of Europe. The main problem hindering growth is the age and infirm condition of the telephone network, coupled with the lack of secure payment systems.
Once the infrastructure is in place, online commerce – particularly WAP-based (wireless application protocol) m-commerce – is likely to more than double each year. Infrastructure investment re-

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ceived a boost when the state telecom company's monopoly expired on some services at the end of 2000.
With a cell phone penetration rate of 28% and only 1% going online through a PC, the likelihood of m-commerce playing a large role in the future is strong.

Watchlist
Once the infrastructure is in place, online commerce – particularly WAP-based m-commerce – is likely to more than double each year.
Many services that would appear to be natural fits with online execution instead go to Greece's network of ATMs, which have heavy support from major banks who are reluctant to move away from a profitable service.

Infrastructure
ISPs, 1998: 256
People online, 1999: 1%
PCs, 1998: 756 000
TVs, 1993: 2.3 millions
Main phone lines, 1998: 6.03 millions
Cell phone penetration, 1999: 28%

Source: www.open.gr, Merrill Lynch, Strategic International, CIU, OTE

Regulatory Environment
While the government has yet to address issues of e-commerce, the telecoms regulator has defended the staterun OTE landline monopoly in a way that has been detrimental to Internet growth.

Ireland
With only 2% of adults having made an online purchase, the people of Ireland are still relatively unfamiliar with e-commerce and

the Internet itself. Internet use is growing at annual rates far in excess of 100%, but that is starting from very low levels. Problems with Ireland's future as an e-commerce market include:
– Small population of 3.7 millions
– Low creditcard penetration and distrust of providing card information online
– Very slow rate of e-commerce adoption by businesses
– Dominance of UK and US e-commerce vendors over homegrown firms
– Looming shortage of skilled IT workers
– Slow roll-out of high-speed networks.
Although the inhabitants of the Emerald Isle have not shown much enthusiasm for a digital future so far, the government is pushing forward with admirable zeal. Since 1997, the government created Information Society Commission has been analysing the digital economy's effects on Ireland and educating citizens on how to respond to these changes. The government has loudly trumpeted its desire to be the e-commerce hub of Europe, and has proven itself adept in recent years at attracting high-tech foreign investment.

Watchlist
An e-commerce bill, which aims to create an attractive regulatory environment for high-tech companies, was signed into law in July.
The government is establishing an e-commerce arbitration panel, which will be operative by year-end.

Infrastructure
Top five ISPs, 1999: two paid, two free, one hybrid (TrendWatch Technology)
Internet penetration, 2000:
16.3%, 592,000 (Amarach Consulting)
PC penetration: 36% (Amarach)

PC with modem penetration: 23% (Amarach)
TVs, 1990: 1 million (CIA)
Main phone lines, 1987: 900,000 (CIA)
Cell-phone penetration: 29% (Merrill Lynch)

Regulatory Environment
The Irish government's Department of Public Enterprise is pushing to develop the most favourable regulatory environment in Europe for e-commerce companies to locate in.

Italy

Italy still lags behind most industrialised countries in the use of PCs and the Internet. The government has announced plans for a package of proposals aimed at boosting the use of IT in the Italian economy. These measures include giving educational credits to young people so they can be trained to use computers.

On the upside, there is potential in Italy for the development of mobile commerce (m-commerce) as Internet access by cell phone becomes more prevalent. The Italian mobile market is Europe's most dynamic, with penetration rates of 52% and revenues of nearly $12bn at year-end 1999. Total revenues from mobile voice services in Italy are expected to stabilise at around $ 15 billions by 2004, and total mobile penetration will reach more than 75% of the population by that time.

Watchlist
Italy passed legislation in 1999 to implement EU directive 9/96, extending copyright protection to paper and electronic databanks created since January 1st 1998. Besides the 70-year standard copyright protection for the "author" of the databank, the law provides protection for the investor of money, time or work in the compilation of databanks for 15 years. Since May 1998 Italy has been on the priority watchlist of the 15 US trade partners that do not guarantee adequate protection of intellectual property rights. The Business Software Alliance estimate that 45% of software used in Italy in 1998 was pirated, at a value of more than $ 357 m. Italy ranks eighth worldwide in terms of economic loss suffered from the illegal use of software.

Infrastructure
ISPs: 500
People online: 10.3 millions (17.85%)

PCs: 10.5 millions
Cable TV subscribers: 84,000
Main phone lines: 26.3 millions
Cell phone subscribers: 30.2 millions (52%)

Sources: Pyramid Research; Databank Consulting; and European Survey of Information Society, 1999 figures.

Regulatory Environment
Italian law recognises and protects all standard classes of intellectual property, including patents, industrial designs and models, trademarks and service marks, and copyrights. Damages may be awarded in all infringement cases in Italy. For violations of patents, designs and models, the law provides for fines without the setting of a minimum or maximum.
Several other EU legislative directives on e-commerce await adoption later this year – on digital copyrights, digital money and distance selling of financial services.

