COMMERCIAL EXPLOITATION OF PUBLIC SECTOR INFORMATION

–

OBSTACLES AND OPPORTUNITIES

MASTER THESIS BY:
CHRISTIAN CELIND

SUPERVISORS:
STEIN KLEPPESTØ
HENRIK NORINDER

In partial fulfillment of the
MASTER OF EUROPEAN AFFAIRS PROGRAMME
BUSINESS LAW AND BUSINESS ADMINISTRATION

Submitted on May 27, 2003

LUND UNIVERSITY
SWEDEN

Abstract

This report highlights the importance of a well functioning information society, and the benefits derived thereof. The emphasis is put on commercial exploitation by private parties of public sector information. A comparison between the US and European markets of private companies exploiting PSI commercially shows significant differences in how opportunities are being actualized. The work provides descriptions of the current legal and market environments in the US and selected European countries, ongoing initiatives by authorities to enhance society and by private companies to prosper with business ventures, concluding with a subjective discussion on the topic. The comprehensive task of conducting a study on the topic of information presents the challenges individuals as well as organizations are faced with in their quest to access and use information from government sources. Entrepreneurs with a vision of how to use PSI to create value-added products in Europe are exposed to a myriad of rules and regulations, in addition to more traditional administrative and technological obstacles. Even the most entrepreneurial spirits or innovative ideas could end up being demolished by the confusion and frustration derived from the many obstacles to pursue business ventures in the information industries. This has created a situation where US companies in information industries are presented with endless opportunities to develop their ideas into business ventures, while European entrepreneurs are exposed to numerous deterrents for entering the industry, particularly in conducting international trade. The situation is however slowly but surely improving, as the integration of the EU is progressing.

Key words: Europe, public sector information, information society, information and communication technology, freedom of information

Terms and abbreviations

The following terms and abbreviations are used in this report:

Author:	Christian Celind, student attending the Master of European Affairs programme 2002/2003, Lund University, Sweden
EP:	The European Parliament
EU:	The European Union
FOIA:	The US Freedom Of Information Act
ICT:	Information and Communication Technology
IPR:	Intellectual Property Rights
PDA:	Personal Digital Assistant
PSI:	Public Sector Information
SME:	Small and Medium sized Enterprise

Table Of Contents

Chapter 5: LEGISLATION

Chapter 6: ANALYSIS OF CURRENT MARKET SITUATIONS IN THE UNITED STATES AND IN EUROPE

Chapter 7: BARRIERS, REQUIREMENTS, AND OPPORTUNITIES ON THE INFORMATION MARKETS

Chapter 8: COMPARATIVE ANALYSIS

Chapter 9: SUMMARY OF THE REPORT

Chapter 1: JUSTIFICATION OF THE REPORT

"As a rule...he who has the most information will have the greatest success in life"
Benjamin Disraeli (1804 - 1881)

1.1 Introduction

Establishing a universal definition of *information* would result in an endless array of concepts and definitions. In a simple sense, information is characterized as any type of knowledge that can be exchanged, represented by some type of data. One characteristic is common to all types of information; it enhances knowledge of the individual or the organization seeking advice. The largest producer of information in the industrialized world is the public sector, responsible for enhancing citizen awareness in some of the most important community functions. Information is used in virtually all functions of society, including, but not limited to, decision-making, education, and entertainment.

In the early days of Information and Communication Technologies (ICTs), the full potential of their use, not to mention the anticipation of future developments, was realized by very few. Hence, there seemed to be a division between the use and production of information. Public authorities were expected to release raw data basically free of charge, while private companies would process the raw data into useful formats, and then market these value-added products to make a profit[1]. The late 1980's and early 1990's brought about improved ICT use and information content management. Furthermore, at the same time, the Internet experienced revolutionary developments, making it more available and user-friendly, resulting in rapid growth of reach and popularity. These factors, along with public sector budget deficit problems, made public authorities in many countries realize the value of their information assets, causing them to protect their economic interests. The open approach in the US, where public sector information (PSI) is readily available for anyone to collect and re-use, and where the government encourages the entrepreneurship of exploiting this information for profit, was not to be found virtually anywhere in Europe. Every single country in Europe had, and to a large extent still has, their own rules and regulation regarding the access to and re-use of PSI. In the mid-1990's, the Commission of the European Union (EU) realized that Europe was lagging behind the US in the area of creating jobs in the information sector and fully exploiting the potential of PSI. A number of studies in the field of commercial exploitation of government information, in addition to the implementation of several technology and human resource enhancing action plans, indicate serious efforts by EU authorities to bring Europe to the forefront of the new economy and information society.

[1] Papapavlou, "Public Sector Information Initiatives In The European Union."

1.2 Motivation

The reason for this study is largely motivated by the author's thorough interest in the information society, partly derived from a degree minor in management information systems. The constantly developing information society and ICTs present intriguing opportunities for modern businesses. The author firmly believes that increased citizen awareness and knowledge of modern ICTs will contribute to a healthier and more prosperous society in the long run, in the form of competitive European companies and a highly skilled labor force. Inspiration for the choice of this topic originated from an article by Mr. John Woods, "*The Commercial Exploitation Of Private Sector Information In The European Union*."[2], based on a thorough study conducted by Pira International[3]. Since the public sector possesses and produces the largest quantity of information in society, they have a key role in the prosperity of information industries. A study in the subject of commercial exploitation of PSI in Europe is therefore of interest, as it can assist in clarifying the current situation and analyzing the progress and opportunities in the field.

1.3 Problem definition

There are significant differences between the US and European markets of commercializing PSI. Although US firms in the industry may experience difficulties to successfully pursue business opportunities in the field, far more barriers for exploiting the market exist in Europe. Entrepreneurs on the European market may look with envy at the prosperous American market, where legal, administrative, cultural, and other obstacles do not restrict business opportunities to nearly the same extent as in Europe. One challenge for the EU lies in receiving the commitment of national governments to dedicate adequate efforts to realize the vision of the Common Market. Another challenge for Community authorities is to adopt a legal framework of harmonized rules that is acceptable for all Member States, that can be feasibly implemented, which will foster economic growth, and contribute to the health of society. The challenge for the private sector of European countries consists of taking advantage of the opportunities presented with administrative, legal, and technological changes in the business environment.

1.4 Purpose

The purpose of this study is to make a comparison between the US market and selected countries on the European market. The industry to be covered in this study is the information industry, particularly the commercial exploitation by private firms of PSI. A number of studies and articles on the subject suggest that US firms in this industry enjoy serious competitive advantages compared to similar European firms. European entrepreneurs face barriers to trade that are not present in the US.

---

[2] John Woods, Interim Project Manager and Associate – Pira International, author of the article "The Commercial Exploitation Of Private Sector Information In The European Union."

[3] Pira International, a leading commercial consultancy business, based in the UK..

The focus of the study will be on the European market. The US will be used as a reference; an example of a market where the information industry is already well developed. A few selected countries in Europe with different characteristics will represent conditions in Europe, and hopefully give a fair illustration of the current situation on the continent. This comparison will illustrate a model market – the US – that could serve as an example of how to boost economic activity in the EU.

As indicated, numerous studies and articles have been released on the topic; all with a slightly different angles. The nature of the topic, constantly changing market conditions, and the vast amount of references available however allows for a countless range of perspectives. This study gives an updated view on the legal and business environments in a country with documented success in the industry, two countries of the EU with different views on the issue, and one country that is getting prepared to participate on the Common Market.

1.5 Definition of terms

Data[4]**:** Basic facts that are a system's raw material. *Data* processed into a useful form of output is called information. The objective of processing is to transform input into accurate, meaningful information that consumers require.

Data controller: Anyone who decides how and why personal data (information about identifiable individuals) are processed.

Database[5]: The term *database* includes literary, artistic, musical, or other collections of works or collections of other material such as texts, sound, images, numbers, facts, and data. It covers collections of independent works, data or other materials, which are systematically or methodically arranged and can be individually accessed.

Data vs. Database protection: It is important to distinguish between protection of data and protection of a database, as these two concepts refer to two different issues. *Protection of data* refers to the right of individual citizens of privacy, and the handling of their personal data. *Protection of a database* refers to the right of creators of a database to protect it from unauthorized use.

Dissemination of information: The active distribution of information through publication on paper, magnetic tape, CD-ROM, or through a computer network.

---

[4] Systems Analysis And Design, p. 1.3

[5] Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases. Hereinafter referred to as the "Database Directive"

Document[6]: Any content whatever its medium - written on paper or stored in electronic form or as a sound, visual or audiovisual recording. *Document* can be said to be an object which contains information of some kind[7].

Information[8]: Knowledge communicated or received concerning a particular fact or circumstance, or knowledge gained through study, communication, research, instruction, etc.

Intellectual Property[9]: A generic expression referring to patents, trademarks, copyrights, trade secrets, trade dress, and any other tangible personal property that is created through the intellectual efforts of its creator or creators.

Metadata: Structured information resources, designed to help identify the existing information, and to help locate it. Traditionally understood as *"data about data"*.

Personal Data[10]: Any information relating to an identified or identifiable natural person; a person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity.

Public sector body[11]: State, regional or local authorities, bodies governed by public law, associations formed by one or several such authorities or one or several such bodies governed by public law.

Public Sector Information[12]: Information recorded and documented in any manner and on any medium and that is obtained or created upon performance of public duties provided by law or legislation issued on the basis thereof.

Small and Medium-sized Enterprise[13]**:** A medium-sized enterprise by definition has a maximum number of employees of 250, and a maximum turnover of 40 million ECU. A small enterprise employs a maximum of 50 employees, with a maximum turnover of 50 million ECU.

---

[6] Proposal for a Directive Of The European Parliament And Of The Council on the re-use and commercial exploitation of public sector documents (presented by the Commission). Hereinafter referred to as the "Directive proposal".
[7] Fact Sheet, The Swedish Approach to Public Access to Documents.
[8] Infoplease.com
[9] smith & hopen, p.a., Intellectual Property Glossary.
[10] Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. Hereinafter referred to as the "Data Protection Directive"
[11] Directive proposal
[12] Estonian Public Information Act
[13] Commission of the European Communities. Electronic Commerce Unit.

Chapter 2: METHODOLOGY

2.1 Method

A quantitative study in the subject would require excessive resources of effort, finances, and time, and would run the risk of not providing convincing results. This study will therefore take a qualitative approach. This method is best suited when making a comparison of different markets in the aspects including business environment, legal framework, and barriers to trade. The study is based on official documents, articles, and opinions of scholars. The work is concluded by a thorough discussion, where the author is presenting own opinions, based on the discoveries gained from the study.

2.2 Data Collection

The study is based largely on information gathered from official sources, generally national or Community governments, or international organizations. The nature of the subject allows for extensive gathering of sources from the Internet, where accurate and updated information on current legal and market situations is readily available. Furthermore, a number of articles have been read, in order to discover subjective opinions on the topic.

A number of European as well as US organizations have been contacted to get primary information of the current situation. Government departments were contacted to clarify and verify certain aspects. Private companies were contacted to receive their view of ongoing events in the industry.

Finally, a visit to the European Commission CORDIS Office in Luxembourg rendered in a personal interview with Dr. Yvo Volman, policy advisor for the Commission. He was able to provide first-hand expertise on the proposed Directive, and has served as a continued valuable source for information.

2.3 Theory

The most suitable method for arriving at a conclusion of this work is to analyze the legal framework of the subject. Analysis and comparison of existing as well as proposed legislation in different markets serve to gain a thorough understanding of the issue, as rules and regulations to a great extent determine the conditions for activity in information industries.

After the legal environment has been evaluated, it is necessary to determine the feasibility of entering and competing on the market. An explanation of technologies involved is likely to be of interest and use for the reader, as ICT plays a significant part in the processing and communicating of information. Porter’s Five Forces model will then be used to determine the level of competition in the industry.

2.4 Intended audience

The core element of the topic – information – suggests a presentation conducted in a comprehensible and illustrative manner. Attempts will therefore be made to provide the reader with a text that is logical and easily understandable, although a certain academic standard will be maintained. The work is addressed to anyone with interest in the topic, regardless of previous knowledge.

2.5 Limitations of the work

Attempts to quantify the economic impacts of commercial exploitation of PSI are beyond this study. Serious attempts for such studies have been made without providing convincing data. Difficulties in measuring economic effects on the markets include:

- Such a study would require large resources of effort, finances, manpower, and time. It would also depend on the goodwill of public agencies as well as private organizations to release information concerning their activities.
- Lack of standards, e.g. in national accounting systems, would pose significant difficulties in gathering and analyzing data.
- It would be extremely difficult to determine all market products originating from PSI. Close collaboration between public and private institutions in many instances would also make it difficult to determine exactly where value was added and by whom.
- Finding comparable products and companies in different markets could pose a problem.

Considering the vast amount of information available, the differences between countries in legislation, culture, etc, and the large number of existing businesses and possible opportunities, it will be necessary to limit the work.

Although it would be of interest to compare opportunities in all Member States of the EU, all accession countries, and other industrialized countries with similar characteristics, the limitations of the work do not allow for a fair evaluation in this aspect. Therefore, the work will concentrate on a few selected countries of interest. The US will be chosen because of its already successful implementations in this area, and as a role model for European countries to copy. Sweden will be chosen because of its strong freedom of information policies and as a predecessor in the area of disclosure of public records. The UK will also be examined, being a country characterized by a highly competitive business environment, but with rather strict limitations for the re-use of PSI. Finally, it would be of interest to make a comparison with a EU candidate country. Estonia will be investigated, as it appears to enjoy a modern information society, well advanced in their preparations to join the EU, and also being an attractive market for foreign investments upon accession to the EU.

Furthermore, areas which concern the processing of personal data will be omitted, since this information is usually restricted for re-use, and is normally

protected by national as well as international personal data protection acts. Also, the potential for commercial exploitation of official EU documents is limited by restrictions on re-use, and will not be discussed in this work.

Attempts have only recently been made to measure the economic value[14] of PSI in the US, and equivalent projects in Europe do not exist. Measuring the economic value of the market is an extremely complicated task, even for institutions with extensive research resources available. Although it will be of great interest and importance for future developments of the information industry to conduct research concerning the economic value of the market, currently no accurate figures exist. Therefore, instead of making an attempt to proving the existence of a market in Europe by presenting convincing calculations and research, this work will focus on comparing the existing markets in the US and a few selected countries in Europe.

[14] Economic value is usually defined as the maximum amount someone is willing to sacrifice in order to obtain a good or service. In discussing value, a distinction between rival and non-rival products should be made. Rival products can be consumed by only one consumer, while non-rival products can be enjoyed simultaneously or sequentially by more than one consumer. Information is an example of a non-rival product, where the total economic value is the sum of the individual consumers' economic valuations. The willingness of consumers to pay for the finished product measures the value of PSI. A reservation should be made to the fact that measuring economic value is usually not straightforward, resulting in values that are approximate.

Chapter 3: BACKGROUND OF THE MARKET

3.1 Overview

A series of factors and events has drawn attention to the information industry. An increasing significance of information for decision-making has emphasized the importance for organizations to consider information a fundamental resource for efficient operations of public as well as private functions of society. This chapter will give an overview of the key elements characterizing information industries.

3.2 Scope of PSI

Public sector bodies produce large amounts of data that can be processed into useful information. The definition of what the concept of PSI entails differs from country to country. There is no EU-wide definition of PSI; it is up to the individual Member States to determine the scope. A generic categorizing of PSI could take the following shape[15]:

- Economic and Business Information – financial information, company information, economic statistics, etc.
- Environmental Information – hydrographic data, land use information, environmental quality data, maps, meteorological data, etc.
- Agricultural and Fisheries Information – cropping and land use data, farm incomes, fish harvests, etc.
- Social Information – demographic data, transport information, tourism information, attitude surveys, census data, data on health and illness, etc.
- Legal System Information – figures on crime and convictions, legislation, judicial decisions, etc.
- Scientific Information – patents, research produced by universities and departments of governments, etc.
- Cultural Information – materials within museums and art galleries, library resources, etc.
- Political Information – government press releases, proceedings of local and national governments, green papers, etc.

All national laws provide for exemptions to the right of access of PSI. Exemptions from access to public records vary among different countries, but usually entail:

- Information regarding the interests of the state (national security, economic interests, international relations, legislative procedures, etc.)
- Information regarding the interests of third parties (personal privacy, intellectual property, commercial secrets, judicial procedures, etc.)

[15] Pira International, Commercial Exploitation Of Europe's Public Sector Information, Final Report. p. 10. Hereinafter referred to as the "Pira final report".

- Information regarding the protection of the public decision making process (preliminary or "internal use" information, etc.)
- To avoid unreasonable workload for the administrations concerned (information already published, excessive requests, etc.)

For this discussion the term will refer to information which is recorded and documented in any manner and on any medium, and which is obtained or created upon performance of public duties provided by law or legislation.

3.3 Freedom of information

The access to and availability of information is in many countries considered being a fundamental cornerstone of society. This concept is closely related to the concept of freedom of expression for citizens, established in the constitution of most countries in the western world as a tool to control and monitor government operations, thus serving democratic values. In a society where citizens are fully able to take part of the activities of public bodies, the risks of corruption and misbehavior are reduced. The US policy on freedom of information is characterized by almost complete transparency of governmental operations, with timely and affordable access to information for everyone. There is no uniform legislation for the Member States of the EU regulating the access to information for the citizens. Freedom of information is considered a national matter, resulting in a wide variety of different rules across the continent. Many Central and Eastern European countries have adopted freedom of information laws as steps in their democratic transitions and with the near enlargement of the EU in mind.

The access to and availability of information has been greatly enhanced with improved ICTs and the spread of the Internet. Individuals or businesses can access nearly every piece of information they need conveniently from home or work. This is however a reason for concern, as ICTs of today allow the spread of information around the globe within seconds, which also applies to data that might be considered sensitive.

3.3.1 Privacy

Personal privacy of individuals is a very sensitive issue, where attitudes vary significantly across the world, influenced by national culture, politics, traditions, etc. In many instances, the balance of personal privacy and freedom of information represents an impossible equation. With increased capacity for anyone to gather, store, and analyze information, individuals are concerned with how personal data is used. Generally, individuals wish to restrict the availability of information about them, but at the same time take part of information of public concerns. In the US, the strong freedom of information legislation results in uncertain commitment to personal privacy, whereas a general European attitude is characterized by strong commitment to protection of personal privacy. In many instances, strong personal data protection

policy restricts the free flow of information, particularly when transferring sensitive data abroad.

There is a need to balance the principles of freedom of information and privacy. Consideration must be taken to a number of different aspects, such as national and international laws, but also cultural and ethical issues. In most cases there is no compelling reason for individuals to disclose personal information about themselves. There are however a number of possible scenarios where personal data become very sensitive, particularly when records from several institutions are combined. Therefore, it is important for society to provide citizens with some level of protection concerning their personal data. While the US appears to have found an satisfactory balance, Europe still has a number of issues to work out before a solution is in place that is acceptable across the continent. Considering the differences in culture and national policies in Europe, this appears to be a complicated task.

Search Systems[16] provides a good example of differences in attitudes towards individual privacy in the US and Europe. This US based company provides a collection of public record databases around the world. The company's Internet site allows users to search for a wide variety of information in a comprehensible and user-friendly online environment. Users searching US public records can find detailed information on criminal offenders, credit reports, and tax information; information that would be prohibited for disclosure in many European countries.

Organizations in the private sector have for decades been using public records on individuals to enhance their operations. For instance, insurance companies access vehicle records to enhance their business and improve customer service, credit institutions access credit records to assess the suitability of granting credit to customers, and media is using individual and statistical records to communicate information. These examples show situations where personal data is used by private organizations to make a profit, and could be seen as intrusions of privacy. However, these practices improve and facilitate operations for firms, resulting in faster and more accurate products and services. Therefore the balance between the use of personal data and the protection of privacy is a delicate matter, requiring constant monitoring and legislation that is up-to-date with technological and societal developments.

3.4 Information society

World economies are currently changing from being industry-based to information-based, resulting in fundamental societal changes. The term *information society* is an established expression in the industrialized world. The concept covers a vast array of topics, and concerns most people in society. A large number of definitions of the term exist. IBM has provided one that is comprehensible and illustrative:

[16] Search Systems, a California based company, providing the largest collection of links to free public record databases on the Internet.

> *"Information Society: A society characterised by a high level of information intensity in the everyday life of most citizens, in most organisations and workplaces; by the use of common or compatible technology for a wide range of personal, social, educational and business activities, and by the ability to transmit, receive and exchange digital data rapidly between places irrespective of distance."* [17]

The information society creates borderless societies with new forms of economic and social interaction. It is characterized by freedom of expression and opinions without state interference, as well as the right to seek, receive, and communicate information. Furthermore, deregulations and liberalizations of industries such as telecommunications and media in many countries, and the explosive growth of the Internet have had extensive impact on the developments of information society. The ICT revolution is developing entirely new ways to communicate and to do business. In the past, industrial companies had more complex information requirements than service companies, but this no longer holds true. The services sector has expanded tremendously, and information technology has fueled much of the growth. The technology explosion includes the enormous growth of the Internet, improved online financial services, and the emergence of powerful tools for telecommuting and mobile computing. These elements have created new industries that are reshaping the global economy[18].

3.4.1 Importance of information

Information produced by the public sector is used by all members of society:

- Individual citizens use information in their roles both as consumers and as citizens to maximize the value of decisions such as where to live, how to vote, and which products to purchase.
- Private sector companies act as large information users, but also, in particular, as information content providers.
- Public sector bodies are heavy consumers of information in the context of their duties, using it to increase the efficiency and quality of their operations.

Quick and easy access to information produced by the public sector, such as legislative, statistical, financial, and geographic data, can help companies in the private sector improve their competitiveness. PSI serve as the basis for a large share of private sector management decisions. Without accurate, readily available, and user-friendly information, economic actors cannot make fully informed decisions[19]. Hence,

---

[17] IBM, The Net Result - Report of the National Working Party for Social Inclusion.
[18] Systems Analysis And Design, p. 1.2.
[19] Commission of the European Communities, Public Sector Information : A Key Resource For Europe. Green Paper On Public Sector Information In The Information Society. Hereinafter referred to as the "Green Paper".

for a business, access to the right information can determine the success of their activities. The extensive efforts to integrate European economies and peoples, and the developments of ICTs such as the wireless Internet, will increase the demand for pan-European information products and services, e.g. business services, environmental information, and tourist services.

Governments of industrialized countries have realized the importance of high quality information. The public sector is in most countries the by far largest producer of information. However, governments of many European countries treat their information resources as commodities, used to generate short-term revenues. By creating monopolies for agencies holding certain types of information, governments ensure themselves of income generated by license and royalty fees, at the price of stifled markets with limited prospects of developments due to distorted market conditions.

A problem in many countries may not be the lack of access to documents, but rather a public awareness of the public accessibility of information principle. Many citizens lack primary knowledge about these rights, making it difficult for them to exercise them. Inadequate methods of providing information of citizens' rights concerning the availability of official documents and public information make freedom of information laws ineffective. Initiatives are now being taken on national as well as international levels in the EU to improve citizen awareness of their information rights. Some of these efforts will be described in forthcoming sections.

3.5 Lisbon summit

A European Council was held in Lisbon, Portugal in March 2000, with the main aim of strengthening economic reform, employment and social cohesion in the new "knowledge-based economy"[20]. Heads of State and Government of the Member States established that unemployment rates in the EU are at unacceptably high levels. They constitute a major concern for the Community, and reducing them has a high priority. A long-term strategy was set up in order to combat unemployment and social exclusion. The Council realized the potential of opportunities arising from the new information and technology based economy, and stressed the importance of Europe keeping up with world-leading economies in ICT areas. A main target is for Europe to become the most competitive knowledge-based economy in the world by 2010. One way of accomplishing this goal is the *e*Europe initiative.

*3.5.1 e*Europe *Action Plan*[21]

The European Commission launched the *e*Europe initiative in December 1999 with the objective to bring Europe online. The actions are consist of three main areas:

- A cheaper, faster, and more secure Internet.

[20] European Industrial Relations Observatory on-line.
[21] Council of the European Union & The Commission of the European Communities, *e*Europe 2002, An Information Society For All – Action Plan. Hereinafter referred to as the "*e*Europe Action Plan".

- Investing in people and skills.
- Stimulate the use of the Internet.

As the name implies, the plan is highly action oriented. It focuses on practical issues, i.e. what has to be done, by whom, and when, and has set measures and target dates. According to the plan, there are three main methods to achieve the targets:

- Accelerating the establishment of an appropriate legal environment – The action plan aims at speeding up the adoption of the legislative proposals that are currently being discussed throughout the EU.
- Supporting new infrastructure and services across Europe – Developments in this area depend mainly on funding from the private sector, and much activity depends on initiatives by the individual Member States.
- Applying the open method of co-ordination and benchmarking – This method aims to ensure that actions are carried out efficiently, have the intended impact and achieve the required standards in all Member States.

The implications of these methods need to be integrated, since they all are important for the success of the action plan. The fulfillment of one criterion is not sufficient to achieve the fixed goals. The need for a strong commitment of all Member States is stressed in the action plan. Collaboration with the private sector as well as the main trade partners of Europe is necessary, since they in some cases have access to superior human skills and technology, compared to public sectors of the EU. A hard line is suggested with tight deadlines and strict enforcement of actions. The importance of the involvement of every single Member State is emphasized, as there is no room for an unbalanced pace of implementation throughout the Community.

To avoid social exclusion of citizens, actions are being taken to increase the knowledge and use of ICTs in Europe. One goal is for all citizens to have affordable access to the Internet, either by improved feasibility for home use, or by setting up Internet Access Points in public places such as libraries, schools, and unemployment offices.

Enlargement is a prominent issue for discussion in the EU. The degree of integration of new Member States is largely dependent on the quality of their infrastructure. Therefore, the importance of involving candidate countries in the *e*Europe initiative is stressed. The Commission has allowed a number of candidate countries to participate in the *e*Content programme[22]. An *e*Europe Plus Action Plan has been established, aiming to assist with accelerating reform and modernization of economies in the candidate countries. This initiative is very similar to the original *e*Europe Action Plan, but with changes in actions, objectives, and timetables to reflect political and economical situations in each country.

[22] The European Commission has signed memorandums of understanding with the Czech Republic, Romania, Slovenia, Malta, Estonia, Latvia, Poland and Hungary, allowing them to participate fully in the *e*Content Programme.

3.6 Human Resources

Improvements of ICTs have the potential of improving the business environment, which in turn may lead to creation of job opportunities in Europe. It is also realized on Community level that the legal framework is widely divergent and in many situations inadequate. These factors are resulting in legislation being amended and initiatives are being taken to improve the legal environment and stimulate business. Efforts to effectuate business opportunities are however rendered useless if they cannot be transformed into actual jobs. A combination of business and technical skills is necessary to pursue business opportunities in the information industry. A strong need for a highly technically sophisticated workforce is anticipated in the near future. The number of vacancies in the information technology sector, projected at 1.7 million by 2003, indicates a lack of IT skilled labor in Europe. Labor market forecasts suggest that the demand for ICT workers will continue to increase[23]. Concerns are also raised in the EU regarding the continued supply of skilled labor. The *e*Europe action plan aims at increasing IT skills of all citizens, starting at early educational levels. Life-long learning is a key concept, stimulating the use of ICTs throughout life.

It is important to anticipate the demand for specific occupations in the near future. Efforts to educate a workforce in professions or techniques that will be soon be outdated or overpopulated are unproductive. e-Skills UK[24] has worked out an advanced skills framework – the Skills Framework for the Information Age – providing a common reference model for the identification of the skills needed to develop effective information systems. The organization is industry-driven, responsible for developing the quality and quantity of professional skills in the ICT areas in the UK. This framework could be used as a model for a European-wide system that would assure the future provision of skilled labor[25].

Authorities of the EU strongly emphasize the importance of continued efforts to reduce unemployment and to avoid social exclusion of citizens. A series of programs, e.g. the *e*Europe action plan, are implemented in order to advance the competence of the European labor force. The rate of productivity growth is considered being a major determinant of future developments of the standard of living. The responsibility for a successful boost of labor skills however lies on the national authorities. The success of EU initiatives ultimately depends on Member State commitment and implementation of the plans.

3.7 Previous work

The issue of exploiting PSI for profit has received an increasing amount of attention along with developments of the information society. The Commission has given the issue significant consideration, and has commenced several communications and studies, of which the most important will be described in this section.

---

[23] Commission of the European Communities, Better Environment for Enterprises.
[24] e-skills UK Website.
[25] Conclusion from the ICT and e-Business in Europe workshop. May 30-31, 2002.

The first major initiative on progress in the field was the synergy guidelines from 1989[26]. These guidelines were aimed at improving the public and private sector co-operation in the information market. They did however have little actual effect, due to their non-binding nature, and the novelty of the subject. The Publaw studies 1991-1995 explored the potential contribution of improved access to PSI to the development of the information market[27]. These initiatives may not have had significant effects on the market, but they inspired to further investigation and laid the groundwork for the debate and future studies that were initiated in the mid-1990s.

3.7.1 The Green Paper on Public Sector Information in the Information Society

"The ready availability of public information is an absolute prerequisite for the competitiveness of European industry. In this respect, EU companies are at a serious competitive disadvantage compared to their American counterparts." [28]

In the mid 1990's authorities of the EU realized the need to highlight the issue of PSI and its commercial value, and launched a debate and consultation process in June 1996. It was evident that in order to establish a world-leading information society, a legislative approach would be necessary. The process involved participants from both public and private parties with interest in the information sector. The *Green Paper on PSI in the Information Society* was adopted by the Commission on January 20, 1999. The Green Paper highlights the importance of PSI as a key resource for Europe. It discusses the conditions for access to public records within and between European countries, as well as practical implications for accessing information. Four essential issues were discovered:

- Ready availability of PSI is prerequisite for competitiveness of European industry.
- Information policy harmonization is needed among EU member states.
- PSI is critical to success of Small and Medium Enterprises.
- PSI is fundamental to the economy.

The report brings up ten important questions[29] to be considered and answered by interested parties. Anyone with an interest in the issue was invited and encouraged to submit their comments and answers to the questions by June 1, 1999. Around 200 responses were received from a very broad variety of public and private parties. The responses were gathered and analyzed, and would serve as a base for the forthcoming Commission proposal for a *Directive on re-use and commercial exploitation of PSI* [30].

---

[26] Commission of the European Communities, *Guidelines for Improving the Synergy between the Public and Private sectors in the Information Market*.
[27] Commission of the European Communities, *Publaw 1 Studies* (1991); *Publaw 2 Studies* (1993); *Publaw 3 Studies* (1995).
[28] Green Paper, p. 3.
[29] Questions from the Green Paper, see Appendix A.
[30] Directive proposal.

3.7.2 The Pira International report

Commissioned by the European Commission's Directorate General for Information Society, Pira International[31] undertook a study, completed in 2000, on *the Commercial Exploitation of Europe's Public Sector Information*[32]. The study examined the concurrent situation in the different Member States of the EU, and also provided case studies of companies with success in the field of commercial exploitation of PSI. The report builds on previous work, with the distinguishing feature that it made a very serious attempt to quantify the potential of the PSI resources in Europe.

The PIRA study presented an estimate of the economic value of PSI in the EU. The figure - €68 billion - represents a calculated estimated average of the lower and higher boundaries of investments. To put this figure into a more comprehensible context, the amount is comparable to the turnover of EU industries such as legal services and printing. By comparison, the corresponding amount in the US is €750 billion. Although much of the quantitative data in the study had to be extrapolated, there is apparently a huge difference in how the economic value of the sector has been actualized in the US and in the EU. The study suggests that this difference could represent the economic potential in the EU for commercial exploitation of PSI.

Economic Potential of PSI in Europe and US		
	EU	US
Investment value in €	9.5 billion	19 billion
Economic value in €	68 billion	750 billion

The main conclusions extracted from the Pira report are:

- Charging for PSI may be counter-productive, even from the short term perspective of raising direct revenue for government agencies.
- Governments should make PSI available in digital form at or below the cost of dissemination.
- The EU market would not even have to double in size for governments to more than recoup in extra tax receipts what they would lose by abolishing charges for PSI.
- Governments realize two kinds of financial gain when they drop charges:
  - Higher indirect tax revenue from higher sales of products based on PSI.
  - Higher income tax revenue and lower social welfare payments from net gains in employment.

[31] Pira International, a leading commercial consultancy business, based in the UK.
[32] Pira final report

Chapter 4: THE ROLE OF TECHNOLOGY

4.1 Information and Communication Technologies

In order to be able to access and process information that is made available by public agencies, the use of technological aid is inevitable. Information and Communication Technology (ICT) is a term commonly used in this connection. ICTs as working instruments were developed and introduced in the 1970's and the early 1980's. Communications, not the least international, have developed tremendously over the last 10-15 years. Processing power of computers has increased enormously since the first introduction of personal computers. Developments in telecommunications allow instant and inexpensive communication with a nearly global reach of people. Improved technologies and deregulations of many previously state-controlled industries such as telecommunications have contributed to cheaper, faster, and more reliable connections and equipment. Developments and improvements of communication networks, such as the Internet, have also played a part in the enhanced communication possibilities. Most technology-related industries have experienced an explosive development phase over the past few decades, and demands on cheaper and more technically advanced products and services are constantly increasing. The trends appear to be to integrate and make compatible as many different technological devices and means of communications as possible.

The development pace and market supply of ICT related goods and services is to a great extent determined by private interests in the industry. However, many governments in the industrialized world have realized the potential of using ICTs to enhance efficiency of their operations. It is unreasonable for a government to expect a country to stay competitive on the global market if it is using ICTs that are obsolete or incompatible with leading markets. This factor is particularly important for the EU. The aim to create a world leading knowledge-based society[33] is ambitious. In order to achieve this goal, commitment by all parties to implement the provisions set out is essential. Private parties contribute with their research and development efforts, human resources, and financial resources to the information society. It is in the interest of private organizations operating in the EU, especially in the long run, that the EU targets are reached. It is however on Community, national, and local government levels that the framework for the success is set. Different national governments choose to what extent and how they make use of ICTs. Many governments around the world have drawn up implementation plans for programs aimed to increase the use and knowledge of technology in society.

ICTs demonstrably play important roles in most societies of today. Without the current level of technology, the processing and distribution of data would be much more complicated. Even though information obviously was communicated also before the existence of current ICTs, it is the developments of technology and

[33] Lisbon Summit.

communication that has opened up opportunities for doing business based on the information society. The improved means of processing data and creating useful and attractive products has played an important part, although the ability for potential customers to receive and use the products electronically is equally crucial to the success of the industry. Three conditions must be satisfied for information to be made available to consumers[34]:

- The infrastructure, i.e. the media for distributing electronic information, must be available.
- The information used to provide these services must be made available by service providers in an electronic form.
- Consumers must have the technology available to access the information in an understandable form.

In other words, without comprehensible and user-friendly products, as well as the necessary technology available for customers to use the information products, efforts by companies to make profits from their goods or services are likely to be unsuccessful.

Traders and entrepreneurs use ICTs to efficiently operate and promote their businesses locally, nationally, and internationally. Organizations that are well suited and prepared for the use of ICTs in their operations are likely to gain competitive advantages over rivals lacking this ability. In many industries, such as the information industry, the use of ICTs is inevitable in order to run a business. The table below illustrates the ratios of important ICT aspects in some world leading economies.

	ICT spending/capita (€)	**ICT spending/GDP (%)**	**Share of Internet content originating (%)**
Europe	986	4.97	33
US	1,890	7.62	52
Japan	1,287	4.39	15

Sources: European Commission (1999), p. 74; Kathimerini, June 25, 2000[35].

4.1.1 The US

The US is, and has been for a long time, a world-leader in many ICT related fields. An early deregulated telecommunications market enabled US companies to establish a well functioning communication services market. A highly competitive market environment has nurtured developments in technological areas, not the least in the computer hardware and software industries. The eFOIA of 1996[36], stating that all public documents produced in the US now have to be in electronic formats, naturally

[34] Commission of the European Communities, Information Society Technologies – Challenges and Opportunities, p. 13.
[35] Table taken from Tsipouri, "Europe and the Information Society: Problems and Challenges for Supranational Intervention."
[36] US Electronic Freedom of Information Act.

has increased the incentives for public bodies to adapt their environments to new technologies. With such a strongly decentralized federal system as the US, much responsibility is delegated to the individual states, setting their own standards and requirements for implementations of new technologies and corresponding training. On the federal level a number of agencies, such as the Federal Communications Commission and the National Technical Information Service, administer and monitor activities in their respective fields.

4.1.2 Europe

Europe is generally somewhat behind the US in the use and developments of ICTs. The large number of countries with different legislation, priorities, and standards creates an environment with barriers to trade and innovation. The goals established at the Lisbon summit are however bound to result in ICT progress across Europe.

The telecommunications infrastructure in Europe is very well advanced compared to the rest of the world. Five of the ten largest telecommunication companies of today originate from EU Member States, indicating that Europe holds a very strong position in this industry[37]. However, Internet traffic in Europe is mainly based on telecommunications networks. These networks are designed for telephony, not for computer network communications, resulting in limited capacity to transfer large quantities of digital data. Lack of bandwidth could therefore seriously impede online communications in Europe, particularly between Member States.