The Netherlands

The Netherlands can claim to be one of the most wired countries in the world. This has less to do with historical Internet penetration rates (only just over one-third of the Dutch reportedly have access to the Internet) than the country's state of mind. The Netherlands has always been a liberal and deregulated business environment, having far more in common with the Anglo-Saxon economic model than that favoured by its continental European neighbours. The country is remarkably open, having functioned as a global trading hub for at least four centuries. And it has a tradition of freedom of expression that is a prerequisite for continuing growth in Internet use.
There are few immediately foreseeable problems with the development of Dutch e-commerce. European e-commerce leaders often do not feel the need to build local language sites: the Dutch are famously multilingual, so this overcomes the potential problem of the market being underserved because of its small size. The Dutch will happily shop at American or British e-commerce sites. The only significant cloud on the horizon may be the further clogging of the country's already jammed (and generally narrow) roads, as more vans are required to deliver goods ordered online.

Watchlist

E-commerce marketplace
Online shopping is catching on slowly, but the Dutch stand to shine in B2B commerce owing to the high proportion of companies already making use of EDI before the Internet era.

Infrastructure
E-commerce in the Netherlands is well served by a sophisticated infrastructure and a highly competitive marketplace for communications services.

Law and regulations
The legal environment is one of the world's most conducive to e-business, with digital signatures, intellectual property protection and an e-commerce code of conduct already in place.

Taxation
EU-standard VAT applies to e-commerce purchases. The Dutch are expected to conform to global standards on Internet taxation – as soon as there are any.

Infrastructure
ISPs: wide variety of paid and free services
Internet penetration, 1999: 20% of households (Information Society Promotion Office); 2000: 31% of population (e-Marketer)
PCs penetration: 59% of households (Information Society Promotion Office)
TVs, 1994: 7.6 millions (CIA)
Cable TV subscribers: 1.54 millions (Financial Times)
Main phone lines, 1998: 8.43 millions (CIA)
Cell phone penetration: 31% (Merrill Lynch)

Regulatory Environment
The Netherlands claims to be the first country to have developed an e-commerce code of conduct, designed to increase trust in electronic transactions and attract inward high-tech investment. The three pillars of the code are reliability, transparency and confidentiality. The code, issued in late 1999, is being examined by the EU and the OECD, as a potential model. It remains to be seen, however, just how much application of this code will modify consumers' tentative attitudes towards e-commerce.

Norway

Norway is one of the most prosperous and stable societies in the world. On the one hand, it enjoys the benefits of the liberalism and tolerance typical of the Nordic countries; on the other, it has a substantial wealth advantage over its neighbours, thanks to its vast reserves of North Sea oil and gas. Unlike Sweden, Finland and Denmark, Norway is not a member of the EU – an independence that is fiercely cherished by the Norwegian electorate.

As might be expected, Norway is one of the most wired countries in the world. E-commerce and the Internet in general have taken off across all the Nordic countries, and there is little hindering the development of both. Internet penetration is heavy in Norway, e-commerce is growing, access charges are shrinking and new frontiers are opening up with m-commerce. The only obstacle in Norway's case may be its traditional reliance on the petroleum industry; in Finland and Sweden the lack of much incumbent heavy industry was one of the major factors spurring the growth of high-tech companies. Norway has yet to produce a firm to rival Sweden's Ericsson or Finland's Nokia.

Watchlist

E-Business Marketplace
Norway boasts an unusually advanced on-line market, especially in B2C commerce. Banks drive e-business investment; foreign firms are kept at arm's length.

Infrastructure
The Internet infrastructure in Norway is exceptional, with the world's highest ISDN penetration.

Law and Regulations
New regulations promise an end to the e-muddle.

Taxation
Norway's government wants e-commerce to be treated in the same way as regular commerce, with specific regulations for return of merchandise, consumer complaints and protection of consumer information provided during a purchase.

Infrastructure
People online: 36%
Online shoppers: 17.4% of population
TV penetration: 99% of households
Subscription TV:
cable 38%, satellite dish 19%
Main phone lines (1997):
621 per 1000 people
Cell phone penetration: 57%

Sources: Merrill Lynch; Eurodata TV; EIU Country Profile, 1999 data.

Regulatory Environment
The Norwegian government is working on a proposal to create specific regulations for e-commerce, including specific provisions on electronic signatures and consumer protection (see below). The government says it wants the regulations because of increasing electronic share trading within Norway, but also because the Internet means trading is becoming increasingly global.

On the non-governmental front, the Eforum Organisation is attempting to set e-commerce guidelines and standards, which it hopes member companies, and others, will voluntarily follow (see below). Among its several dozen members are Andersen Consulting, online bookseller Bokkilden, Den norske Bank and Cap Gemini. The group also tracks legislation pertaining to e-commerce, offers training courses to members and provides general information about e-business in Norway.