Unemployment throughout the European continent is of great concern. Creating an environment able to compete on the same conditions as other dominating economies in such an important field as ICT is a prerequisite for sustainable growth. A number of community-wide action plans are established to assist in reaching the targets. The Sixth Framework Programme (FP6) aims at integrating and coordinating research activities throughout the Union for the period 2003-2006. The *e*Europe initiative, covered in detail in a previous section, was launched by the European Commission in December 1999 with the objective to bring Europe online. *e*Content is a market oriented program with the goal to support the production, use, and distribution of European digital content, involving multinational and cross-sector partnerships. The program also promotes linguistic and cultural diversity on global networks[38]. The *e*Ten program is designed to help the deployment of telecommunications networks based services with a trans-European dimension. This program focuses strongly on public services, particularly in areas where Europe has a competitive advantage[39]. The Interchange of Data between Administrations program (IDA) promotes the co-operation between Community and Member State administrations, and between these and the private sector[40]. This program will support

[37] Yahoo Finance: Industry Center.
[38] CORDIS: *e*Content Programme
[39] European Union On-Line: Information Society Website: *e*Ten.
[40] European Union On-Line: European Commission: IDA Programme.

the provision of PSI, including establishing portals at a pan-European level, and improve and facilitate the transfer of data between Member States. These are but a few initiatives on Community level to create a more integrated Union and to provide a competitive and modern society for the citizens.

Administrative functions are key elements for the efficient integration of European countries. They should provide for a smooth information flow, nationally and internationally, to other public bodies as well as to private parties. Administrators throughout Europe manage large quantities of essential data, and it is of greatest importance that public sector departments do not constitute bottlenecks in the information society. Encouraging co-operation between public departments and between public and private entities, encouraging the use of compatible technologies, and to overcome legal, linguistic, and organizational obstacles are issues that are intended to be assisted with the introduction and successful implementation of national as well as international ICT oriented programs. Smooth functioning of administrative activities is of particular importance considering the upcoming enlargement of the EU, where infrastructural insufficiencies and organizational differences may cause difficulties in international co-operations. It is therefore necessary to make strong attempts to ensure the commitment of current as well as future Member States regarding Community-wide ICT programs.

4.1.2.1 The United Kingdom

The UK has set ambitious targets of becoming a strong ICT nation; the government has announced its commitment to make the UK the most attractive country in the world to do electronic business. The need to raise standards of basic ICT skills has been realized by UK authorities, which have launched programs to increase technological competence in society. An *e*Government program is established to modernize the various state departments and their use of ICTs. The program and its sub-sections aim at adopting accepted standards for all government systems and to reduce costs and risks. The government is focusing on four main areas in making ICT benefits available to all:

- Initiatives to promote access at home, at work and in the community.
- Embedding ICT training in education systems.
- Building consumer trust for online trading.
- Developing local online content.

Enhancing the online environment for businesses, particularly SMEs, has a high priority. This is to be achieved through facilitating contacts with government bodies, improving the confidence in online services, and to work towards common standards. The country seeks to learn from European or international best practices in improving ICT knowledge and performance. Slow implementation of broadband technologies, wired as well as wireless, could cause the country to lag behind in global ICT developments.

4.1.2.2 Sweden

Sweden has spent and is spending significant resources to become a world leader in ICTs. Providing all households and businesses with access to IT infrastructure with high transfer capacity within the next few years has a high priority. Government measures and regulations are expected to ensure competition and diversity in communication networks. Furthermore, the government has realized the need for developing a national strategy for PSI supply. In order to maintain a strong position as a leading IT nation, Sweden is currently undertaking a number of national programs to increase the use and skills of ICT.

The VINNOVA program[41] (the Swedish Agency for Innovation Systems) was launched in 2001. Its main targets are to stimulate research and developments in technology areas by financing, encouraging co-operation between universities and research institutions, and stimulating participation in EU-wide programs. The Single Face To Industry (SFTI) initiative is set up to establish a single set of specifications for the interchange of electronic commercial transactions with all public operators. The purpose is to create a uniform public interface. By identifying user requirements, agreeing on standards, and recognizing the resulting specifications, the communication of information between different bodies, public as well as private, would be enhanced[42]. In addition to these initiatives, various programs are set up to stimulate and develop citizen as well as business competence of modern IT. Particular focus is given to adult and unemployed citizens, usually representing groups lacking basic ICT skills. A government campaign running between 2000-2002, Öppna Sverige [Open Sweden Campaign], was aimed at increasing public awareness of the principle of freedom of information. Signals from the public, journalists, trade unions, and professional organizations indicated that there was a need for government action in the matter. The goals of the campaign were to[43]:

- Achieve a better application of the public access to information principle.
- Increase openness within the public sector.
- Cultivate public knowledge and awareness.
- Encourage involvement and debate.

One important factor contributing to the general high levels of IT competence in Sweden is the extensive availability and use of home computers. New tax regulations of 1998 allow individuals to use employers' computer equipment for private use without taxation. This has allowed employees to use computers at their own pace in their own homes, stimulating the use of technology and resulting in high levels of competence among individuals.

Sweden is actively participating in international projects and organizations dealing with IT issues, such as EU, OECD, G5, and WTO. Sweden has also taken a

[41] VINNOVA Website.
[42] SFTI Website.
[43] Open Sweden Campaign Website.

very active part in the Northern *e*Dimension Action Plan[44], launched by the Council of the Baltic Sea States. The plan focuses on concrete actions to accelerate the northern region's transition to the information society, to ensure co-operation between the states involved, and to improve the environment for initiatives and investments.

4.1.2.3 Estonia

Estonia may be the best prepared EU candidate country in regard of ICT, freedom of information policy, and governmental openness. A recent survey on the network readiness of 82 industrialized nations in the world ranked Estonia at the same level of readiness as for instance Spain and Italy, giving it the highest rank among Central and Eastern European countries[45]. The goals of becoming a competitive information society are set rather high, as Estonia aims at keeping pace with European developments in the area.

The Estonian government recognizes the limited economic opportunities in the country. To establish an information society approved by the EU, the government has set as their goal to facilitate the participation in the information society by public as well as private sectors. This will be done by practical action plans, with four main aspects taken into consideration[46]:

- Modernization of legislation.
- Supporting the development of the private sector.
- Shaping the interaction between the State and citizens.
- Raising awareness of problems concerning the information society.

Furthermore, Estonia is also involved in international organizations concerned with ICT developments, e.g. they are responsible for the ICT Security Action Line of the Northern *e*Dimension Action Plan[47].

4.2 The Internet

The Internet is an interconnected system of networks that connects computers around the world. It is widely used by a large number of people worldwide for a wide variety of reasons. It can be used by private parties, public bodies, and organizations to do research, conduct business, communicate, obtain information, etc. The popularity can be contributed to its ease of use, cheap and reliable access, ready availability, and the huge range of functions that can be carried out online.

---

[44] Council of the Baltic Sea States, Northern *e*Dimension Action Plan. Seven action lines have been adopted in order to achieve the goals. Each participating state is responsible for initiating the implementation of one Action Line; Sweden being responsible for the successful development and implementation of the *e*Government Action Line.

[45] Estonian Department of State Information Systems (RISO). Rank based on investigating the relationship between networked readiness and key variables such as GDP per capita, ICT expenditure, and Internet usage from individual, business, and government perspectives.

[46] Estonian Informatics Centre: Principles of Estonian information policy.

[47] Council of the Baltic Sea States, Northern *e*Dimension Action Plan.

The Internet is a very useful means to communicate information. Most governments have official web sites where anyone can take part of important information on activities and news about the functions of the government and its departments. Many government agencies offer the option for citizens to access or order PSI via the Internet. The service of releasing information in electronic format improves the transparency of public bodies, as it significantly facilitates obtaining information. Obtaining information in electronic format saves time, space, money, and effort. Furthermore, electronic data is much easier to manipulate and customize for the user than is data stored in other media.

The Internet also provides efficient means of doing business for private as well as business consumers. Electronic commerce has become widespread, and has to a large extent replaced brick-and-mortar stores. The sale of services and goods over the Internet has revolutionized the way business can be conducted today, and a large number of employees and storage facilities have become obsolete. Some industries are rarely affected by the Internet boom. Others, such as travel agencies, financial services, and postal services have become more or less dependent on it, with the consequence that a large number of service outlets have been out-rationalized. ICT companies who master the use of the Internet for their business purposes, and who have survived the e-commerce turbulence over the past few years are well suited to function in the information society and the new economy.

4.2.1 Internet penetration

The availability, quality, and price of Internet services is a major indicator of the ICT standard in a country. Expensive and unreliable Internet connections serve as a disincentive for people to utilize the World Wide Web to do business, communicate, or search for information. Generally, European developments and spread of the Internet have not followed the pace of the US.

Internet penetration rates, i.e. how large percentage of the population is using the Internet, can be used as a measure to understand how well a country is prepared for online services. Despite difficulties in collecting accurate and comparable data in different regions, most reports give a fair estimate of the ratio between countries. With slight differences in the internal ranking depending on the source and time, Finland, Sweden, and the US are usually among the countries with the highest percentage of the population having access to and regularly using the Internet. Estonia and the UK are also comparatively far advanced[48]. With figures such high as those of the world leaders, the market is more or less saturated. Growth rates of getting more people online are low for these countries, since naturally not everybody has the ability or the desire to use the technology available. Despite overall improvements of increasing global Internet penetration, the gap between those with and without access to the Internet continues to increase throughout the world.

[48] Current rates for the US, Sweden, Finland around 60%. For the UK and Estonia around 40%. Source: TNS Interactive, Global eCommerce Report, June 2002.

Although telecommunications markets throughout Europe have been deregulated and seen a lot of progress over the last decade, most customers still access the Internet via local lines. Due to lack of competition, prices of Internet services are still rather high in many regions, to some extent preventing citizens to access information provided on the Internet. Reduced prices for Internet access throughout Europe is considered a prioritized task for the Commission, and can be achieved by reinforcing competition and clear benchmarking on national as well as pan-European levels.

4.2.2 Security

One major concern raised with the spread of the Internet is that of online security. The Internet brings about endless opportunities to spread information, which also leads to reduced levels of privacy protection. A vast amount of data concerning individuals that were previously difficult to obtain due to administrative and legal reasons, are now widely available to millions of Internet users worldwide.

Another security concern is related to the economical aspect. The Internet has popularized a new form of crime, that of hampering bank or credit information to steal money. Although great improvements have been made to ensure credit security for people doing online business, many are still reluctant to give out financial or personal information online. Measures are being taken to increase online security and credibility of online business. Many leading firms in ICT sectors or related industries are heavily dependent on being able to provide a virtual environment where customers have no fear of their personal information being wrongfully used. Although many leading firms in the industry are based outside Europe, initiatives are being taken on EU level to enhance the use of ICTs and to promote consumer confidence in using the Internet for commercial purposes.

4.2.3 Wireless Internet

Advancements in digital technologies now enable people to access the Internet via their mobile phones or PDAs (Personal Digital Assistants). A big asset for Europe is the leadership in mobile networks. Mobile subscriptions in Europe are out-competing fixed lines, and an increasing number of citizens has mobile access to the Internet[49]. The usefulness for most web sites to be accessed on mobile tools is limited due to interactive and graphical contents. There are however situations where useful World Wide Web information can be conveniently obtained via mobile handsets in the hands of a user anywhere mobile networks can reach. Much of the information that could be of interest for people to be able to access anywhere at their convenience is related to data held by the public sector. Traffic, transportation, weather, local information, etc. are examples of areas where instant access could be of great help to users of the mobile Internet.

[49] Council Of The European Union & Commission Of The European Communities. *e*Europe 2002, An Information Society For All – Action Plan.

These services will be very price sensitive, as they represent revolutionary techniques. Providers must find the right balance between recovering costs for investments along with reasonable profits, and convince consumers of the possibilities and usefulness of mobile Internet access. Therefore, high levels of competition are required in order to stimulate the industry to constantly improve the services as well as the equipment, and also to keep prices down to allow for affordable access.

Chapter 5: LEGISLATION

5.1 Introduction

Making PSI accessible to citizens is an important step in the integration process of the EU. In order to allow citizens the possibility to exercise their rights of freedom of information, an adequate legal framework must exist. Currently, legislation regarding the areas related to access to PSI is highly fragmented throughout the Union. Furthermore, complex, inaccessible, and unclear rules, in areas such as conditions for re-use of PSI and pricing policies, add to the difficulties of taking advantage of commercial opportunities in the field. Hence, for ambitious entrepreneurs, to first of all learn which rules apply for accessing information in and between different Member States and then assess which conditions apply for the re-use of the information can be very demotivating. This chapter will explain the current legislative situation in EU in the most important functions related to freedom of information and commercial exploitation of PSI. Legislation concerning the situation in specific countries will be covered in a different section of this study.

5.2 Data Protection Directive[50]

Acts on data protection are important pieces of legislation, as they protect basic personal rights. Without them personal data would be available for anyone to use for any purpose. A Directive on the protection of personal data was adopted by the EU in 1995. The objective of the Directive is for Member States to protect fundamental rights and freedoms of natural persons, and their right to privacy with respect to the processing of personal data. The Directive also establishes a clear legislative framework for the free movement of personal data.

The adoption of this Directive was deemed necessary for the developments of a modern information society. Diverging national rules make cross-border business very difficult for organizations depending on the processing of personal data, e.g. banks and insurance companies. Lack of consumer confidence that individual data is processed in proper and secure manners impedes the growth of the information society. The Directive establishes as set of common rules to prevent the abuse of personal data and to ensure that individuals concerned by the data are informed of the processing operations. Data holders are subject to an obligation to collect data on individuals only for specified, explicit, and legitimate purposes. Data can only be held if it is accurate, relevant, and up-to-date. The Directive also applies the principle of fairness, making the collection of data as transparent as possible.

Individuals should be given the option to choose whether they wish to provide information or not. Other rights individuals enjoy include the right of access to data collected on them, the right to know where the data originated, the right to have inaccurate data rectified, and the right to withhold permission to use their data in

[50] Data Protection Directive

certain circumstances[51]. Sensitive data, e.g. ethnical or racial origin of individuals, or political or religious beliefs, can only be processed with the consent of the individual.

The Directive gives Member States a lot of flexibility to implement their own rules, resulting in that there are still differences in the protection of personal data across the EU. Data that is transferred between Member States is subject to the national laws applying where the data processor is established.

5.3 Database Directive[52]

Traditionally, creators of databases have received little or no legal protection of their creations in many countries throughout Europe. Only in the UK, Ireland, the Netherlands, and the Nordic countries were database designers provided some protection of their work. Without legal protection, virtually anyone could access and re-use most databases without any compensation to the creator. Hence, there was very little incentive to spend effort and capital on compiling data and process it into useful formats. In order to encourage investment in the information industry, the EU adopted a Directive on the Legal Protection of Databases in March 1996, aimed at protecting databases from unauthorized use, giving an incentive for entrepreneurs to spend time and resources on creating databases. Member States were required to implement the new Directive by January 1, 1998.

Database makers must be nationals of a Member State in order to benefit from these rights, with the effect that also countries outside the EU could be affected. Accordingly, very shortly after the adoption of this Directive, the Database Protection and Intellectual Property AntiPiracy Act of 1996 was introduced in the US, in order to harmonize rules in the area with those of the EU. Also EEA countries and candidate countries are strongly encouraged adopt similar legislation.

The Directive has been criticized for its hampering effects on re-use of important information[53]. Side effects resulting from this Directive include:

- Excessive protection for certain databases (e.g. phone directories, environmental observations).
- New barriers to data aggregation.
- Opportunities for dominant firms to harass competitors with threats of litigation.
- Impediments and disincentives for non-commercial database creation, e.g. universities and other research institutes.

Public sector bodies sometimes use the Directive, under the guise of consumer protection and maintenance of data quality, to protect databases created by state agencies. These practices assure the continued operations of certain government departments, and the revenues they generate through fees and license for the use of

[51] European Commission, Council Definitively Adopts Directive On Protection Of Personal Data.
[52] Database Directive.
[53] Weiss, *"Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts."*

their databases. However, these practices limit private opportunities to re-use information extracted from public sources.

5.4 Intellectual Property Rights

Protecting an invention, e.g. a database, from unauthorized use is in every interest of the creator. If anyone could easily and freely copy and make use of an original creation, there would be little incentive for innovation, which would stagger developments in most industries. Therefore, a large number of national as well as international laws on protection of intellectual property have been adopted and implemented.

Although the basic requirements for a patent are similar in all Member States throughout the EU, it is still a matter of national legislation. Many aspects in the area have been harmonized, but a number of differences still exit, not the least in the interpretation of legal terms[54]. To reduce costs and efforts associated with applying for patents in every single country, an application can be submitted for patent protection based on the European Patent Convention. This convention, signed in 1973, makes protection of inventions in the contracting states easier, cheaper, and more reliable by creating a single European procedure for granting patents on the basis of substantive patent law. The Convention is supervised and administered by the European Patent Organization, with the aim to strengthen co-operation between the countries of Europe in the protection of inventions[55].

Some of the most important international treaties regarding IPRs are the Paris Convention and the Berne Convention. The Paris Convention for the Protection of Industrial Property of 1883 is one of the oldest and internationally most recognized treaties, designed to help people from one country to obtain protection in other countries for their intellectual creations[56]. The Berne Convention of 1886 is an international copyright treaty, more far-reaching than many national copyright laws. It requires member countries to recognize the moral rights of integrity and attribution, and gives economic rights to the creator of a work[57].

Similar to database protection acts, the existence of intellectual property rights and copyright laws may cause problems for the re-use of PSI. The public sector may misuse these regulations to limit the exploitation possibilities of their creations for private organizations. Another problem arises when a public body does not have full rights to the information they provide, and can therefore not license the material to third parties. Consumers want low prices, which results from free flow of information and open competition. The lack of legal protection of creations may however serve to discourage private investment. A good balance between free flow of information – a goal of the common market – and strong protection of intellectual property is therefore a delicate matter, in practice very difficult to achieve.

---

[54] IPR Helpdesk.
[55] European Patent Office.
[56] Paris Convention for the Protection of Industrial Property.
[57] Berne Convention for the Protection of Literary and Artistic Works.

5.5 Directive on the re-use and commercial exploitation of PSI[58]

On June 5, 2002 the European Commission adopted a proposal for a new Directive, aimed at minimum harmonization of the rules for the re-use of PSI in the EU. Currently these rules vary widely throughout the Union. This hampers the development of value-added products and services using data or information held by public departments as inputs. A pan-European framework for the re-use of PSI will foster investments in creativity and innovation in the information society. Improved conditions for the use of PSI will lead to benefits for the citizens and businesses in the form of a range of value-added information products that the public sector itself cannot provide. Furthermore, this Directive could facilitate operations for public sector bodies, which are themselves not always on the clear of existing rules, particularly for requests on re-use of information. The Commission is especially concerned with the fostering and survival of small and medium-sized enterprises (SMEs) within the EU, and believes that action in this area could reinforce the entrepreneurship of companies, regardless of size. It is important to emphasize that the Directive does not urge the EU Member States to gather and publish *more* information, but proposes that information should be available in a more transparent, simple and homogeneous way for as many potential users as possible.

The proposal sets out guidelines and deadlines for implementation of the Directive, but leaves it up to the Member States to choose the appropriate method for doing so. Existing rules for access to documents in the Member States will be maintained, the level of protection of personal data under existing data protection laws will be respected, and compliance with existing competition laws will be exercised. The goals of the proposed Directive are:

- To facilitate the establishment of European information services based on PSI.
- To enhance an effective cross-border use of PSI by private companies for value-added information products and services.
- To limit distortions of competition on the European market.
- To avoid that a different pace in the Member States in dealing with the re-use of PSI will lead to further fragmentation.