Portugal

One of the poorest economies in Europe, Portugal's enthusiasm for the Internet has outpaced growth in the industry. In 1999 it had roughly 220,000 subscribers and access revenues of $ 85 m. Several infrastructure and demand-related issues inhibited the market's growth until 1999. These include the following:
Businesses and institutions – the traditional leaders in Internet adoption – have limited bandwidth and data capabilities, as most lack the resources to invest in IT. The vast majority of businesses therefore have chosen ISDN services for Internet connection over the more expensive higher broadband leased lines.
The high cost of bandwidth is not restricted to retail customers, but is also the situation at the wholesale and carrier levels. Therefore stunted broadband development at both the edge and the core of the network serves as a barrier to Internet development.

The Internet is a relatively new phenomenon in Portugal (launched in 1997) and the market still needs to be educated as to its use.
Over the next decade, these barriers should disappear. Explosive Internet growth should ensue as a result of three major stimuli. 1999 marked an important growth year for the Internet as free access providers entered the market and basic services licensees ramped up their Internet offerings. The boom in free access subscribers is educating the residential market as to the uses of the Internet. This will gradually transfer to the business market. The market was stimulated by the entry in 2000 of fixed wireless operators offering more competitive broadband access.

Watchlist
Only 4.7% of the population had access to the Web in 1998, the second lowest Internet penetration rate in Europe (Greece ranked last with 2.6% of the population online).
The "Lisbon Strategy" emerged from the EU dot.com summit, which called for the increased investment in telecommunications infrastructure, the development of a legal framework for e-commerce transactions and their taxation and the deregulation of several markets.
A host of new entrants in the telecommunications sector have begun competing for market share since Portugal Telecom lost its monopoly in the fixed line long distance sector in January 2000. PT Multimedia, Portugal's largest Internet company, has launched an aggressive expansion into the Brazilian market with the goal of becoming the leading Portuguese-speaking Internet provider.

Infrastructure
ISPs, 1999: 33 email service providers
Internet penetration, 1998: 4.7%
PC penetration (% of households): 6%
Cable TV subscribers (% of households): 54%
Main phone lines, 1998: 3.8 millions
Mobile subscribers, 1999: 4.67 millions

Source: ICP, IDC

Regulatory Environment
Foreign companies need not doubt the security of contractual arrangements in Portugal. Despite complaints in specific sectors (namely audio cassette piracy and forgery of international designer gar-

ments by smaller textile manufacturers), protection of intellectual property is fairly advanced in Portugal.

Spain

Although the country's Internet user base is still relatively small, companies considering entering Spain's online market should be encouraged by the country's strong economic and democratic state.

José Maria Aznar of the Popular Party (PP) won a second four-year term in March 2000. Mr Aznar pursued an ambitious privatisation programme in the previous legislature, but has been more cautious on implementing liberalisation plans. This has left recently privatised groups in crucial sectors such as telecoms and energy with near-monopoly power.

Per-minute connection charges are the main obstacle to broader Internet usage in Spain and will continue to hinder its potential for e-commerce. So although PC penetration and telephone penetration rates are at reasonable levels, Internet penetration remains low. Indeed, the establishment of a fixed tariff rate that would be affordable to residential subscribers would boost penetration considerably and foster a more dynamic e-commerce market.

Watchlist
On October 13th the Spanish Science and Technology Ministry released for public review the Draft Bill on Information Society Services and Electronic Commerce, which implements the Electronic Commerce Directive 2000/31/EC.
Spain is a leader within the free ISP market. This is largely due to metered phone rates keeping connection rates pricey. Mobile telephony has emerged as the largest and fastest-growing segment in the telecommunications sector, and it is generally viewed as an attractive point of entry for companies seeking to exploit Spain's e-commerce potential.
Astronomical cellular phone growth is expected to be boosted by an onslaught of prepay programmes (with many offering web access) and the entry of a third operator, Retevision Movil.

Infrastructure
Internet penetration, 1999: 8%
PC ownership, 1998:
12.6 per 100 inhabitants
Cable TV subscribers, 1998: 390,000

Main phone lines, 1997: 15.6 millions
Mobile phone penetration, 1999: 28%

Sources: Pyramid Research; official sources; Spanish Association of Information Technology Companies (SEDISI); EGM (Estudio General de Medios); Simproespana; Telefónica Servicios Avanzados de Información; Astra Marketing Iberica.

Regulatory Environment
Foreign investment by non-EU countries in e-commerce is now governed by Royal Decree 671/1992, which liberalised private investment originating outside the European Economic Area (EEA). Television and radio broadcasting, gambling and casino operations, air transport, private security and strategic mining are not open to non-EEA investment. The decree subjects foreign investment within the EEA to authorisation only in defence and telecoms-related activities.

Sweden

In Sweden, Internet adoption has met with little resistance, and the only country in the world with a comparable rate of online penetration is tiny Iceland. In fact, one issue facing the Swedish market is saturation – there just are not that many new potential users left to be recruited. The task now is changing these users from mere surfers to shoppers.

Watchlist
A government IT bill from April 2000 would help create a nationwide broadband network reaching every citizen. Tax authorities have clamped down on those who offer e-commerce but have not registered to pay value-added tax. Sweden already has very high Internet penetration rates, but mobile commerce (m-commerce) should play a major role in future digital sales.

Infrastructure
Internet penetration, Q1 2000: 42% of households (Jupiter Communications)
People online, Q1 2000: 71% of 16-65 (Jupiter)
PCs, Q1 2000: 70% of households (International Data Corp.)
Cable/satellite TV penetration, end 1999: 65% (Carat Denmark)
Cell phones, Q1 2000: 60% of population (IDC)

Regulatory Environment
The Swedish government seems to be doing everything in its power to allow the Internet to expand into many aspects of its citizen's lives. The regulatory environment is very encouraging for e-commerce and the Internet in general.

Switzerland

Although Swiss consumers are going online almost as often as the Internet-happy Scandinavians, Swiss companies have been tentative in their efforts to exploit e-commerce and reinvent their businesses to take advantage of opportunities in the new market place.

Watchlist
Many Swiss firms still worry about Internet security risks. This lack of confidence has slowed the development of e-business.
Swiss authorities have drafted a law to ensure the equivalency of digital signatures, though political disputes have delayed its passage.

Infrastructure
ISPs: 150
People online: 2.1 millions
PCs: 4.3 millions
Cable/satellite subscribers: 2.4 millions
Phone line subscribers: 4.7 millions

Source: Country Profile, EIU research, 1999 figures

Regulatory Environment
Switzerland has a draft law concerning the legal implications of digital signatures and an ordinance concerning the public key infrastructure governing the technical and administrative requirements to ensure equivalence with handwritten signatures. The ordinance was supposed to take effect on January 1st 2000, but there were objections to some of its conditions and it is now being rewritten.

United Kingdom

The UK is well wired and the local population has a distinct advantage over its neighbours on the Continent in that English has become the predominant language of the Internet.
An ICM Research poll conducted in March 2000 found that 45% of British adults had access to the Internet either

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at home or at work, up from 37% in December 1999. ICM predicts that access will have reached 50% by the end of this year.

Watchlist
In conjunction with the British Chamber of Commerce, Royal Mail is offering an electronic business package. Called Chambersign, the venture will enable UK companies to transfer more of their business online through Chambersign's low-cost digital signature technology.
Several UK ISPs are developing services with cheaper telephone charges in hopes of encouraging clients to spend more time online. Freeserve, for one, is offering unmetered telephone access to the Internet for a monthly charge.
The opening up of British Telecoms' local access lines to other operators from July 2001 has helped speed the introduction of high-speed access.

Infrastructure
ISPs, 1998: 384
Internet access (no. of households), 1998: 1.8 millions
PC penetration (% of the population), 1999: 37.3
Cable TV subscribers, 1998: 2.3 millions
Main phone lines, 1999: 34.7 millions
Cellular subscribers, 1999: 11.2 millions

Sources: Pyramid Research, DTI, BMRB

Regulatory Environment
A British libel case settled out of court in late March 2000 has potentially far-

reaching implications for free speech on the net and the liabilities of ISPs for the material they carry. Demon Internet agreed to pay damages and costs amounting to around £250,000 to an individual who sued the ISP for failing to comply with his request to remove allegedly defamatory material.

Central and Eastern Europe

Bulgaria
E-commerce and Internet use in Bulgaria is currently at a low level, but there is much potential for further development. The country boasts a high telephone line penetration and a very literate and technologically savvy population. Protection of intellectual property continues to be a challenge, as software piracy is among the highest in the region.

Watchlist
Passage is soon expected of the Electronic Document and Electronic Signature Bill.
Bulgaria's Internet market is among the smallest in Eastern Europe. However, Bulgaria's relatively high main line penetration (34% at year-end 1999) and growing PC penetration makes for significant potential.
The Bulgarian population's high levels of literacy and PC ownership and rich supply of technical talent will support growth in Internet usage and the development of e-commerce in the years ahead.
The long-awaited privatisation of the Bulgarian Telecommunications Company (BTC) is nearing completion. The likely buyer will be the OTE/KPN (Greece/Netherlands) consortium. The consortium has requested changes to the telecoms law and guarantees from the government against adverse changes in legislation after the sale is finalised.
Orbitel, a major Bulgarian Internet supplier, recently launched the first national network for dial-up access and began offering free Internet access early this year.

Infrastructure
ISPs: 170
People online: 102,000
PCs: 228,000 (home and business combined)
TV penetration: 37.2% (1996)
Cable TV subscribers: 3.3%

Main phone lines: 2.8 millions Per 100: 33.9
Cell phone subscribers: 0.3 million Per 100: 4.2
Paging subscribers: 13.3 Per 100: 1.03

Sources: Pyramid Research, European Survey of Information Society, 1999 figures.

Regulatory Environment
As Bulgaria hopes to join the EU in coming years, one of the stated aims of the telecom regulatory bodies is to ensure that Bulgarian telecom laws conform to EU regulations. Bulgaria's intellectual property laws are relatively well developed, although illegal copying of software remains very high.