The Commission believes that this cannot be achieved by the individual Member States at an acceptable level of efficiency, as the slowest country will set the pace. Previous negative experience with policy guidelines indicates that legislation is necessary to realize the set objectives. The choice of a Directive as the appropriate method of attaining Community goals leaves a certain margin of maneuver for national governments. At the same time it assists in overcoming the most elementary barriers to domestic as well as cross-border flow of information. Furthermore, the choice of a Directive as a legal instrument indicates that the potential of the market has been realized, and that EU authorities wish to highlight opportunities and stimulate business initiatives in the industry.

[58] Directive proposal. For a list of the 14 articles of the Directive, see Appendix B.

In short, with this Directive proposal, the Commission aims at applying current market rules to PSI. In a rapidly evolving information society, and with the goal for the EU to become the most competitive economy in the world within a few years[59], the issue of transparency and openness must receive appropriate attention. Stimulating competition and encouraging entrepreneurship is a major concern for the Community. With a world-wide emphasis on information society and its potential for commercial use, Europe cannot afford to ignore the issue.

The individual Member States of the EU do however not agree on the final form of the Directive. Different legislation in different countries, stemming partly from and affected by differences in cultures and traditions, and the view of protection of privacy, makes it difficult to reach a consensus in the matter. The Member States can be divided into three main groups according to their attitude towards the Directive proposal. There is a *"soft"* group, including Denmark, Finland, the Netherlands, and Sweden, with current liberal PSI laws. These countries resolutely support this new proposal. The countries of the *"middle"* group – Austria, Belgium, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, and the UK – do not consider this a high priority issue, but are not opposing the proposal. The *"hard"* approach is at this stage only adopted by Germany, strongly opposing the proposal. This could possibly be explained by the fact that no freedom of information legislation exists in Germany on a federal level, although a few of the *Bundesländer* have adopted such laws. France has deliberately been left out from this divide of the Member States. Little data is available concerning their stand on the issue. It appears that they are still ambiguous in their approach, although probably leaning towards supporting the proposal[60].

The Directive is an eagerly awaited provision among many different bodies, private as well as public, across Europe. Many data-holders, generally public sector agencies, are concerned about the impacts of the Directive. However, most public departments agree that the conditions for re-use of PSI in the EU should be improved. The re-user end of the market takes, naturally, a more positive stand. This Directive would improve the situation on the information market, giving European businesses a greater chance to prosper, within the EU as well as globally, on fair market terms[61].

5.5.1 Current status

The EP has reviewed and debated the proposal, and submitted their views to the Commission in February 2003. The EP welcomed the proposal and agreed with the Commission that this issue needs further action. The different committees of the EP made a few – although important – changes to the proposal. The most important changes concerned the pricing policy and the time frame for releasing information by

[59] A European Council was held in Lisbon on 23–24 March 2000 in order to discuss how to harness the power of the emerging "knowledge economy" in order to create employment growth. The conclusions of this Council focus on a 10-year strategy for the European economy, including a framework for concrete targets in employment and training.
[60] Yvo Volman
[61] Saxby, "EU Policy on exploitation of PSI shapes up".

public bodies. The Commission accepted most of the major amendments made by the EP in their amended proposal of the Directive. Considerable progress in the area was made at the Transport, Telecommunications, and Energy Council in Brussels March 27-28 2003, where the Council reached unanimously a political agreement on a presidency compromise text. The Commission is hoping for an adoption of the Directive under the Italian presidency of the latter half of 2003, which is also a set target by the European Spring Council[62]. At the moment of writing[63], the proposal is being reviewed by the Council.

5.6 Pricing policy

The issue of pricing policies for the distribution of PSI is a sensitive matter. Public departments usually have a different cost structure than private businesses, and may see charging for their information as a way of strengthening their financial situation. Policies vary widely from country to country. Some countries sell their information at full market price, while other countries release it free of charge, or at the most on a marginal cost recovery basis. The table below shows the general cost recovery principles for different types of information:

PATTERN OF COST RECOVERY	**LOW COST RECOVERY**	**MEDIUM COST RECOVERY**	**HIGH COST RECOVERY**
Examples of information	• Agricultural and fisheries information • Social information • Legal system information • Political information	• Economic and financial statistics	• Environmental information
Levels of citizens access	High	Medium	Low
Ease of access to private sector	High	Medium	Low
Price of raw material	Low	Medium	High
Levels of value added by successful exploiters	High	Medium	High

Source: Pira final report, p. 64.

5.6.1 Different national approaches

The US approach holds that PSI should be available for anyone to use in any manner. The general pricing philosophy in the US is that adding value to information should be seen by public bodies only as a method to increase their own efficiency, not as an incentive for profit-making activities. The money generated from the spread of public documents is recovered back to the central budget in the US, which is usually not the case in Europe. The liberal pricing policy in addition to the easy access of

[62] Yvo Volman.
[63] May 21, 2003.

information creates vast opportunities for entrepreneurs in the US to make profits from value-added products based on PSI.

On the contrary, the policies of many UK departments create disincentives for commercial re-use of PSI. The 1985 DTI guidelines favor a market approach, where *"departments should charge a reasonable market price"* for their tradable information[64]. Different charges may apply depending on how the requested information will be used. Furthermore, much information produced by government bodies is copyrighted by Crown copyrights. Hence, the legal environment in the UK is rather unfavorable for commercial exploitation of PSI.

Sweden is practicing a liberal pricing policy, where information can be obtained free of charge, or for a minor fee. Some public agencies, e.g. geographical services, do however apply cost-recovery prices to their products.

Estonia is practicing a similar approach to the Swedish one, where public bodies are to release information at a minimum cost. While having similar pricing policies, one noticeable difference between Sweden and Estonia is the identification requirements. Sweden allows anonymous requests, while Estonia does not.

5.6.2 EU approach

The proposed Directive leaves it up to the Member States to set their pricing policies, taking into account that a number of public sector bodies depend on the income from the sales of their information resources to finance their operations[65]. It finds it reasonable for public sector bodies to recover their production costs, but proposes to set an upper limit for charges, where unreasonable profits are being made. After review of this proposed Directive, the EP wishes to further stimulate private initiatives to re-use PSI, by only allowing public sector bodies to charge for the costs of reproduction and dissemination of information, thus not allowing for a profit margin. Such policies would ensure a level playing field on the market[66].

5.7 Liability

The issue of liability for damages caused by releasing information appears to be a sensitive matter. Being held reliable for the release of documents naturally may cause government agencies to be reluctant and suspicious of what and to whom information is communicated. The Commission has deliberately avoided a European standard rule in the matter, since this would not be fit for all situations. Liability will also for the future be a matter between the licensor and the licensee. The issue is for instance not covered by the proposed Directive, indicating that Member States are expected to establish their own appropriate rules in the matter.

---

[64] Green Paper.
[65] Directive proposal.
[66] European Parliament, Report on the proposal for a European Parliament and Council directive on the re-use and commercial exploitation of public sector documents.

5.8 Case law

The existence of legal texts is a consequence of a perceived need to protect society from injustices, or to grant it rights and obligations to perform a variety of activities. Laws are constantly being applied to situations of alleged wrongdoing, so also in the field of freedom of or access to information. A large number of cases concern denial of access to information that authorities are requested by law to release. On both national and EU levels, authority decisions to withhold information are being challenged by individuals and businesses. Particularly journalists in the line of their profession have special interest in official documents, being part of their research activities[67]. Most cases concern authority refusal or failure to communicate information to citizens, although complaints are also filed regarding discrimination, abuse of dominant position, etc.

If the concept of free access to information and government transparency is to be actualized, it is essential that disputes can be settled in a timely and sophisticated manner. Cases of maladministration can reinforce important principles. However, with the in many cases heavy workload of courts, business opportunities may have gone lost in costly and lengthy disputes. The existence of a neutral body with the ability to initiate solutions in conflicts is therefore of importance for the smooth functioning of day-to-day business operations as well as the public confidence in the judicial system.

5.8.1 European Ombudsman

One indication on the extent of maladministration regarding refusal of information could be measured by the amount of complaints received by the European Ombudsman[68]. The Ombudsman investigates complaints concerning practices of European Community bodies, but cannot examine cases where national, regional, or local authorities are involved. The Ombudsman has no power to settle disputes, but works to make parties agree on solutions that are satisfactory to all, or direct parties to institutions that have the authority to proceed with investigations. In order to assure the most efficient operations of the Ombudsman, to relive some of the work burden, and since the Ombudsman only has power to influence EU institutions, there is a close co-operation with national, regional, and local Ombudsmen and similar bodies.

[67] See e.g. *T-174/95 Tidningen Journalisten vs Council.* A Swedish newspaper was denied access to national and EU official documents. The authority decisions to refuse access were overruled by the Court of First Instance.

[68] An EU-wide organ instituted where citizens or organizations may file complaints on maladministration by European Community bodies and institutions.

Chapter 6: ANALYSIS OF CURRENT MARKET SITUATIONS IN THE UNITED STATES AND IN EUROPE

6.1 Introduction

Every geographical market in the world demonstrates its own characteristics. Geographical location and the existence and kind of natural resources determine to a great extent the nature of the market. Culture, economic and political situations, legal systems, and infrastructure are other factors influencing the economic environment individuals and businesses are exposed to. This chapter will examine the current market situation as well as the legal environment in the geographical locations selected for this study, with focus on information and ICT industries.

6.2 The United States

6.2.1 Business environment

The US is a leading world economy, with absolute as well as relative GDP figures among the very highest in the world. A post-Wold War II increase in international trade through lower tariff barriers, a 1980's characterized by deregulations and tax cuts, and a 1990's with stable monetary policy and a wave of technological innovations, contributed to make the country a globally dominant economy. Businesses and individuals enjoy benefits from the most powerful technological environment in the world, resulting in great flexibility in decisions to expand capital plants, lay off surplus labor, and develop new products. Open market policies have created a highly competitive business environment, serving as a catalyst for developments and innovation in most fields. US companies hold world leading positions in many industries, most notably in computer related products, medical, aerospace, and military equipment[69]. The US market is attractive for foreign investments due to its economic and political stability, few trade barriers, and active support from government for international investment.

Leading positions in industries such as computer equipment, software, and electronic commerce have enabled US firms to develop highly sophisticated information markets. Favorable legislation, fierce market competition, extensive research and development efforts, a highly developed financial market, and government policies strongly supporting private business initiatives are other factors having great impacts on the success of US companies in the information industry. A comparatively homogenous market high in demand of a vast variety of information products and services further fosters innovative information business ventures. Hence, entrepreneurs wishing to create value-added information products generally have access to all the required resources to pursue business opportunities.

The information industry in the US employed in 1997 over 3 million people (corresponding number in Europe an estimated 2 million people)[70] and generated sales

[69] The Heritage Foundation.
[70] Pira final report, p. 54. Facts extracted from Eurostat.

of over $640 billion[71]. The IT sector comprises about 8% of the US economy, and has accounted for a large share of the GDP growth since 1994[72]. This makes the IT industry the single largest exporting sector in the US. Considering that over the last few years the information industry has increased rather than decrease in importance, the industry is an influential contributor to the US economy. Calculations indicate that the US government is investing over twice as much money in PSI compared to the governments of the EU combined[73].

The liberal legal and pricing policies give US companies three distinct advantages compared to EU companies wishing to exploit PSI:

- Very few legal constraints for obtaining and re-using PSI, resulting in easier access.
- Policy of releasing data free of charge or at marginal costs leading to lower prices.
- Larger government investments in PSI, generating data of higher quality.

The US government is a major collector, creator, disseminator, and user of information. Considering the size of the country and the resources available on US federal level, the amount of information produced creates opportunities for nearly any type of business project. The freedom of information policy also gives companies access to information that in many countries would be considered sensitive. Having access to vast amounts of different information increases the opportunities for innovative ways of disseminating data and creating products in demand on the market. Economic, legislative and technological conditions enable private entrepreneurs to produce, market, and distribute value-added information products that could satisfy customer needs.

The favorable business environment in the US has produced world-leading companies in most information areas. D&B is the world leading provider of business information[74]. From having been a national provider of credit reports, the company has expanded to become a global concept in the information industry, covering over 200 countries. The company contributes much of its success to developments in cross-border communications. Commercial meteorological services is another industry where US firms have taken advantage of opportunities presented by the market. In the US, this industry employs some 4,000 people in roughly 400 companies, resulting in revenues generated in the range of $400-700 million[75], far exceeding corresponding

[71] US Census Bureau, 2000. The next report representing figures for 2002 is due in early 2004. Although these figures include sales from sectors such as broadcasting, telecommunications, motion picture and sound recording, etc. they did not include other sectors that use PSI for their operations, such as legal and environmental services.
[72] Information Technology Industry Council, IT and the Economy
[73] Pira final report, p. 52
[74] D&B, formerly known as the Dun & Bradstreet company.
[75] Corresponding figures for Europe are estimated to 300 employees in 30 companies, generating $30-50 million. Sources: Commercial Weather Services Association, Association of Environmental Data Users of Europe. Weiss, Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts. p. 8.

numbers for Europe. Legal research services, tourism and transport information, and mapping services. are other examples of areas where US firms have succeeded from the commercial exploitation of PSI.

6.2.2 Legislation

Historically, the United States and Europe have shown notable differences in attitudes towards governmental transparency. Legislation on the two continents has displayed different sets of interests. Major policies concerning the US information market are found in the First Amendment to the Constitution, the Freedom of Information Act, the Copyright Act, and the Paperwork Reduction Act. These laws work together to minimize government control over information resources and to maximize citizen access to information. There is a clear and simple legislative framework regarding the access to and re-use of government federal information in the US, giving its citizens and businesses extensive possibilities to re-use information for commercial purposes[76].

The US legislative system concerning PSI is based on four pillars:

- Strong freedom of information.
- No copyright on public information.
- No limitation for re-use of information.
- The costs for public authorities for releasing information should be equal to the costs of dissemination.

The First Amendment to the Constitution grants the freedom of speech and freedom of press for all residents. The Paperwork Reduction Act went into effect in October 1995 to minimize the burden the government poses on the public. The Act defines rules for the administration and practices of public agencies, as well as restricting control over their information resources. Another purpose of the Act was to improve the quality and use of federal information[77].

6.2.2.1 Freedom Of Information Act

The most important law concerning the dissemination of information is the Freedom Of Information Act (FOIA), enacted in the US in 1966. This Act states that all federal agencies are required to disclose records requested in writing by any person. Furthermore, US government agencies are required to officially publish information related to their activities. The format in which the agency is required to display the information differs according to the extent the different agencies have established themselves with means of electronic communication. The mere existence of the FOIA has caused many public bodies to voluntarily disclose information without specific requests. This practice prevents unnecessary administrative work due

[76] Commission of the European Communities, *e*Europe 2002: Creating an EU framework for the exploitation of public sector information. p. 6
[77] US Paperwork Reduction Act.

to repeated requests of popular information. The growth and spread of the Internet has greatly enhanced the routine procedures of public agencies as well as public access to public records.

Agencies may withhold information pursuant to nine exemptions and three exclusions contained in the statute, including national security information, trade secrets, law enforcement files, personal data, and pre-decisional documents. The FOIA applies only to federal agencies and does not create a right of access to records held by Congress, the courts, or by state or local government agencies. Each state has its own public access laws regarding state and local records[78].

The Act was amended in 1996 to mirror current developments in the new information society. The Electronic FOIA (eFOIA) significantly has extended the definition of a record to include electronically created documents and information[79]. Furthermore, all public records created after November 1st 1996 must be available by electronic means[80].

With recent events of terrorism, a political instability in certain parts of the world, and US involvement in global conflicts, voices have been raised over the last years to limit government transparency in the US. Consequently, some previously publicly available government and state information concerning national security have been removed from public web sites and reading rooms[81].

6.2.2.2 Copyright Act [82]

A major difference between the US and many other countries is the absence of copyright protection of government information. The purpose of the Copyright Act is to place government information in the public domain. The Act reinforces the belief that the public is best served if governmentally created work is free from potential restrictions of dissemination. Hence, anyone is free to re-use government documents in any way and re-distribute it at any price.

The liberal freedom of access and information dissemination laws in the US do however not create a completely harmonized market environment. With the large independence of the states to administer their own legislation, federal and state laws may be in conflict at times. Government agencies can also be creative in their ways of restricting re-use of their data, e.g. by restricting access to databases. As in Europe, many state governments and public agencies have realized the value of their information resources, and use it for revenue generating purposes through fee and license charges.

---

[78] US Freedom Of Information Act. 5 U.S.C. §552.
[79] Madison, "The Electronic Freedom Of Information Act: The Promise Remains Unfulfilled. "
[80] Perrit & Rustad, "Freedom of Information Spreads to Europe."
[81] Gellman, "The Foundations of United States Government Information Dissemination Policy."
[82] US Copyright Act.

6.3 The European Union

6.3.1 Business Environment

The EU is strongly characterized by the concept of the Common Market. The aim of this internal EU market is to remove obstacles for the free movement of capital, goods, persons, and services. Stimulating integration of people and businesses is considered being essential for boosting economic activity in the Union. Depending on the nature of the economic activity of an organization, operations are to various extents regulated by Community and/or national laws. Member States are expected to adopt policies benefiting the Common Market as a whole, with the reservation of protecting strong national cultural, moral, and environmental policies and values.

The attitudes towards entrepreneurship in Europe show a couple of major distinct differences compared to the US. The European labor market is characterized by a tendency to prefer dependent employment instead of self-employment. This indicates that Europeans are less willing to bear business risks associated with entrepreneurship than is the case in the US. Furthermore, European entrepreneurs are generally less concerned with developing and growing their organization than are US businesses[83]. The general reluctance for entrepreneurial activity could be explained by the amount of barriers to entering a market that exist in Europe. Administrative, cultural, language, and legal barriers are examples of deterring and hampering factors for business growth.

Significant investment opportunities exist in the EU public sector. Projects involving transport, general infrastructure, environments, energy, IT/Telecom, tourism, and public health may involve public procurement opportunities, open in some instances to all international bidders. Electronic commerce and other communication and technology-related services are other very attractive areas of investment. The online population in the EU is expected to match that of the US in 2003[84]. In addition, growth in the mobile access sector is distinct. Increasing international competition results in higher quality products and services, and lowered prices for customers. These factors create a business environment where ICTs play significant roles.

EU Member States still maintain a wide variety of standards, testing and certification procedures. These practices continue to serve as barriers to trade within the EU, as the differences cause delays in the adaptation to national requirements and the distribution of goods and services. Traditions of constant lags in the development of EU standards, lags in the drafting of harmonized legislation for regulated areas, inconsistent application and interpretation by EU Member States of existing legislation, overlap among Directives dealing with specific product areas, uncertainty between the scope of various Directives, and unclear marking and labeling requirements for regulated products before they can be placed on the market, are factors causing concern for external exporters to the EU. However, these issues also

[83] Commission of the European Communities, Better Environment for Enterprises.
[84] US Department of State, FY 2001 Country Commercial Guide: European Union.

create confusion and frustration among EU based companies, serving as impediments to cross-border European trade.

All Member States of the EU are making progress in reducing barriers to do business. Administrative functions are being rationalized and legislation is being amended to encourage and facilitate smooth and successful business operations. Particularly SMEs are given serious attention, as these are considered being essential elements for total economic growth. One major constraint to business performance in the EU, especially for small firms, is the lack of financial resources. Entrepreneurial and innovative potential cannot be converted into business activity without the required capital. A major difference for companies operating in the US and companies operating in the EU is the availability of venture capital[85]. The US venture capital industry began to develop as early as in the 1950's, compared to the 1990's for most countries in Europe. The EU therefore has a lot of work to do to improve the financial situation for businesses, and to approach US standards[86]. Most Member States are now spending serious efforts on improving the financial situation for business ventures, but are still lagging behind the US in this area.

6.3.2 Legislation

Currently, there is little legislation on Community level regarding the access to and commercial exploitation of PSI. Existing legal Community instruments, such as competition rules, non-discrimination rules, rules on free movement of services, and intellectual property right regulations may be applicable in certain instances. However, these rules offer relatively limited remedies as they are more general in scope, and are also applied to a number of other situations.

As a declaration of the Maastricht Treaty establishing the European Union, the Conference considered that transparency of the decision-making process would strengthen the democratic nature of the institutions and public confidence in the administration. In October 1993 an inter-institutional agreement on democracy, transparency, and subsidiarity was reached. With the ongoing rapid developments of ICTs, and also the rapidly growing popularity and spread of the Internet at the time, authorities saw a need for clarification of terms and an update of legislation. Therefore, a new Article 255 was inserted in the Amsterdam Treaty in 1997, giving any citizen of the Union and any natural or legal person residing or having a registered office in a Member State the right of access to EP, Council, and Commission documents[87].

While US legislation has been focused on a comprehensive system of commitment to access of information, but with an incomplete commitment to privacy, Europe has taken the opposite approach. European countries have traditionally kept

[85] In 2000, for example, a peak year for venture capital funding, it represented 0.9 % of GDP in the US, compared to 0.4 % in the Netherlands and the UK, and 0.2 % of GDP in Sweden, the three Member States with the largest venture capital markets in the EU.
[86] Commission of the European Communities, Better Environment for Enterprises.
[87] Treaty on the European Union, Article 255.

systems of legislation and regulations protecting privacy, but with uncertain commitment to access of information. Authorities on European Community levels are now realizing the advantages of the US system, and are evaluating options to applying this model to European conditions.

To set the pace of the transparency and openness guidelines established by the Amsterdam Treaty, as well as achieving the goals of the Lisbon summit, institutions of the EU are making most documents regarding Community activities readily available. All documents are available on the Internet free of charge, with the main institutions collected under one single web-site[88]. Any citizen or resident of any Member State (although it is rather easy to circumvent this requirement, resulting in non-EU citizens also benefiting from this right) may apply for and obtain documents. Opportunities to use EU information commercially are however limited, as conditions for re-use are rather restrictive, and the rules regarding this issue are rather unclear, further highlighting the need for unambiguous legislation. The initiative on Community level of high degrees of transparency is important for the developments of the information sector. Without the commitment of the highest institutions of the EU, there would be little inclination for the individual Member States to follow pace.

6.4 The United Kingdom

6.4.1 Business environment

The UK has a long tradition of economic and political freedom, and is the fourth largest economy in the world[89]. The government strongly encourages competition, deregulation, and privatization on the markets. Unemployment rates are currently the lowest in decades as a result of successful active labor market programs[90]. Being a member of the EU, national trade policies strongly reflect those of the EU. With the exception of the US, the main trade partners are found within the EU. The main trading goods are chemicals, foodstuffs, fuels, machinery, and manufactured goods. The country welcomes and encourages foreign investment with low barriers to start up and operate a business. London is one of the main financial centers of the world, residing many of the largest companies in the world. Businesses in the country therefore enjoy a well established open market economy.

The UK government seeks to stimulate the manufacturing industry by implementing policies including tax reforms, labor law reforms, privatization of state-owned industry and utility departments, and deregulation of financial, telecommunication, and transportation services. As in many other countries, the service sector has proved to be more resilient than the manufacturing sector. Deficiencies in the infrastructure have been realized, and an increasing share of the responsibility to improve the public sector infrastructure has been transferred to the private sector, considered to be better suited for its development. Public investment is

[88] The European Union On-Line
[89] The US Commercial Service, Country commercial guide UK.
[90] The Heritage Foundation. 2003 Index of Economic Freedom – UK.

rapidly increasing, and private investment is also expected to grow, as a result of a stable macroeconomic and financial sector environment.

The services sector, where communication, financial, storage, and transport services are the most prominent, accounts for some 75% of the overall economy. There are however concerns regarding the quality of public services, and the government has indicated that it will in some cases consider the private sector as a provider of public services. Although much foreign investment is spent on manufacturing-related industries, service markets also attract foreign attention, particularly in the travel and tourism sector.

There is a large information market in the country. With a trend towards greater openness and transparency of government operations, authorities have committed to relax some of the barriers to commercial exploitation of PSI. However, the industry is distorted by public agency practices – supported by the government – to produce and sell their information at full market prices. UK authorities encourage commercial initiatives by many public sector bodies. Many major agencies have cost recovery rates in excess of 100%; i.e. they are making a profit[91]. This creates on the one hand an independent and customer-focused public sector, but also monopolies charging their customers accordingly. This approach reduces chances for private companies to enter and successfully compete in the information markets. Most IT service companies in the country are SMEs, operating mainly on the domestic market. Concerns over intellectual property and copyright laws, and the lack of resources are the main barriers to international trade for IT companies[92]. Crown copyrights, high license costs, and red tape are the main barriers to commercial exploitation of PSI in the UK[93]. Entrepreneurial and competitive activity in the UK is thus limited by a high dependency on public agencies for information and contract supply.

Environmental information accounts for, by far, the largest proportion of government investment in PSI collection in the UK, accounting for nearly two-thirds of total economic value of PSI[94]. In order to modernize governmental institutions, and to make administration more efficient and easily accessible to citizens, a portal has been launched, allowing people quicker and easier access to comprehensive and accurate information regarding all land and property in the UK[95]. Other large PSI sectors in the UK include cultural information, economic and social data, and business services.

6.4.1.1 Trading Funds

The concept of Trading Funds was introduced in the 1970's in the UK. A trading fund is a financial and accounting system established to enable government

[91] Pira final report, p. 43.
[92] Trade Partners UK.
[93] Pluijmers & Weiss, "Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts."
[94] Pira final report, p. 42.
[95] The National Land Information Service (NLIS) Website.

departments to adopt certain standards and practices commonly found in the private sector[96]. Trading funds operate on a self-financing basis and do not need to seek public funding to finance their daily operations after they are established. The determining factor in deciding whether a department could operate as a trading fund is that it should be capable of breaking even within a reasonable period of time. The intentions of establishing the Trading Funds are to enhance flexibility, management, and the working culture, thus improving quality and cost-effectiveness. Trading funds are specifically excluded from marginal cost recovery policies in the UK. Examples of UK trading funds include the Ordnance Survey and the Met Office. Trading funds usually have the most interesting public sector data sets for opportunities for the private sector to create value-added information products.

6.4.2 Legislation

Traditionally, citizens and businesses in the UK have been subject to strict, but also in many instances vague, rules and regulations concerning the release of PSI. Generally, there has been no law granting the access to information for citizens. The 1994 Code of Practice on Access to Government Information provided some access to government records. However, this provision posed no obligation on government departments to release information, only a commitment to voluntarily disclose certain types of information of public interest[97].

6.4.2.1 Freedom of Information Act 2000

After many years of campaigning, not the least by private interests, for the government to clarify and relax rules regarding the access to PSI, a Freedom of Information Act was approved in November 2000. This Act is very similar to its US counterpart (FOIA), and also serves to harmonize the British Government's policy with that of the US[98]. The Act grants access to government records available to any person properly filing a request. Unlike the FOIA, it does not place any affirmative duties on administrative bodies to publish information. It does however pose a duty on government departments to give answer within 20 days to whether they hold the requested information, and if so, communicate this information to the applicant. As in most other countries, there are a number of cases where information is exempted from the Act, e.g. matters of national security, criminal investigations, trade secrets, and conditions of financial institutions. In order not to place any extra burden on public administrative departments, information that is already accessible for the public through other means is also exempted from the Act. Furthermore, public authorities must determine the fees for releasing the information in accordance with regulations made by the Secretary of State. Charges may be set according to how the released information will be used by the applicant. The Act is in conformity with the Data Protection Act 1998, given careful attention not to violate or counteract this law.

---

[96] Kitty LAM, "Operation of Trading Funds."
[97] Green Paper, p. 26.

Implementation of this Act has so far been slow. The UK government has announced that the provisions of this law will not be enforced until 2005. The idea is to implement the legislation in one instance rather than in phases. The slow implementation pace has been criticized in media. It has been argued that the delay in implementation will lead to a loss of momentum among government departments, who will not feel a great enthusiasm and commitment from central authorities for supporting the Act[99]. Furthermore, introducing the Act overnight is likely to create administrative bottlenecks. Similar problems are likely to be encountered among different departments, without any previous reference of how to act or solve certain situations.

6.4.2.2 Data Protection Act 1998

Implementing the EU Directive from 1995[100], a Data Protection Act was adopted in the UK in 1998. The Act outlines who should have access to personal data on individuals, and the conditions for processing of this data. The Act will ensure that data will only be used for the agreed purpose where private persons have given out their personal details. The Act states that anyone processing personal data must comply with eight enforceable principles of good practice. Data must be:

- Secure
- Accurate
- Fairly and lawfully processed
- Processed for limited purposes
- Not kept longer than necessary
- Adequate, relevant and not excessive
- Processed in accordance with the data subject's rights
- Not transferred to countries without adequate protection

6.4.2.3 Crown Copyright

Material produced by employees of the Crown[101] is generally protected by a copyright, i.e. most material originated by ministers and civil servants in the UK is copyrighted. It covers a wide range of material, including legislation, government codes of practice, Ordnance Survey mapping, government reports, official press releases, government forms and many public records.

This means that conditions for re-use of PSI are rather restrictive. Most documentation released by government bodies contains a clause on how information may be reproduced. Exclusive licensing of Crown material is usually not practiced, as the government is encouraging wide access to government information. A number of

---

[98] Perrit & Rustad, "Freedom of Information Spreads to Europe."

[99] Birkinshaw, "Freedom of Information in the UK and Europe: Further progress?." Birkinshaw is the Director of the Institute of European Public Law, Law School, University of Hull.

[100] Data Protection Directive.

[101] Most major public bodies in the UK have Crown status, meaning material produced by these bodies is subject to Crown copyright protection. A list of Crown and Non-Crown public bodies can be found on Her Majesty's Stationary Office Website.

departments add value to their information, which is also available for licensed users. Re-use of this information is in most cases subject to charges, where the HM Treasury aims at a charging policy compatible with commercial terms in the private sector.

6.4.2.4 Information Commissioner

An independent supervisory authority has been set up to enforce and oversee the Data Protection Act 1998 and the Freedom of Information Act 2000. The Commissioner has a wide range of duties, including promoting good information, and handling and encouraging codes of practice for data controllers. The Commissioner is reporting directly to the UK Parliament, and plays a national as well as an international role[102].

6.5 Sweden

6.5.1 Business environment

Sweden has over the last half-century or so developed to become an economically strong and technologically advanced welfare state. Despite a comparatively low population, the country has been able to produce world-leading companies in a wide array of areas, such as automobiles, chemicals, machinery, technological equipment and services, etc. Generous natural resources and high-skilled labor have considerably contributed to create an economy able to maintain a strong position on the world market. However, the current unemployment rates are very high, and high income tax rates cause problems retaining high-skilled labor in the country. Although still a stable economy, the country has not experienced the same favorable economic growth over the last years as many similar and close countries, e.g. Finland and Norway. Yet, according to the US Department of State Country Commercial Guide 2001, Sweden is one of the most attractive destinations for foreign investments in the world, and the Swedish business environment is considered being one of the most competitive in the world. For foreign investors, the most attractive industries are travel, transport, and tourism services, ICT, and drugs and pharmaceuticals[103]. Low corporate taxes, quality engineering design and manufacturing, a skilled labor force, and a highly advanced infrastructure are the main reasons foreign firms decide to invest in Sweden.

A shift in the structure of Swedish exports has been noticed over the last few years. Service, IT, and telecommunications industries have taken over from more traditional industries such as steel, paper, and pulp. These new areas of business being high in demand on foreign markets make the Swedish export sector less vulnerable to international economic fluctuations.

The ICT sector in Sweden is very well advanced. Large investments are made in IT areas (3.4% of annual GDP), only superseded worldwide by the US[104]. The

---

[102] UK Information Commissioner Website.
[103] US Department of State, FY 2001 Country Commercial Guide: Sweden.
[104] Pira final report, p. 38.

Internet penetration rate is among the highest in the world, as is the number of mobile telephones per citizen. The telecommunications sector is deregulated, with high levels of competition in the industry. Sweden is the Member State of the EU with the highest percentage of employees in the IT sector; over six per cent[105]. The favorable technological environment in Sweden also attracts foreign organizations to establish labs and research and development centers in the country. Due to a sophisticated labor force and infrastructure, Sweden is often used as a pilot market for new products and services in the ICT industry. Technological barriers should therefore be of no concern for companies wishing to conduct business in or with Sweden.

Private sector opportunities for exploitation of PSI in Sweden are relatively limited, partly due to the fact that many public agencies serve as strong information providers, satisfying market demands in many areas. There are no specific restrictions for commercial re-use of PSI; however, charges for obtaining information may vary according to the format of the data. The trends of deregulations across Europe also have swept over Sweden, with the consequence that many formerly government owned departments have become privatized or semi-privatized. These formerly state-owned companies have a natural competitive advantage in information resources. Furthermore, some currently publicly owned bodies hold a strong position in the information market in their fields. These circumstances have in many cases created situations of unfair competition and a distorted market environment. The strong freedom of information policy is somewhat contradicted by the cost-recovery policy of many major public agencies dealing with PSI. Some agencies, e.g. services related to information essential for the whole society such as statutes and legal decisions, release their information at a loss. Other public agencies, such as business related and cartographic information charge premium prices for their products. The use of data on individuals is strictly limited and laws are strictly monitored and enforced by the Swedish Data Inspectorate, significantly limiting the opportunities for private companies to base a business on the re-use of such information.

Company, cultural, geographical, and statistical information dominate government investments in PSI. Particularly in the areas of environmental information and business services, Sweden spends considerable amounts of resources to invest in PSI, for example significantly greater proportions of the national GDP than does the US[106]. The comparisons with Sweden and other countries, particularly the more market economy oriented US, must be done with the notion that Sweden has a comparatively very large public sector, with the result that more resources are spent on the government and its departments.

A 1996 Information Technology Bill was adopted to ensure safe and secure communications between public agencies, citizens, and businesses. The aim was to facilitate the access to public records for everybody, both on national and EU levels. The Public Administrations Bill of 1998 was aimed at improving electronic access to

[105] Statistics Sweden.
[106] Pira final report, p. 39.

PSI[107]. Other government initiatives are taken to control public sector activities and to ensure fair competition where there is both public and private sector involvement.

International trade of PSI based products is still limited, although initiatives are taken to export information services abroad. Particularly state or formerly state-owned agencies, e.g. meteorological and geographical institutions, see opportunities to enter foreign markets with their expertise and information products.

Currently there is a redundancy of IT consultants in Sweden. This creates an insecure market environment for information companies, particularly smaller firms. The presence of multinational companies, in many cases of Swedish origin, however creates a constant demand for information services.

6.5.2 Legislation

Sweden has the oldest access to and freedom of information law in the world; the 1766 Freedom of the Press Act, last amended in 1994[108]. Access to information is considered being a cornerstone of free democratic exchange of views. There is also a more practical view of the liberal laws, as they contribute to the democratic legitimacy of decisions, strengthens the control of the administration by the public and the media, and contribute to make administration more efficient[109]. Sweden has always been actively involved in international co-operation regarding public access to information, and the accession to the EU in 1995 may have served as an incentive for other Member States as well as EU institutions to adopt similar laws and increase transparency and openness. All public authorities in Sweden, with corresponding legislation regulating their activities, are collected on one single web site, where information is available in a number of common languages[110]. A few important national laws regulate the access to PSI in Sweden.

6.5.2.1 1766 Freedom of the Press Act

The Act, now part of the Swedish Constitution, states that all public documents, including electronic documents, are accessible to any person, regardless of nationality. To enhance the openness and facilitate for the public to establish which documents are available, official documents must be registered in a public register. Documents held, drawn up, or received by a public authority are considered official documents, even if they are produced abroad. Requests for access to records are usually made to the authority holding the records, orally or in writing. The requests should be dealt with “speedily”, or immediately upon a personal visit. Persons making requests for information may remain anonymous, and do not need to specify how the information will be used. Pricing the access to official documents is generally based on a marginal cost-recovery basis. Viewing documents on site is free of charge, while

[107] Pira final report, p. 95.
[108] Green Paper, p. 25
[109] Swedish Ministry of Justice, The Right Of Access To Official Documents In Sweden.
[110] SverigeDirekt Website.

obtaining a copy may be subject to a small fee. Authorities are however not required to release a document in any other form than paper printouts.

This right is restricted in two ways. First of all, only documents that are by definition considered being official are available for the public. Non-official records, such as drafts, outlines, and memoranda, are not covered by the Act. The second restriction concerns exemptions from the Act. As in most other countries, matters of national security and foreign relations, economic policy, criminal investigations, etc. are exempted from public access[111].

There is no copyright on public records in Sweden, meaning that anyone is free to use the information in any way. Also, the non-requirement for requesters to specify how the requested information will be used, in addition to the liberal charging policies facilitate and encourage re-use of PSI.

6.5.2.2 Personal Data Act 1998

Largely based on the EU Directive on protection of personal data, a new Personal Data Act was adopted in Sweden in October 1998[112], as the Swedish Data Act from 1973 was considered being outdated. The natural starting point when drafting the Act was the Data Protection Directive. The new Act aims at preventing the violation of personal integrity by processing of personal data. The provisions of the Personal Data Act are designed not to contravene the provisions of legislation regarding freedom of information and expression. The Act lists a set of fundamental requirements that need to be fulfilled in order to process the data of a natural person. These requirements include provisions that personal data may only be processed for specific, explicitly stated, and justified purposes, and only with the consent of the registered person, i.e. the natural person the data concerns. Registered persons have the right to demand that incorrect or inaccurately processed data is rectified or erased. The rules are particularly rigorous concerning sensitive data, such as political views and health of individuals. Also, the transfer of personal data to other countries is subject to more stringent rules[113]. Transfer of personal data that is being processed to a third country, i.e. a country outside the EU or the EEA, is not allowed unless specific conditions exist.