Czech Republic
The Czech Republic has taken great strides to make up for decades of lost time behind the Iron Curtain, but it is still stumbling to catch the Internet e-commerce wave that is sweeping the West.
Though dozens of firms have popped up looking to forge a path via the Internet to the Czech consumer, total e-commerce trade in 1999 reached only Kc100m. There are numerous stumbling blocks on the way to greater e-commerce, but the main roadblock is Internet access. In a country of some 10 m people, only 300,000–500,000 have regular access to the World Wide Web, while only 1–2% of all households have Internet access.
Adding to the problem is the low use of credit cards among Czechs, making payment for goods and services bought on the Internet difficult. E-tailers have turned mainly to COD payment for Internet items, but that method is seen as risky for the sellers. Nevertheless, the Czech Republic will adopt the Internet as a mainstay for shopping and e-commerce over the next decade.

Watchlist
Liberalisation of the Czech telecom sector will spur growth in the Internet over the next several years.
An increasingly competitive sector should force out many smaller ISPs and make Internet access more affordable.
Low use of credit cards will hold back the B2C market.
Bandwidth problems will restrict the development of advanced consumer applications in the near term.

The postal service remains unreliable, and courier services are expensive, lowering the marginal utility of e-commerce. With courts notoriously slow, firms involved in e-commerce disputes should consider seeking arbitration.

Infrastructure
Internet dial-up accounts: 111,000
Cable TV subscribers: 923,000
Phone lines: 4 millions
Cell phone subscribers: 1.9 millions

Source: Pyramid Research, 1999 figures.

Regulatory Environment
Future e-commerce regulations are expected to be in line with policies of the EU, which the Czech Republic hopes to join in the coming years.

Hungary

Of all Eastern Europe's ex-communist countries, Hungary had the best start in the early 1990s. Even under communist rule, it operated a significantly more liberal regime than most of its neighbours. Now its combination of keen deregulation and prudent economic management has made the Hungarian economy a reliably solid – if not exactly spectacular – performer. And that Hungary is further down the road to reform than almost any other ex-communist country has put it firmly at the head of the queue for early EU membership.

The same factors should make Hungary a fertile seedbed for high-tech business. And so it has proved: in the past ten years, Hungary has become one of Europe's main centres for technology manufacturing – turning out everything from car radios through to semiconductors. It has been helped here by its extraordinary tradition of scientific achievement. Hungarians are highly scientifically literate, and have an unequalled record in producing inventors. Whether this high-tech aptitude will translate into e-business domination is less certain, however. Although Hungarians have taken eagerly to the Internet, usage is still hampered by relative poverty and the lack of serious competition in the telecoms sector.

Watchlist

E-business Marketplace
The size of the e-business market in Hungary is modest. Customers and companies have been slow to capitalise on online opportunities.

Company Strategies
Growth in Internet commerce has been driven largely by foreign investors. Most Hungarian businesses have yet to draw up a comprehensive, integrated e-strategy.

Infrastructure and Internet Penetration
Privatisation and limited competition have created a modern telecommunications foundation. This, however, has not automatically produced a surge in Internet traffic.

Law and Taxation
Hungary has made significant strides towards creating a regulatory structure that dovetails neatly with EU standards. But certain legal ambiguities may cause future problems.

Infrastructure
Internet dial-up accounts: 122,300
Cable TV accounts: 1.7 millions
Main telephone lines: 3.6 millions
Cellular subscribers: 879,300
Paging subscribers: 19,200

Sources: Pyramid Research; Carnation Consulting. Figures are for 1999.

Regulatory Environment
In the past decade, Hungary has made significant strides towards creating a regulatory structure that dovetails neatly with EU standards. It has created an independent regulatory body, the Communications Authority (HIF), and put in place a number of checks and balances through five Advisory Councils and the Competition Council to ensure integrity of the structure.
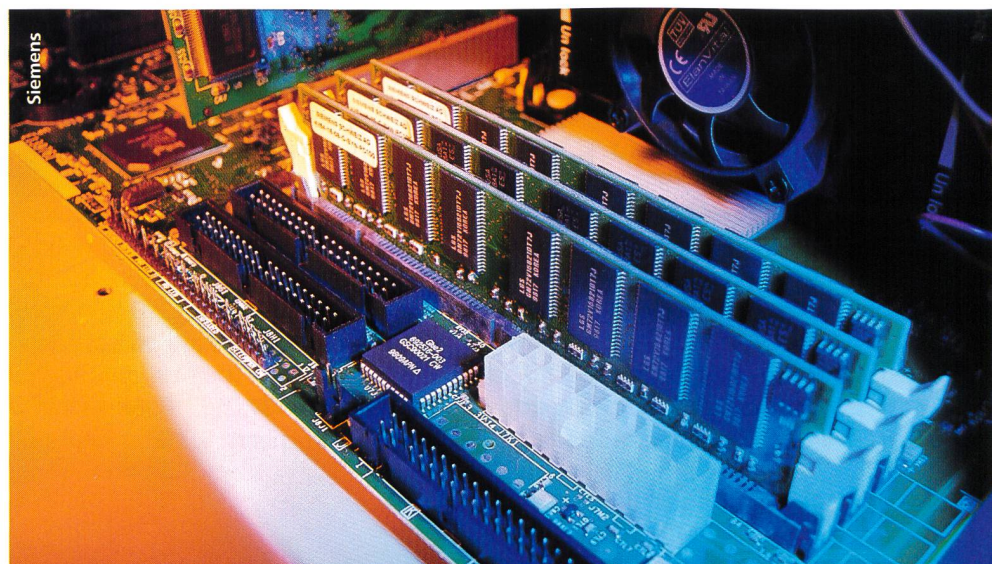
Poland

Electronic commerce remains a small market in Poland, but it is expected to enjoy rapid growth in the coming years. Poles have been enthusiastic about connecting to the Internet and have begun to make online purchases. Past hindrances to the development of the Internet and online commerce – including limited creditcard use, scarce financing, shortages of fixed phone lines and computers, and high charges by the dominant telecoms company – have improved and should continue to do so.

Only a small number of successful online retailers has emerged so far, however, and they still have a small market presence. There was a proliferation of financial sites in 2000 and the first half of 2001, and these may emerge as the first important providers of online services. The key e-business companies in the country continue to be the state-owned telecoms firm Telekomunikacja Polska SA (TPSA), its business units, and their challengers in fixed line, mobile telephone and Internet access services.

The state-monopoly telecoms firm's dominant (but now eroding) position has hampered infrastructure expansion and restricted new electronic media to only a small segment of the population. In July 2001, however, the government abolished the lumbering, and allegedly corrupt, Ministry of Posts and Telecommunications. The newly created Office of Telecom Regulation is expected to carry out the further liberalisation of the market needed before Poland enters the European Union. New competitors have already begun to offer lower service charges, and this should lead to greater use of the Internet.

Siemens

The local authorities have made little progress in passing specific Internet-related legislation in the areas of intellectual property and consumer protection. Poland has, however, passed a law permitting the use of digital signatures. In addition, the country's parliament is working with the EU to adopt harmonised legislation on residency and taxation of e-businesses.

Watchlist

Infrastructure and Internet Penetration
Poland has enjoyed a rapid increase in the use of the Internet and steady improvements in its telecommunications infrastructure. Web surfing remains, however, a pastime for only a small minority, owing to still low levels of home computer usage, high charges for local phone calls and the state-dominated telecoms sector's slow pace of liberalisation.

Infrastructure
Internet penetration rate (end 2000): 2.6–10.3%
Number of ISPs (mid 2001): 300+
PC penetration rate (end 2000): 6.9 per 100
TV ownership (end 1999): 38.7 per 100
Cable TV subscriptions (end 1999): 12.2 per 100
Fixed line telephones (end 2000): 27.5 per 100
Mobile telephones (end 2000): 18 per 100

Sources: Deutsche Bank; International Telecommunications Union; Ministry of Posts and Telecommunications; ORESA Ventures; Pyramid Research.

Regulatory Environment
The Polish government has moved only slowly to improve the regulatory environment for the Internet, but it recently passed a telecommunications act and a law on digital signatures. It has neglected privacy, consumer protection and online intellectual property issues.

Romania

Romania's size provides investors with a potentially lucrative market if macroeconomic reforms can be undertaken successfully. Consequently, investors regard Romania as a long-term venture and have been prepared to sit out the period of political paralysis. Most agree that the operating environment is still rewarding and is in many ways no worse than that encountered anywhere else in the region. Romania's official goals of joining the EU by 2007 and being included in the next round of NATO enlargement are highly unlikely to be realised, despite budget proposals for increased defence expenditure to upgrade the armed forces. So far, Romania has opened only six of the 31 chapters of the acquis communautaire (the body of EU law), compared with eight for Lithuania and more for all other applicant countries.

In terms of e-business, many legal, regulatory and institutional problems are on the verge of resolution. Among them, parliament is now working on e-legislation; Romtelecom is due to be privatised by the end of 2002; and an automated clearance system is expected to be implemented next year. Some other obstacles will take longer to resolve, however. Few Romanians own credit cards or PCs; Internet services are expensive relative to incomes; and teledensity remains low.

Watchlist

E-Business Marketplace
An Internet economy is slowly emerging, with the number of users growing rapidly. Some work is needed to update transport and delivery networks and systems for electronic payment, however.

Company Strategies
A range of B2B and B2C sites is popping up, offering everything from office supplies to financial services. For those planning to implement e-business in Romania, experienced executives in the region suggest that the greatest opportunities may be in B2B, where payment systems and technologies are more developed.

Infrastructure and Internet Penetration
Low phone density and insufficient bandwidth hamper the growth of e-commerce. Internet access charges are high at the moment. The government plans to upgrade the networks over the next 15 years, and as foreign players enter the market, prices should fall and quality increase.