When the EU Data Protection Directive was adopted, it received massive criticism in Sweden for its unmodernity and its detailed set of regulations. On Swedish initiative, the Data Protection Directive contains a clause allowing courts to consider the principle of freedom of information when implementing and applying the Directive in national courts[114]. The application and interpretation of the Personal Data Act will depend on decisions and statements of EC Courts[115].

---

[111] An extensive and comprehensive list of exemptions to access is provided in the Secrecy Act 1980.
[112] Swedish Personal Data Act.
[113] Ministry of Justice, Sweden, Information on the Personal Data Act.
[114] Translation from Petersson & Reinholdsson, Personuppgiftslagen i praktiken, p. 25
[115] Translation from Petersson & Reinholdsson, Personuppgiftslagen i praktiken, p. 52

A supervisory authority, the Data Inspection Board, is responsible for the protection of the privacy of individuals in the information society without unnecessarily preventing or complicating the use of new technology[116]. The Board handles complaints and carries out inspections, and supervises that authorities, companies, organizations, and individuals adhere to current legislation.

6.6 Estonia

6.6.1 Business environment

The Estonian market presents a very favorable business environment for domestic as well as foreign companies. Since the independence from the Soviet Union in 1991, the country has experienced a rapid and decisive economic growth. Tight budgetary policies, liberalization of foreign trade regulations, and extensive privatization are the main factors having contributed to make Estonia one of the most open market oriented economies in Eastern Europe; well comparable to many western countries. Most barriers to foreign trade were eliminated by 1999, when Estonia joined the World Trade Organization. The main trade partners are Finland and Sweden, making up approximately a combined 50% of Estonia's exports and imports. The main trading goods are machinery and equipment, wood products, foodstuffs, and chemical products. A national referendum in September 2003 will decide whether Estonia will join the EU in 2004. Although there is a level of uncertainty of the outcome, there is good reason to believe that the pro-EU votes will prevail[117]. Estonia is therefore in the process of adopting EU internal market procedures. With the expected accession to the EU, Estonia will comply with trade agreements already existing between the EU and third countries.

The geographical location of Estonia is one factor giving the country a competitive advantage. Its strategic location in the Baltic region, as a gateway between Eastern and Western Europe is one major factor foreign investors are considering the country for business ventures. Traditional trade partners from Eastern Europe, particularly Russia, Latvia, and Lithuania, are still of importance. However, the close geographical and cultural proximity to the wealthy Nordic countries have enhanced the business environment in Estonia, and most international trade today is conducted with northern EU Member States. Communications between Estonia and its neighboring countries are very well developed, as are ICTs within the country. Public authorities as well as private interests support programs to make Estonia a strong information-based economy.

Competitive cost structure is another factor contributing to the favorable business environment in Estonia. Rather low tax, wage, and price rates, in addition to liberal investment regulations and low levels of government interference, make the

[116] Swedish Data Inspection Board Website.
[117] Opinion polls from December 2002 indicate that about 57% are for the EU, while 36% are against. Source: Danske Research, December 18, 2002.

country an attractive location for investments[118]. High-skilled labor is a result of a well-functioning educational system and government actions to increase citizens' skills and knowledge in a number of areas, particularly in the IT sector. Estonia is well advanced in the use of ICT, particularly compared to other Eastern and Central European countries.

The sectors expected to experience the highest growth rates over the next few years are the service related sectors, particularly IT, transportation, and construction services[119]. The dependency of PSI in these areas, e.g. geographical, transportation, and business information, is rather high. Potential investors in these sectors will need access to affordable and comprehensible information from a variety of sources, not the least public departments. The availability of useful information could therefore determine the level of success for investments.

One problem in obtaining information is related to insufficient resources of PSI-holders, particularly smaller local governments. Although the law requires all government bodies to set up and maintain web sites containing government information, the lack of necessary technological, financial, and human resources create obstacles for requesting and obtaining public records[120]. Another issue related to information concerns property rights. Lack of proper documentation and insufficiencies in administration cause confusion and uncertainty regarding actual ownership of certain property[121].

The production and circulation of piracy computer software and similar multimedia products is a major problem in Estonia. A very high level of software piracy in Estonia[122] serves as a huge disincentive to create original IT products and services. Extensive unauthorized use of copyrighted material leaves minimal motivation for the creation of databases, computer programs, or online services.

The telecommunication sector is one of the fastest growing markets in Estonia. A deregulated market open for national as well as foreign competition makes it one of the most attractive sectors for investments. Foreign capital and knowledge have greatly assisted in reaching the current high standard of the industry in Estonia.

The accession to the EU requires improvements in environmental protection in Estonia. The country is advanced in its preparations for joining the Union, but public sector bodies have limited resources to deal with all issues necessary. This creates opportunities for private organizations, in this case environmental technology companies, to enter the market. In order to be able to feasibly make progress and

---

[118] According to the 2003 Index of Economic Freedom, Estonia is a comparatively very attractive country to conduct business in or with, ranking the country 6th in the world, sharing the rank with the US. Using ten criteria including trade policy, monetary policy, regulations, and fiscal burden, the list gives an illustrative overview and comparison of the economical situation in different countries of the world. The Heritage Foundation. 2003 Index of Economic Freedom – Estonia.

[119] The US Commercial Service, Country commercial guide: Estonia.

[120] Tiina Ilus, Councillor of Analysis and Development Department, Estonian Data Protection Inspectorate.

[121] Yvo Volman.

[122] Rates of piracy as share of total amount of software and multimedia on the market exceeds 60%. Source: Management of Global Information Technology.

operate a business in this field, the use of environmental data – usually compiled by public agencies – will be essential.

The Estonian government holds a very favorable attitude towards foreign investments. Liberal policies and free trade agreements are maintained to encourage investments that could enhance international trade, particularly with EU countries. This attitude opens up possibilities for companies wishing to enter a new, and in many areas under-exploited, market.

6.6.2 Legislation

Estonia has in only a few years had to create a legal system out of the remnants of the former Soviet system. Even with significant foreign assistance, this task has proven to be difficult. Drafting, implementing, and enforcing legislation has been given sincere attention from authorities, although admittedly much work remains to be done. However, one of the key factors contributing to Estonia's successful economic reform are the national commercial laws, being extremely effective.

6.6.2.1 Personal Data Protection Act and Databases Act

An Act on the protection of personal data was passed in June 1996. The Act was designed to conform with the EU legislative environment. Both Estonian and non-Estonian citizens are protected by the Act. Non-sensitive information about a person may be used without specific permission from the individual. A Data Protection Inspectorate is responsible for monitoring that activities are in compliance with the Act. This authority may also issue various licenses concerning personal data use, and impose fines and other sanctions on violators[123]. A Database Act on the procedure for possession, use, and disposal of state and local government databases was entered into force in April 1997. Under private law, persons have the right to collect any publicly available data, as well as data voluntarily submitted by individuals. However, in order to establish a database, a license from the data protection supervisory authority must be obtained. Any person requesting data from a state or local government database has the right to obtain this information, unless the data is subject to an exemption from the Act.

6.6.2.2 Public Information Act

On initiative by the Estonian Newspaper Association, the issue of clear and unambiguous legislation on freedom of information was brought up in 1996[124]. Even though citizens' freedom of information is referred to in the Estonian Constitution, there was no previous legislation requiring public authorities to release data. Traditionally, there had been a certain reluctance and suspicion by government employees to release public information with the notion that there was no specific law

[123] Management of Global Information Technology, Country Guide: Estonia.

[124] Tammerk, "Estonia's road to freedom of information: lessons and challenges – The information-seekers' point of view."

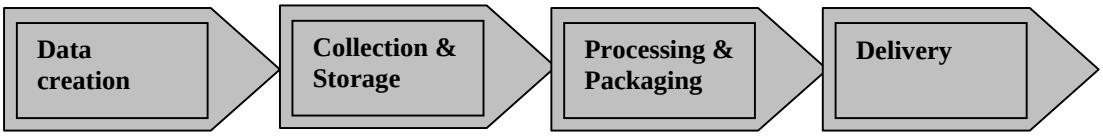
requiring them to do so. Employees responsible for releasing information could arbitrarily decide to whom and how they would communicate information, under the guise that documents were intended “for internal use only”; thus not under the requirement to be released to the public. However, as the issue was given increased attention, and as the Estonian accession to the EU is now very close to reality, a Public Information Act was entered into force on January 1, 2001. Anyone, Estonian as well as foreigner, has the right to request and obtain public information within five working days, unless it concerns restricted documents, e.g. matters of national security, foreign relations, trade secrets, sensitive personal data, etc. Requests may be made orally, in writing, or in person at the agency holding the information, but cannot be anonymous. Information is to be released free of charge, or at the most on a cost-recovery basis. All data that is not specifically exempted from disclosure by law may be re-used in any way the requester wishes, thus allowing for commercial exploitation of PSI in Estonia.

Chapter 7: BARRIERS, REQUIREMENTS, AND OPPORTUNITIES ON THE INFORMATION MARKETS

7.1 Overview

The public sector is the main producer of raw data concerning demographics and activities of a country and its citizens. In exercising their duties, public bodies collect, collate, create, and store large quantities of data. Some public agencies also produce useful information that is communicated to the public. However, producing and distributing information is usually not the main activities of public agencies, and they are in many instances no experts in the field of data processing and information dissemination. This results in outputs that sometimes are, although accurate and timely, low in demand on the market. Private companies specializing in their fields are generally better suited to manage the production of marketable information. Such firms usually have access to high-performing technology and skilled labor, and also have the motivation to deliver high-quality products according to existing market conditions.

An attempt to illustrate the value chain of processing data into a useful information product could take the following simple form:



The value adding parts, often lacking in public department dissemination of information, include:

- Selecting information that is relevant to particular users.
- Filtering out redundancy, noise, and irrelevant information.
- Combining information from many sources.
- Maintaining the currency of information.
- Offering convenient access to particular sets of user.
- Creating derived data sets through processing the raw data.

With the ongoing trends of deregulating public agencies throughout Europe, along with developments in ICTs, and the realized importance and value of information, a number of different ways to exploit PSI commercially have emerged. Roughly, they can be divided into five different categories[125]:

- The public sector commercializes the information itself.
- The public sector gives public service concessions or entrusts the commercial exploitation of its information through exclusive contract arrangements.
- The public sector grants non-exclusive exploitation licenses.

[125] Papapavlou, "Public Sector Information Initiatives In The European Union."

- The public sector gives exclusive contracts for the publication of the raw data – with conditions – and non-exclusive contracts for the production of value-added information products and services.
- Everybody who obtains PSI through the right of access has the right of commercial re-use, with specific conditions or with no conditions.

Mapping all possible combinations of public and private sector co-operation along the value chain even in a single industry would constitute a very complex task. The possibilities for public as well as private initiatives to re-use PSI for commercial purposes are bound to cause confusion and uncertainty of current rules and roles of different institutions. As public sector bodies are being privatized or semi-privatized, and enter into close co-operation with private firms, distinctions of responsibilities, rights, and tasks of public agencies and private organizations may be unclear. Co-operation between public institutions and private companies can create successful partnerships. The public sector can provide official, primary data sources, and the private sector brings top quality technical and human skills to the relationship. However, these factors may also cause competition between public and private organizations in the dissemination of information. Naturally, unfair competition and competitive advantages may result from certain institutions having primary access to information or the granting of exclusive contracts.

PSI can be exploited by private companies for commercial purposes in several ways. Some of the more common include:

- Adding value to raw data or existing information and process it into marketable products.
- Taking the original information and distribute it more cost-effectively and efficiently than the public sector institution.
- Aggregating and linking existing sources of available raw data.
- Delivering the PSI in new ways or through new channels.

7.1.1 Small and Medium sized Enterprises

Providing a sound business environment for small and medium sized enterprises (SMEs) on the Common Market has a high priority for EU authorities. SMEs account for a large part of employment in Europe. Stimulating the start-up and successful running of SMEs is therefore essential for entrepreneurship and innovation. The information market is suitable for SMEs to enter and conduct business in, with the relatively modest resources and skills required. Authorities of the EU are therefore taking action in order to facilitate for companies of all sizes to successfully operate a business in the industry. One measure taken is the proposed Directive.

A few characteristics differ SMEs from large companies. Smaller firms usually experience advantages in high innovation rates, flexible organizational structure allowing them fast responses to market changes, lower risk aversion than larger firms, and better motivated workers. On the downside, smaller firms usually do

not have the resources for product development available to large firms, and SMEs also tend to have larger rates of indebtedness[126].

One main obstacle for SMEs to conduct electronic commerce is the lack of legal knowledge. Rules and regulations concerning Internet practices can be unclear and confusing, as legislation differs among European countries. Smaller companies sometimes do not have the resources to learn and comply with laws. Firms with limited resources may therefore be deterred to pursue opportunities to do business electronically. Therefore, a 12-language online information service portal was launched in 2002, in order to facilitate for particularly SMEs to find current and reliable information. This initiative is intended to stimulate cross-border transactions, and to enable SMEs to fully participate on the Common Market[127].

Another major constraint to start up or expand businesses, particularly for smaller firms, is the lack of financing available for business ventures. Regardless of the amount of innovative ideas, human skills, and technology available; without venture capital there is little prospects for SME growth. The Commission has realized that US firms enjoy a much more favorable financing climate, and has taken initiatives to encourage national as well as international initiatives to improve the financial situation for businesses in the EU.

7.1.2 Market actors

When evaluating the commercial opportunities for the information industry, it could be useful to make a differentiation between different categories of market actors. These can be divided into several groups, according to their roles on the market[128]:

- Public authorities – with the main role to collect, but also use information.
- Public sector information provider – agencies with commercial characteristics, producing, developing, and using information (e.g. mapping agencies, statistical bureaus, etc.).
- Private sector information provider – producer of marketable information products. In many instances serving as gateways to government information, but also in some cases collectors of data.
- Business users – companies using value-added information products to enhance their business operations, but also in some cases adding value to information obtained from information providers, and selling to end-users.
- Citizens – indirect or direct funders of PSI as tax payers, data subjects, and commercial customers of information.

[126] La Rovere, "Small and Medium-Sized Enterprises and IT Diffusion Policies in Europe."
[127] Commission of the European Communities: The eBusiness legal portal.
[128] Publaw III, Final report.

Another area covered by the study is that of the types and use of government-held information, presented in the table below. Although the list is not exhaustive, it gives an overview of the most important areas covered by PSI practices.

TYPE OF DATA	POTENTIAL USERS	DELIVERY METHODS
➢ Company information ➢ Geographic information ➢ Legal information ➢ Population data ➢ Patent information ➢ Environmental information ➢ Cultural/Tourist information	➢ SMEs ➢ MNEs ➢ Marketing ➢ Research (academics, journalists) ➢ Production of value-added information products ➢ Personal use by citizens	➢ Paper ➢ CD-ROM ➢ Online ➢ Internet ➢ Minitel ➢ Telephone ➢ Multimedia ➢ Kiosks ➢ Person-to-person

7.2 Barriers for doing business

As in any industry, there are a number of barriers to do business also in the information industries. The industry is rather young, and is constantly and rapidly developing. Public as well as private parties have difficulties keeping the necessary pace with developments, resulting in confusion and uncertainty of current market situations. In addition to legal, financial, and pricing policy barriers covered in previous sections, some other main barriers to trade will be described below.

7.2.1 Differences in replying time

Data that is to be processed into useful information must be timely. Information depreciates rapidly over time, and out-dated information is virtually useless on the market. A company using information from several different government bodies is dependent on reasonable replying times upon request for information. If one or more agencies are not able to provide the requested information – i.e. the input for their commercial product – within a reasonable time frame, the possibilities to create marketable products could be heavily reduced.

7.2.2 Inability to transmit the information in digital format

Encouraging the exploitation of PSI by private parties is rather purposeless if public authorities are not releasing their information in manageable, i.e. electronic, formats. The effort and time required to manipulate and process data that is not obtained in digital format would act as a major disincentive to do business in the information industry.

7.2.3 Location

The location barrier refers to the difficulties arising related to requesting and obtaining information from different geographic locations. The procedures and standards may differ, as may the ease of obtaining government data. Furthermore, the lack of a central authority in some countries responsible for the provision of

information in certain fields further complicate the situation for organizations in the process of compiling PSI.

7.2.4 Requirement to prove a direct connection with the information requested

Some countries require that requesters of information from government authorities specify how the information will be used, and that this information is of direct concern to them. Furthermore, some nations apply different rules according to how the information will be used.

7.2.5 Exclusive deals

In some countries, e.g. the UK, government authorities may grant exclusive deals for certain companies to re-use public information for commercial purposes. This practice may be justified in certain cases, e.g. in matters of security or liability, or when this is the only feasible way to communicate information to the public. It may however create an unfair trading environment and restrict competition on the market.

7.2.6 Uncertainty of conditions for re-use

Even if public information is readily available at reasonable costs, the conditions for re-use may be unclear in certain cases, and differ throughout the countries of Europe. If a company wishing to use information for commercial purposes cannot easily determine what rules apply for the re-use, they may decide not to pursue the business opportunity.

7.2.7 Lack of Metadata at European level

Directories presenting which government records are available to the public significantly facilitate requesting and acquiring information. Many countries require their government agencies to keep registers of public documents. However, these requirements vary among countries, and there is no European-wide uniform system of registers.

7.2.8 Lack of standards

Differences in technical standards between countries or regions make processing difficult. Converting data in different formats into a uniform standard before it can be used requires extensive efforts, and significantly add to the cost of producing the product. Different measurement systems, different national accounting standards, different formats of information, and incompatible software and hardware used are but a few technical difficulties companies are likely to encounter when gathering information from different countries across Europe.

7.2.9 Language diversity

Most professional operations throughout Europe are exposed to a number of different languages. The information industry is one area where language diversity

could cause major problems. Translation of information resources from or to different languages could cause costs to increase substantially. Furthermore, dealing with practical business issues in foreign countries could develop into a serious hassle for entrepreneurs wanting to conduct international business. Finding out what information is available at what rules apply, and communicate and market the finished product could be a critical obstacle.

7.2.10 Technology

In order to succeed in the information industry, high technological standards of equipment and communications are required. A country or region that is technologically inferior to more advanced areas run the risk of losing out on business. Companies must be able to make use of highly advanced equipment or have access to a certain level of technological infrastructure in order to successfully operate their business.

7.2.11 Competition from public agencies

Public agencies produce their own value-added information, and in many cases throughout Europe they market and sell it at full market prices. Since these agencies have first-hand and free access to raw data, their practices of reselling their products create environments where private companies find themselves at competitive disadvantages. In many cases public bodies are quite aware of the value of their information, and dedicate significant resources to create marketable, high-quality products. This problem is further enhanced when government funding to public agencies is reduced, forcing these departments to rely on customer revenues for the funding of their functions. This creates situations where the public sector is competing with the private sector, where public sector bodies usually have superior access to data resources; naturally creating distorted business environments.