Infrastructure
Number of ISPs: 150
PC penetration: 3.3%
Cable TV subscribers: 3.7 millions
Main telephone lines: 3.9 millions
Cell phone subscribers: 2.5 millions

Sources: EIU Country Indicators; Pyramid Research.

Regulatory Environment
Regulations covering e-commerce are beginning to emerge, including provisions for digital signature and online fraud. The tax system does not currently account for e-commerce transactions.

Russia

Russia is a country with gigantic potential – and gigantic problems. The collapse of Soviet power at the beginning of the 1990s has left a vacuum at the core of society, resulting in runaway corruption, lawlessness and political instability.
Successive governments have promised reform, only to be stymied by a shortage of resources and an excess of bureaucratic inertia.
Its economy, too, has constantly failed to fulfil its theoretical promise: a mini-boom in the mid-1990s collapsed in crisis in 1998-99, and a post-crisis bounce-back in the last couple of years is also showing signs of flagging.
For the high-tech industry, possibly more than any other, Russia seems to promise much. Its population is highly educated and keen to learn, and is starting to be wealthy enough to form a viable market. But business of all kinds has found Russia a frustrating place to operate, whether because of heavy-handed regulation, official corruption or the difficulty of coming to terms with local partners.
Most multinationals remain keen to retain their commitment to Russia. But in the wake of the financial collapse of the late 1990s, hopes of a miraculous boom seem to have faded for good.

Watchlist

E-Business Marketplace
It's hard to get a handle on the size of the current Internet market, but Russians' technical abilities fuel optimism for future growth.

Infrastructure
Shabby infrastructure and telecoms underinvestment act as barriers to the expansion of Internet access.

Law and regulations

The business environment in Russia tends to be unpredictable, as regulations are arbitrarily administered. So far, the government has not attempted to regulate e-commerce.

Taxation

Tax regulations do not cover e-commerce, so online transactions in Russia will remain tax-free (as are many things in Russia) for the foreseeable future.

Infrastructure
Number of ISPs: 350
Number of Internet dial-up accounts: 412,000
Number of cable TV subscribers: 700,000
Number of telephone lines: 26.7 millions
Number of PC owners: 2.3 millions

Source: Pyramid Research, 1999 figures

Regulatory Environment
The problem with Russia's regulatory environment is that lawmakers are only now starting to come to terms with the existence of the Internet.
Under Russia's current (as of June 1998) media law, the Internet is not classed as a mass medium. This has its advantages: it makes setting up an online business much easier than establishing a mainstream media organisation, which requires far more cumbersome registration and accreditation.
However, it seems likely that future legislation will bring the Internet under the media umbrella – something that will make it the focus of considerable (and not always welcome) regulatory scrutiny.

Slovakia

Slovakia still lags its Central European neighbours in Internet use by a large margin, not least because of its high phone tariffs. Nevertheless, the situation has improved dramatically in recent years. A survey at the end of 1998 by the Slovak Academic Network found that only 2.5% of Slovaks used the Internet regularly, and that 23% had never even heard of it. Internet use is growing exponentially, though: current informal estimates put the figure as high as 10%.

Watchlist
Deutsche Telekom (Germany) in July became the proud owner of a 51% stake in Slovenske Telekomunikacie/ST, the state-owned fixed line monopoly. The German telecoms firm, which paid EUR 1 bn for the stake, emerged as the sole bidder after KPN (Netherlands) failed to participate in the tender as expected. Slovenske Telekomunikacie will lose its monopoly on the fixed line and other related services on January 1st 2003. Foreign investors already present in Slovakia and are likely to move into the fixed line market include Telenor (Norway), KPN, and UPC (both Netherlands). A new telecoms law is in the works that will do much to create a level playing field for new competitors.
The Slovak telecommunications ministry has said it would consider offering three third generation UMTS mobile phone network licences at frequencies currently used by the army, mostly likely some time in 2001.

Infrastructure
In light of ST's continuing monopoly, most foreign telecoms companies are focusing on less regulated sectors such as data transmission (Telenor), Internet (KPN), or cable TV (UPC). Services provided by current telecoms companies in the Slovak market include:
– fixed line voice service (fixed line, public pay-phones, value-added services such as toll-free lines or pay-per-use lines)
– cellular phones (voice-mail service, text messaging)
– data transmission (rental of data circuits, data networks)
– Internet (connection to the Internet, Intranet, www services)
– home entertainment (cable and satellite TV)
– other (satellite and radio communications)

Source: Symsite

Regulatory Environment
Voice is voice: in contrast to its Central European counterparts, the Slovak government has kept a clear ban on voice-over-IP (VoIP). The Slovak regulator sees no difference between VoIP and normal calls, unlike authorities in Poland and the Czech Republic, where VoIP calls are classified as data, not voice.

Turkey

Less than 1% of the population uses the Internet in Turkey, owing to a lack of government initiative in promoting Internet awareness, low PC penetration and computer literacy, and inadequate competition. But while Internet penetration remains low, subscriber growth rates have been rapid, and, as measured by total accounts, Internet service markets are expected to expand substantially within the next five years. The privatisation of Turk Telekom in 2000 and a tender for two additional cellular licences has spurred competition in the telecoms sector.

Watchlist
Turkey's parliament has finally passed a telecoms law that paves the way for privatisation and liberalisation.
Turkey has been slow to improve its regulatory framework, impeding the development of Internet services.
Owing to low PC penetration and computer literary, monopolised markets, and a lack of government promotion, less than 1% of the population uses the Internet.

Infrastructure
Internet dial-up accounts: 270,100
Cable TV subscribers: 731,100
Telephone lines: 18.15 millions
Telephone lines per 100: 27.6
Cell phone subscribers: 7.75 millions
Cell phone subscribers per 100: 11.8
Paging subscribers: 128,900
Paging subscribers per 100: 0.2

Source: Pyramid Research, 1999 figures

Regulatory Environment
Turkey's regulatory environment is shaky, given political and economic uncertainties. Moreover, the civil service tends to be highly bureaucratic. Personal contacts, often but not always accompanied by bribery, are often used to cut through cumbersome red tape.

Ukraine

Following years of slow reform progress, Ukraine lags far behind other transition countries in overhauling its economic and regulatory environment. More impressive growth rates and rate of improvement in investment conditions would require much faster progress in reforms than is likely to occur.
Opposition to change from vested interests will remain strong. Improvement in the tax system will also be very slow. Deep-seated institutional problems – such as the weak rule of law and poor quality of the bureaucracy – will persist.

Ukraine also lags behind in Internet adoption, especially among small and medium-sized businesses and consumers, but more people are coming online every year. Credit card use will need to increase significantly before B2C e-commerce will really take off, however. The most promising area of growth for e-business will likely be in the corporate sector, where the larger companies have technological and financial resources in place to take advantage of the Internet.

Watchlist

E-business Marketplace
Ukraine's e-commerce market is only just beginning to emerge. Levels of PC ownership and Internet connectivity are low and the use of credit cards is rare.

Company Strategies
Currently the Internet is primarily a tool for news and information. Financial services companies have been active in building a presence as well. Some Ukrainian banks are establishing services for corporate customers such as online bill payment and account information.

Infrastructure and Internet Penetration
Low levels of connectivity and PC ownership are major barriers to e-commerce in Ukraine, as is the need for major infrastructure upgrades. Internet penetration and teledensity are expected to increase over the next few years, supporting the development of a nascent e-commerce market.

Law and Taxation
Ukraine must still make considerable strides in developing a more transparent legal, regulatory and tax environment. Adequate protections for intellectual property are also lacking.

Infrastructure
Number of ISPs: 260
PC penetration (end 1999): 1.4%
TV ownership (end 1999): 88.3%
Cable-TV subscribers (end 1999): 703,500
Main phone lines (end 1999): 9.4 millions
Cell phone subscribers (end 1999): 855,000

Sources: Pyramid Research; International Telecommunications Union; EIU Business Operations Report.

Regulatory Environment
Members of the Ukrainian government are engaged in a discussion over Internet privacy rights for individuals. The Security Service of Ukraine issued a statement in mid-July 2001 that it would seek to register all individual Internet users. Oleh Shevchuk, chairman of the State Committee for Communication and Information Technology, asserted that this would be technologically impossible but that the state could register computers and modems. So far there has been no evidence of any actions taken by the government to follow through on registering users or their computers.

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Zusammenfassung

Ein Blick auf das europäische E-Business

Die Internet-Firmen kämpfen ihren letzten Kampf, und der NASDAQ ist abgestürzt. Also muss es auch mit dem weltweiten E-Business bergab gehen. Falsch, denn mit der gleichen Überzeugung, wie weit blickende Gesellschaften ihre E-Business-Initiativen mit nie dagewesenem Kostenbewusstsein vorantreiben, halten die Länder am Internet als idealem Zugang zum globalen Marktplatz fest. Für viele ist das E-Business nämlich nicht nur eine Chance, Anschluss an den Rest der Welt zu finden, sondern auch, mit ihm gleichzuziehen.
Doch wie erfolgreich sind die Anstrengungen der Länder, das Internet nutzbar zu machen? Welche sind darauf bedacht, ihre Kommunikationsinfrastruktur so schnell wie möglich aufzurüsten und die Schranken zum weltweiten E-Commerce niederzureissen, und für welche ist das Internet immer noch ein Lippenbekenntnis? Ein sicheres Merkmal, ob sich das geschäftliche Umfeld eines Landes für internetbasierte Geschäftsmöglichkeiten eignet, ist die E-Bereitschaft. Sie umfasst eine Vielzahl von Faktoren, doch dürften der Entwicklungsstand der Telekommunikations-Infrastruktur, die Sicherheit der Kreditkarten-Transaktionen und der Bildungsstand der Bevölkerung die wichtigsten sein. Ein Land muss somit zahlreiche Voraussetzungen erfüllen, bis es den Nährboden bereitet hat, der in den letzten fünf Jahren in den Vereinigten Staaten entstanden ist.