7.3 Porter's five forces analysis

One method of examining the competitive environment characterizing the industry is to use Porter's five forces analysis. Porter provided a framework that models an industry as being influenced by five forces, all of which affect the level of competition in the industry. Companies seeking to develop a strategy for entering or operating a sustainable business on a market can use this model to better understand the industry context the firm is exposed to[129].

7.3.1 Threat of new competition – barriers to entry

The barriers to enter the market of information products and services have been covered in previous sections. In Europe, the main barriers to enter the market of commercial exploitation of PSI are; raising of financial capital, legal constraints, overpricing of data by public agencies, and lack of standards throughout the continent.

[129] Johnson & Scholes, Exploring Corporate Strategy.

Other obstacles, such as language differences, "red tape", technological insufficiencies, uncertainty of current rules, etc. may also serve as deterring factors or obstacles for firms to consider pursuing a business in this industry. Many of these barriers are expected to be removed or relaxed within a near future, when new, modern legislation is adopted and governments commit to keep up the pace with ICT developments. Many of these barriers do not exist in the US, resulting in a much larger overseas information industry market, with nearly endless opportunities for companies to operate a profitable business.

7.3.2 Threat of substitutes

The threat of substituting information products depends on the specific niche of the market. In some areas, e.g. geographical information, many national markets show monopolistic tendencies. Sophisticated and expensive equipment to acquire data in many cases prevent private initiatives to operate a business in the same industry as the public agency. The different information products provided by different public as well as private organizations are rarely identical, but may serve as substitutes to satisfy customer needs. Customer demands may also be satisfied by using information products from foreign public or private sources with cheaper or superior products.

7.3.3 Degree of rivalry

The degree of rivalry of competitors in the market of information products based on PSI is determined by the specific market niche. Some markets, such as GIS software and tourist information, are characterized by high levels of competition. Other markets, such as national mapping services or meteorological services are in some instances monopolized by governments. Deregulations and new legislation however has increased competition from foreign companies or institutions. Higher levels of competition even in markets of national monopolies are expected in the future.

7.3.4 Bargaining power of suppliers

The suppliers of PSI – public agencies and departments – have various degrees of control and influence over their information, depending on the nature of their activities. Departments holding information that is considered being essential for the functioning of society, e.g. legal information, have little bargaining power over conditions for releasing official documents. Other departments, where the market is more specific, and where agencies also create value-added products and perform commercial activities in addition to their data collection duties, have high degrees of bargaining power. The level of bargaining power also depends on the resource requirements involved in creating and communicating the information. With more expensive and sophisticated technological equipment and highly skilled labor necessary for acquiring and processing information, public agencies are inclined to assert a higher level of influence over conditions for releasing their products. Usually

such agencies are supported by the national government, giving consumers little chance of influencing purchase conditions. Furthermore, the conditions for releasing and pricing of PSI are usually regulated by law, giving purchasers of information very little leverage.

7.3.5 Bargaining power of buyers

Buyers of information products and services have a certain level of bargaining power, depending on the characteristics of the information. Many information products are sold to other businesses, and the bargaining power of these customers depends on how essential the information is to their business. Another factor determining the buyer power is the perceived uniqueness and affordability of the product. If a firm cannot satisfy customer needs, it may risk loosing customers to other firms with better suited or less expensive information products.

7.4 Business strategies

Business success relies on an effective match between the relationship of a firm and its external market environment, and the distinctive capabilities a company possesses. A company can adopt one or several strategies in order to achieve their short-term as well as long-term goals. Some strategies suitable for information industries will briefly be described in this section.

Entering new geographical markets is one option for starting up or expanding a business. With increased integration of the EU and its trade affiliates, new markets will be opened up or created, with increasing demand for high quality information products and services. Considering the upcoming enlargement of the EU, a large potential for serving these markets will appear. Individuals and businesses with interest in a country will need accurate, reliable, and timely information in useful formats.

The first-mover advantage is an important strategy, especially in industries characterized by rapid developments. Companies developing innovative information products are in many instances protected by various patent and intellectual property right laws. Introducing new products or services on the market before competitors do can therefore give a company a substantial competitive advantage. Entering new geographical markets before competitors in the information industry could also lead to essential networking advantages, and possibly exclusive deals with public authorities.

Product development is of great importance. Consumers can obtain much of the information needed directly from public sector bodies, usually at low charges. It is therefore essential to create products that are unique and customized to exactly fit customer needs. Combining information from different information sources to create value-added products is another way of meeting customer demands. Close monitoring and copying of competitors' strategic moves many times result in very similar products on the market, with little differentiation between brands. Exceptional

customer service is also related to customer perception of the quality of a product or a company, and is of greatest importance for creating goodwill for the company.

Creating a brand name that is associated with reliability and security in information industries is a serious challenge. Failure to provide dependable and safe products or services could seriously damage a company image. Although security issues and the burst of the dot.com bubble[130] have significantly slowed down developments towards complete consumer confidence in ICT-related industries, the importance of ICTs in the area of exploiting PSI for profit is indisputable. Many organizations are still expected to offer their customers the opportunity to do business over computer networks. With the rapid developments in the industry; spending serious efforts in staying up to date with changes on the market, and provide adequate training for employees, could prove to be a very sound investment strategy. Providing online services today is in many industries more of a necessity than a customer service feature. Developing affordable, functional, secure, and user-friendly multimedia products and services, and web sites, should therefore be allocated considerate attention and resources of companies in the business. Companies who are able to build a brand name as a solid provider of outstanding information can establish a powerful position on the market.

On the European market for commercial exploitation of PSI, the level of competition is determined by the nature of the information. The goal of the EU to create a Common Market with free flow of information creates an environment where opportunities to pursue business ventures will increase, as will competition. Companies must therefore be innovative, create unique and customized value-added products, and be able to reach out to the intended markets. Furthermore, investing in ICTs and in human skills are likely to be winning strategies for companies.

7.5 Resource requirements

The mere existence of liberal access to and freedom of PSI throughout the EU does not automatically boost economic growth and increase employment rates. Although a favorable legislative framework may encourage entrepreneurship, some other requirements need to be fulfilled in order to start up and operate a successful business in the information industry. Compared to many other industries, entering the information industry could require comparatively moderate initial resources.

As in any industry, the information industry requires certain resources in order to efficiently operate a firm on the market. In addition to time and effort allocation required to succeed in any industry, the resources for a prosperous business venture in the information industries can be divided into three main categories:

[130] Dot.com bubble burst – a common expression used to explain the turbulence on Internet-based commerce markets over the last few years. Low barriers to entry and a high visibility attracted far too many companies to the markets. Most of these companies mis-identified the type of market they entered, leading to very high failure rates of Internet based companies. Source: Knowledge@Wharton & ebizChronicle.com.

- Information infrastructure – referring to technological advancements, allowing for improved access to information and new and innovative ways of processing and presenting information.
- Skills and know-how – technical knowledge in combination with business skills has proved to be successful concepts in the industry.
- Access to capital – funding from a variety of sources, rather generous over the last years, have enabled entrepreneurs to explore new ventures.

The availability of modern ICTs is a prerequisite for feasible implementation of business plans to enter the information industry. Without access to sophisticated computer equipment, reliable telecommunication networks, a minimum level of Internet penetration, etc., companies in the industry are likely to encounter difficulties in developing information products and distributing them to consumers.

Human resources is the most important asset in most industries. In order to successfully operate a business in the information society, management as well as employees must be mobile, ICT literate, and possess strong business skills. An entrepreneurial spirit and the commitment to continuous, lifelong learning are also advantageous human qualities for success in the industry. As opposed to many other, more tradition-bound industries; gender, physical disability, or distance do not have to constitute barriers for people to hold a profession in the information industry.

Financing is necessary for the operations of any business in any industry. In the industry of commercializing PSI, capital is necessary for a number of functions. Some form of technical equipment is required. Depending on the size of the business, and the specific field of information products or services provided, equipment requirements range from very simple instruments and machines, to extremely sophisticated, state-of-the art technology. Capital is also essential for attracting and training the highly skilled employees needed for the business. With an anticipated shortage of IT skilled labor in Europe, economic incentives could serve to attract the best human resources. Other expenses, in addition to traditional fixed and variable business costs, that could require considerate financial resources could include license and patent fees, translation costs, and costs for obtaining PSI from public agencies.

7.6 Areas of potential business opportunities

Opportunities for taking advantage of the highly advanced telecommunication systems existing in Europe should be given considerate attention by firms in the information industry. The Commission is hopeful that new rules regarding PSI will boost activity in particularly wireless Internet applications[131]. With an increasing share of the European population having access to the Internet via their mobile phones and PDAs, there will be possibilities for providing consumers with instant access to useful information. A large number of Europeans are soon expected to be able to retrieve information on their modern mobile devices without having to find a stationary

[131] Yvo Volman

computer or a permanent phone line. Traffic conditions, weather reports, tourism and cultural institution information, phone directories, and business information are examples of content based on PSI that could be of interest for convenient access over the wireless Internet.

One of the most important sectors for job creation and revenue generation is the tourism industry, particularly in less developed and remote regions. The EU holds a leading position in world tourism; around 40% of would tourists have a EU Member State as their final destination[132]. Communicating the availability and functioning of operations such as public services, public transportation, cultural institutions and other public places, safety, general area information, etc. are all essential elements for the success of the tourism efforts, and of greatest importance for visitors with limited knowledge of the destination. The availability to accurate and up-to-date information can be crucial for visitor impression of a location. Usually large quantities of information regarding the operations of private sector tourist facilities and attractions are readily and handily provided by private sector initiatives. It is also in the interest of private companies in the industry to gather and communicate information on public sector functions, in order to be able to provide adequate customer service.

A few public domains are characterized by national monopolies of information with high cost-recovery approaches. Meteorological and geographical institutions are examples where the requirement of very expensive equipment and a highly skilled workforce usually only allows for one market actor, i.e. the public agency. Private firms with interest in exploiting data from these sectors must therefore come up with innovative, alternative ways of using the data for commercial purposes. Information can be customized to fit specific customer needs, or information from several different sectors can be combined to create value-added, attractive products; activities usually not performed by public sector bodies.

[132] US Department of State, FY 2001 Country Commercial Guide: European Union.

Chapter 8: COMPARATIVE ANALYSIS

8.1 Overview

There is little reason to believe that the data and information itself produced by public sector bodies in Europe is inferior to that produced in the US. However, administrative, legal, and technical procedures and standards under which the Member States of the EU make it available are uncoordinated, making the situation much less transparent for citizens and businesses in Europe compared to the US.

8.2 Discussion

8.2.1 The EU Common Market

The lack of homogenous rules throughout Europe concerning the access to PSI causes a distorted business environment for the private sector. Many industries use information inputs from the public sector to enhance business operations. Companies from Member States with liberal access laws may gain a competitive advantage over companies from countries with strict or complex access rules. If the goals of the Common Market are to be realized, harmonized rules in areas of growing importance, e.g. the information industry, will be essential in order to create a level playing field for all market actors. Ready and affordable availability of comprehensive and timely information significantly assists the integration process of the EU. A successful implementation of the four freedoms could depend on information on conditions to transfer capital, goods, people, and services between countries. From the economic point of view, businesses with access to all information necessary to operate a business in another Member State may be encouraged to pursue business opportunities in new markets. This will increase competition on national as well as international markets, and bring foreign capital, technology, and know-how to other regions, possibly serving to boost the economy of certain regions. Difficulties to exploit PSI may therefore have negative effects on the internal EU market as a whole.

Although many barriers are likely to remain for a considerable future, a few factors serve to induce optimism for increased business opportunities. Key factors for achieving the goal of becoming a world-leading economy are to reach and maintain low levels of unemployment and to increase the integration of people and business activity in Europe. EU initiatives to improve the legal framework for access to and re-use of information, to increase human skills, and to foster research and developments in ICTs could catalyze business initiatives to develop this in Europe underdeveloped industry.

The near enlargement of the EU will increase opportunities for international trade in Europe in most industries. Removed barriers to trade with many Central and Eastern European countries will open up markets with a combined population of over 75 million people. The new Member States will need assistance from current Member States for a smooth transition into the Community. Business activity between current and new Member States is likely to increase immensely, and the availability of

accurate and timely information about a vast amount of societal functions is a key factor in the progress. This creates opportunities for entrepreneurs with ideas of how to serve new markets with information products.

Improved conditions for the re-use of PSI on EU levels also create business opportunities on existing markets. Facilitating cross-border flow of information could bring about prospects for creating value-added products in important and already established European markets such as the tourism and transport industries. Furthermore, international competition in previously restricted markets could result from EU legislation on improved access to PSI and its commercial exploitation.

8.2.2 Competition from the public sector

The question whether the public sector should indeed be able to compete on the markets with their information products or not is a debated topic. Many public agencies have the resources and the skills needed to produce and market high-quality products that are able to meet customer demands. Particularly in times with strained national economies, self-sufficient state agencies who could maybe even contribute to state finances in form of license and royalty fees generated should maybe have the power to do so. Generally the funds generated by public sector sales of information are allocated to funding the operations of the agency producing the information, but also to other government departments. The issue for the dispute lies in the fact that these functions are largely sponsored by tax funds. In other words, this is eventually leading to private parties – somewhat involuntarily – are sponsoring the competition against themselves.

Some government departments, e.g. many national mapping institutions, compete efficiently on consumer markets with their information products. The strong positions of many important agencies ensure the sustainability and quality of the information provided. In many instances the markets are best served by one single market actor, creating natural monopolies. Monopolies *per se* and public sector agencies competing on the market with commercial products is usually not prohibited national or international laws. It could however lead to sensitive situations, resulting in state agencies abusing their dominant position.

It is argued that a level playing field is impossible to accomplish with government agencies providing both commercial and public interest services[133]. Market distortions are likely to arise when public or former public departments compete with private firms with their products and services. Uneven pricing practices, price discrimination, or unfair advantages for public agencies gained from the close relationship with governments cause unfair market conditions for private companies. Commercialized public departments are accountable for their own finances to a large extent, and may take advantage of their relationships with primary, usually state, resources. This could drive private competitors out of business.

[133] Weiss, "Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts."

Complete privatization and separation from government of state departments with potential of competing in markets is one solution proposed[134]. The advantage of this approach would be improved fairness on the markets. However, assuring the quality of the PSI could be a major difficulty if a former public agency would be cut off from public funds and support. Information essential for a number of important functions of society, such as national security, defense, or state finances, would be dependent on the newly formed organization's ability to endure the market environment. A failure to maintain high standards of research and development, accurate and timely data, and the function as an employer, could be the consequence of an organization being exposed to harsh market conditions. There are however successful examples of the feasibility of privatization in some industries, e.g. meteorological services, telecommunications, and transportation.

In some cases, the information provided by public agencies is sufficient to satisfy market information needs. In other instances, public departments lack the sufficient resources to disseminate their data, and may outsource information services to private firms with superior knowledge and technology. Public and private co-operation then guarantee the necessary information supply. However, it is widely argued that market needs in the information market are best served by the private sector[135]. While public sector functions are usually not focused on creating marketable products, private companies are specializing in their field, their survival depending on their ability to meet market demands. Hence, private organizations are highly motivated to provide top-quality products and services.

Accordingly, there is no universal solution to the problem of public agencies competing on the information markets, preventing private companies to prosper. National governments of the EU should however not ignore the issue, but carefully determine on a case to case basis which approach provides the best long-term benefits for society as a whole.

8.2.3 Pricing

As in any industry, prices of the raw material greatly determines the feasibility of operating and succeeding with a profitable business. Excessive charges of inputs cause the outputs to be very expensive, considerably decreasing the demand for the products. One example of this is in the field of business information, where leading business information company D&B has experienced great differences in prices of company information collected by national agencies[136]. Information products that are dependent on data from large geographical areas including several different regions, federal states, or countries, can be severely skewed if different access and pricing

---

[134] Pluijmers & Weiss, "Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts."
[135] Pira final report, p. 18.
[136] For example, the price in 2000 for company balance sheets varied from €0.11 in Belgium to €3.29 in the Netherlands. *Source*: *e*Europe 2002: Creating an EU framework for the exploitation of public sector information.

policies apply. The results can either be very high-priced end-products, or products lacking information from certain geographical regions. Either way, the perceived attractiveness of such products for consumers run the risk of being rather modest. Other examples of the skewed pricing policies include private meteorological services, who in certain cases find it more feasible construct their own equipment or buy data from foreign sources, notably the US.

The establishment of a sustained information society creates vast opportunities for private entrepreneurs to take advantage of resources available and exploit them commercially. Huge amounts of public sector data is constantly being produced, and much of it is never used. Therefore, it appears reasonable that private entities with a vision of how to use certain data to create a valuable product should enjoy reasonable conditions for doing so. The fact that PSI is funded by the citizens of a nation further enhances the idea that rational charges should be set. One argument states that it is usually only a small section of the public who wishes to use a particular PSI product, and that this small group should not be subsidized by the government[137]. This argument is however merely irrational, since subsidizing applies to many other parts of society. It would be highly unfeasible and unpractical for a nation to levy tax on their individual citizens according to their level of participation in society, not to mention the fact that this would contradict the concept of a welfare society. Instead, encouraging private initiatives of commercial exploitation of PSI should be viewed as a practice of enhancing society, creating job opportunities, and thus benefit the economy.

In the long-term perspective, a full cost recovery approach for European governments' PSI is not likely to succeed. Various reasons underline this argument:

- Market demand is not large enough to support recovery of the full costs of comprehensive, unsubsidized information services.
- Charging other government users merely shifts the expenses from one agency to another, rather than actually saving the national treasury any money.
- Due to some of the fundamental economic characteristics of information, including high elasticity of demand, it is questionable whether any governmental entity can successfully raise revenue adequate to pay not only for the dissemination of its information but also for the costs associated with creating the information for governmental purposes in the first instance.
- High prices for information ultimately lead to predatory and anti-competitive practices, e.g. price dumping, and the creation of government owned corporations or joint ventures that may serve to exclude others from the market.

It is argued that the most beneficial pricing model for society as a whole would be for the public sector to release their information free of charge, or possibly on a marginal cost recovery basis. This approach would benefit the private sector,

[137] Papapavlou, "Public Sector Information Initiatives In The European Union."

then fully being able to take advantage of opportunities arising from affordable access to public records. A business environment with government support and encouragement for entrepreneurship would create more job opportunities, contributing to the health of the nation. Furthermore, it is argued that this model could also be the best approach with respect to government finances. The tax income generated from increased employment in society could be greater than the income generated from license and royalty fees for the use of PSI[138]. Increased employment, particularly in an industry such as the information industry, would contribute to create a society with highly skilled human resources and greater economic activity. The argument is somewhat optimistic though, as it is mainly hypothetical. While it may be feasible to implement this model in the long-term perspective, the argument has not taken into consideration all aspects of society. Different economic, political, legal, and social conditions in the different Member States create different conditions for pubic bodies to perform their functions. In times of economic recession, public funding of different departments is likely to be reduced, with the result that many agencies will be responsible for their own finances. With reduced government contributions to public agencies, a heavier burden is put on customers to cover costs. Making such departments heavily reducing the prices of their products overnight would create a huge burden on governments, who would then be responsible for finding other means of funding these activities. For instance, recently the Swedish government announced that a significant part of the current funding to the National Land Survey will be replaced by customer financing[139]. The official reasoning behind this decision is that the information provided by the National Land Survey is of such value to users that increased customer financing is possible, resulting in a relieved tax burden on citizens. Agencies with little government funding and with no revenue from customers would eventually have to lower the quality of their products and services.

Derived from this reasoning, a model where charges for PSI in Europe are set at a free or marginal cost recovery levels, depending on the type of information, appears to be the most viable approach. Public agencies taking advantage of their strong position and charging full market price for their products would create monopolistic behavior on the market. This eliminates or heavily reduces competition, domestic as well as foreign. In the long run, this would slow down developments on the market, as private firms would be discouraged from entrepreneurial and innovative activities. It would also hamper developments of the common EU market, making it more difficult for foreign companies to access information or certain markets. However, some public agencies need to maintain a certain quality of their functions and outputs. Releasing their information at a loss would eventually reduce their standards. Even with unequivocal proof of increased state revenues resulting from the abolition of fees on PSI, it would be a huge step to take for many public

[138] Pira final report, p. 9.
[139] Government press release of 2003-04-15, accessed on Swedish National Land Survey Website.

sector departments. Therefore, a gradual transition towards marginal cost recovery policies, based on and supported by the provisions of EU legislation, would probably generate the most favorable long-term solution.

8.2.4 Comparison between the US and Europe

First of all, it must be noted that US and EU companies are usually not rivals on the same information markets. There are situations where US companies use European PSI for their business operations on the US as well as the European markets. The opposite case is also true. There are also situations of global information providers, such as D&B and MapInfo, competing on overseas markets. However, generally US firms concentrate on the US market, and European firms focus on European markets. Therefore, the markets should rather be seen as parallel.

Although the US provides a commendable example of how the potential of the information industry can be exploited to benefit society as a whole, there are special conditions applying to European markets. The homogeneity of the US society is rather thorough, while the EU is characterized by a large number of different cultures, policies, opinions, etc. These differences cause significant barriers to smooth policy making and functioning of business operations. Other barriers, non-existing or to a very small extent existing in the US, e.g. linguistic differences, lack of standards, or legal inconsistency, contribute to making the business environment in Europe significantly different than that in the US. The challenges in the US compared to the EU for conducting successful business are therefore different, which should be taken into consideration when establishing policies and legislation for the information industry.

The calculated economic potential of PSI in the US and the EU, €750 billion and €68 billion respectively, are estimated figures. However, even with adjustments for calculating errors, this indicates a large difference in how US firms are able to take advantage of the possibilities of the market, compared to their European counterparts. European entrepreneurs have to sit tight while slow decision making progress is only increasing the gap of business success compared to leading economies. The Pira view that the difference between the US and the EU represents the economic potential for the information market in the EU is overly optimistic. It is unreasonable to expect the European information market will reach the size of the US counterpart within a near future. The barriers to fully exploit the European market are not easily torn down, and some of them will remain even after a Directive on improved conditions for re-use has been fully implemented. Although government openness and support has strongly contributed to the US success in the field, it cannot serve as the only explanation. A homogeneous business environment, a since long established financing environment, technological advantages, and a general positive public attitude to the idea of exploiting official records commercially are all elements where European markets need progress. Means to approach the US model could include:

- Close the gap in PSI investment levels for governments in the EU with the US federal government.
- Reconsider the value of pricing to recover all costs.
- Invest in human resources.

If Europe is to realize the economic opportunities in the information market and approach US levels, and at the same time retain the economical benefits within Europe, there are a few challenges that need to be dealt with. *"The challenge for EU organisations is to close the technical gap on US organisations before the US organisations close the understanding gap."*[140] In other words, European companies must make up for their deficiencies in technological skills compared to US firms, or they risk loosing market share when overseas companies decide to enter the European market. European countries are still struggling with issues such as the right to access, overpricing, and other barriers for commercial exploitation of PSI. US companies have been able to ignore many of these problems and focus their attention on more practical problems, such as the balance between maximizing the usefulness of the products and minimizing costs, or technological challenges.

Using the US as a benchmark model for success in ICT areas could be a sound strategy for the EU. Overseas developments in most industries are being more closely monitored than before, in order to rapidly be able to follow pace with new innovations. In the long run, when the effects of the introduction of the Euro and the upcoming enlargement have leveled out, it appears to be a reasonable goal for Europe to establish a world-leading economy, based on the power of information. Many current Member States have the capacity and incentive to assist less developed regions, particularly in the candidate countries, to raise their standards. A high level of ICT sophistication throughout the EU, eliminating or reducing technological barriers to international trade, would benefit the common market as a whole. However, with the rather large differences in ICT advancements and standards throughout the countries of Europe, it appears to be more feasible to first raise ICT standards in all Member States to the same high levels, and then compare with external forces. Without suggesting that EU nations with high levels of ICT sophistication should slow down developments to allow less developed regions to catch up; the common market would probably be best served if Member States would work together to raise standards, compared to if individual nations would try to approach leading IT nations on their own.

8.2.5 Barriers

Many barriers to exploiting PSI in Europe would be reduced or eliminated with the implementation of the proposed Directive. Even with the minimum set of rules proposed, the issues of replying time, pricing, non-discrimination, clarity of rules, and exclusive deals would all be more harmonized throughout the EU. Member

[140] Pira final report, p. 18.

States would also be strongly encouraged to release information in manageable, preferably electronic, formats. Although it will be very difficult to achieve a completely standardized environment as regards information society, the Directive would encourage initiatives towards improved harmonization. Although some barriers will naturally continue to exist for a considerable future, e.g. language barriers, a more transparent Community with improved policies for information use could serve to enhance the integration of the EU.

For larger companies, many of these barriers can be overcome if enough resources and efforts are spent. Even large organizations may however turn their back on possible business opportunities if the obstacles are too extensive. For SMEs, many of these barriers are insuperable. Assuming that the capital, knowledge, and technology requirements are met, complex regulation, unfair competition, language barriers, etc. could still deter many potential smaller-sized entrepreneurs from exploring business opportunities.

Looking at the similar situation in the US, most of the barriers prevalent in the EU do not exist. It appears obvious that if the EU wishes to compete with the US in the information industry, these barriers must be removed or heavily reduced. Although a few countries of the EU are at a comparable level with the US in many aspects, other Member States are lagging far behind. Although the US model could in many aspects be applied to European conditions, transferring it to the EU is not easily done, and will not be accomplished in short order. Inevitably, a gap would arise if a completely new system of rules and regulations, but also attitudes and values, was to replace the existing system overnight. This would most likely result in high levels of confusion and uncertainty, as well as lead to administrative and economic difficulties for public sector bodies. Therefore, a gradual transition to implement best practices appears to be the most viable solution.

8.3 Solutions

The European Union has now realized the importance and sustainability of the information society and its potential to help the EU to become a world-leading knowledge based economy. Authorities now have the choice of acting accordingly. In addition to the different Community-wide action programs established to improve society for citizens, a few possible ways of action in the administrative and legislative areas will be presented here.

8.3.1 Laissez faire

The most convenient way of approaching the situation is for authorities to refrain from taking further action in the issue, and let the market self-regulate. Deregulations and privatization of state owned agencies have lead to increased competition in most industries. Also industries traditionally dominated by public institutions in the different Member States see trends of increasing levels of domestic as well as foreign competition. For consumers, this usually brings about several

advantages, including increased efficiency of organizations, lowered prices, and goods and services of higher quality. Technology enables rapid and reliable transfer of information across borders in the EU, breaking down geographical barriers. This open market approach could provide an alternative model to the US for growth in the commercial exploitation of PSI in the EU. From the legal point of view, some of the already existing EU legislative instruments, e.g. competition rules, non-discrimination rules, rules on the free movement of services, could apply to regulate practices in certain situations. A decision not to act is however associated with a cost for society. Relying on market forces to find its own balance and to automatically foster developments will only serve to delay the progress of economic growth and integration, and will have a detrimental effect on the EU society as a whole.

8.3.2 Pira approach

There are several interests, particularly from the private sector, wishing to see dramatic changes in rules regarding the re-use of PSI. The Pira International study, although preceding the Directive proposal and hence unaware of its shape, will here represent a rather rigorous approach to the situation. According to the study, two main goals to maximize the value of PSI should be addressed:

- Creating a single European market for PSI.
- Facilitating a fair trading environment for PSI.

Creating a single market in Europe for the trade of PSI requires a change in information infrastructure. Different processes, formats, and standards throughout the EU creates a complex and vague market environment for anyone wishing to obtain and re-use public records. The recommendations from the study group entail establishing common definitions and standards. The lack of standards in information formats, pricing procedures, access policies, etc. are major obstacles for commercial exploitation of PSI in Europe. Furthermore, establishing a pan-European register of what information is available and the conditions for obtaining it should have a high priority. The Pira study also anticipates a situation in the near future where governments will be required to publish most of their records electronically on the Internet. The sooner governments commit to make available public records online, the smoother will the transition run, and the more control will the public sector have over the process.

To stimulate the desired growth in the industry, a fair and trusted trading environment must be provided. According to the study, level playing fields for all actors on a European-wide scale requires the abolition of exclusive licensing deals and government copyrights, and making PSI available at no more than the marginal cost for producing it. Monitoring the quality and adherence to common standards by trusted authorities is also necessary to guarantee fair practices on the market. Setting targets to be monitored regularly could also ensure the progress of the initiatives. Furthermore, the study recognizes that the lack of clarity of the roles of public and private sectors create uncertainty and confusion for market actors. The

recommendation in this regard is to clarify the specific roles of different institutions and organizations, specifying what is to be achieved by which organization.

In many situations coercion is the best and sometimes the only method of achieving results. In the situation of fully taking advantage of the vast opportunities of commercial exploitation of PSI in Europe, changes in many areas are necessary. Previous initiatives, e.g. the Guidelines from 1989[141], had little effect on receiving appropriate attention and the commitment from governments. The study suggests radical changes that are perceived necessary in order to reach the set goals. Many of these changes are logical outcomes of technological and societal developments. Most public records will doubtlessly be published on the Internet in the not so distant future. Common standards are likely to originate from technological advancements and policy changes. The establishment of a pan-European metadata register is a natural outcome from these changes. Authorities monitoring and guaranteeing a fair trading environment and the adherence to competition laws will be needed, and are likely to be formed, if not in existence already.

A few of the recommended changes are complex and sensitive matters, and will require further discussions. The pricing policies of different public departments throughout the EU vary widely. They are reflected by government attitudes towards allowing individual public agencies being responsible for their own financing. A firm, EU-wide implementation of a marginal cost policy would create financial difficulties for many governments, particularly in times of economic recession, where public contributions to state departments are reduced. Overpricing does serve as a major barrier for commercial exploitation of PSI, and a long-term model for harmonized rules should be worked out. It is a however a sensitive issue for many governmental institutions, and gradual relaxation of costs would probably be the best approach.

Clarifying the roles of public and private sector bodies would reduce the levels of confusion and uncertainty, and increase awareness of what institution is responsible for which duty. While a clarification could facilitate for – particularly foreign – citizens and businesses to obtain information, these roles are however not easily distinguishable. Public and private sector activities are usually integrated, particularly in the information industry. At all levels of the information processing value chain there is co-operation between public agencies and private organizations. Privatization and semi-privatization of formerly government-owned departments further contributes to obscure the concepts of what organization is responsible for which duties. The relationship between many public and private entities is mutually beneficial, i.e. they serve to enhance the quality of the services and products provided. Such bodies are and have been for a long time dependent on each other for their operations, and their activities are heavily integrated. Private organizations carrying out public sector duties and vice versa further complicates matters. Making a clear distinction between the different responsibilities of the public and the private sectors

[141] Commission of the European Communities, Guidelines for Improving the Synergy between the Public and Private sectors in the Information Market (1989).

would therefore be extremely difficult; the efforts spent would far exceed the benefits gained from such a project.

From the reasoning it is clear that the Pira group has realized the opportunities of commercial exploitation of PSI. Policy chances are perceived being necessary for the EU to materialize the concept and follow US success in the field. Possible solutions are based on thorough studies. The suggested recommendations for policy changes in the EU are, although hypothetically feasible, however overly optimistic. Many of the recommended changes will be covered by the less vigorous proposed Directive, and other policy amendments will be natural outcomes of developments in information society. Although the most controversial changes would possibly result in reaching the goals much more rapidly than with the rather slow progresses of today, they may not be practically feasible. Many of the changes assume unlimited government resources, which is usually not the situation.

8.3.3 Directive[142]

The progress of the proposed Directive on the re-use and commercial exploitation of PSI is far advanced, and an adoption appears to be reality within the near future. The final draft is currently being discussed by the different EU institutions, and agreements on details are expected to be compromised on. The Commission accepted most of the major amendments made by the EP in their amended proposal of the Directive. Although not a solution for eliminating all barriers associated with commercial exploitation of PSI, it provides a framework for a more harmonized set of EU rules.

The minimum harmonization approach has been, and is being, carefully worked out by experts in the field, based on thorough studies. This approach is considered being sufficient for Member States to implement the necessary changes, enabling European entrepreneurs better opportunities to pursue business ventures in the information industry. With unambiguous legislation in the area, individuals as well as companies would be better prepared to access and use the information they are entitled to. Sensitive matters, such as pricing policies and standardization, have been carefully evaluated. However, such important issues have been surprisingly unaltered in their current status. Given the slow process of EU legislative process, in combination with rapid changes in ICTs, more attention could have been given to anticipated future scenarios. Authors of the Directive should anticipate market requirements of the expected day of adoption, but also future requirements, that are likely to change. For instance, an affirmative provision requiring public sector bodies to release information in electronic formats could be a big step towards achieving the goals of the Lisbon summit.

Altogether though, this proposal appears to be the most viable method of proceeding. A minimum harmonization framework will not impose any excessive burden on governments and their departments, and will thus not strain their financial

[142] Directive proposal, described in detail in Chapter 5.5 .

situations. The upcoming enlargement of the EU has also been considered, where many regions would encounter problems complying with stricter legislation. Hence, it appears that the advantages gained from implementation of a Directive far outweigh the disadvantages.

8.4 Global co-operation

There are apparent differences between the market environments of the US and the EU for exploiting PSI commercially. Many barriers to pursue business opportunities in the industry do not exist in the US. Furthermore, US firms experience certain technological advantages, such as standardized systems and the access to electronic government records. On the other hand, Europe has a number of advantages over the US. For instance, the European telecommunications industry is further advanced than the US equivalent, giving European firms an advantage in land-based as well as wireless communications. Europe is also equipped with highly skilled, multi-lingual labor force, an asset in many global companies of today.

Therefore, increased co-operation initiatives between European and US public as well as private institutions could enhance progress in most information related areas. Commitment by all parties to move forward together to establish necessary harmonized and unrestricted policies, as well as to co-operate in projects improving ICTs, would increase opportunities for successful business operations, and thus contribute to improving the health of society. There is a risk that US/EU co-operation would serve to further increase the economical and ICT gap between these prosperous regions and under-developed areas of the world. This issue is however beyond the scope of this paper.

Chapter 9: SUMMARY OF THE REPORT

9.1 Overview

This report has made an attempt to highlight the importance of a well functioning information society, and the benefits derived thereof. The emphasis has been put on commercial exploitation by private parties of public sector information, as this appears to be an under-exploited asset. Descriptions of the current legal and market environments in the US and selected European countries, ongoing initiatives by authorities to enhance society and by private companies to prosper with their business missions, and a subjective discussion on the topic, have hopefully provided the reader with some insight in the subject.

9.2 Conclusion

The comprehensive task of conducting a study on the topic of information has presented the challenges individuals as well as organizations are faced with in their quest to access and use information from government sources. Entrepreneurs with a vision of how to use PSI to create value-added products in Europe are exposed to a myriad of rules and regulations, in addition to more traditional administrative and technological obstacles. Even the most entrepreneurial spirits or innovative ideas could end up being demolished by the confusion and frustration derived from the many obstacles to pursue business ventures in the information industry.

A comparison between the US and EU markets is in many industries inevitable; the two markets being roughly equal in overall size regarding population and economic activity, and also because of similarities in culture and in standards of living. Such a comparison in the industry of private companies exploiting PSI commercially shows significant differences in how opportunities are being actualized. The US market appears to have eliminated or heavily reduced the barriers to efficient processing and trade with information products and services. The European approach has traditionally been for national governments to protect their information assets, using them for their own profit-making purposes. This has created a situation where US companies in information industries are presented with endless opportunities to develop their ideas into business ventures, while European entrepreneurs are exposed to numerous deterrents for entering the industry, particularly in conducting international trade. The situation is however slowly but surely improving, as the integration of the EU is progressing.

By officially announcing the rather ambitious and self-confident goal to become the most competitive knowledge-based economy in the world by 2010, EU authorities have little choice but to make serious attempts to make progress. Information industries, being essential for efficient operations of most functions of society, are therefore of greatest importance. This work has outlined some of the most important initiatives taken on national as well as international levels to arrive at the set objectives, but also to create a sustainable and continually developing region.

List of References

Articles:

Banisar, David. "Freedom Of Information And Access To Government Records Around The World." Privacy International. July 2002.

Birkinshaw, Patrick. "Freedom of Information in the UK and Europe: Further progress?." Government Information Quarterly. 19 (2002) 77–86.

Gellman, Robert. "The Foundations of United States Government Information Dissemination Policy."

Kitty LAM. "Operation of Trading Funds.". Research and Library Services Legislative Council Secretariat. February 18, 2003.

Knowledge@Wharton & ebizChronicle.com. "New Economy or Old Economy, a Shakeout is a Shakeout." March 8, 2001.

La Rovere, Renata Lèbre. "Small and Medium-Sized Enterprises and IT Diffusion Policies in Europe." Small Business Economics: 1–9, 1998.

Madison, James. "The Electronic Freedom Of Information Act: The Promise Remains Unfulfilled." Issue: April, 1999

Papapavlou, George. "Public Sector Information Initiatives In The European Union." Information society DG, Directorate A: Communication Services: Policy and Regulatory Framework, Secretary Legal Advisory Board, European Commission.

Peers, Steve. "The New Regulation on Access to Documents: A Critical Analysis."

Perrit, Jr, Henry H. Rustad, Zachary. "Freedom of Information Spreads to Europe." Government Information Quarterly. Volume 17, Number 4, pages 403–417. 2000.

Pluijmers, Yvette & Weiss, Peter. "Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts." Final draft. January 2002.

Rogerson, Kenneth S. & Strauss, Jared. "Policies for online privacy in the United States and the European Union." Telematics and Informatics. 19 (2002) 173–192.

Saxby, Stephen. "EU Policy On Exploitation Of Public Sector Information Shapes Up." Computer Law & Security Report. Vol. 18 No. 4 2002.

Tammerk, Tarmu, Managing Director of the Estonian Newspaper Association. "Estonia's road to freedom of information: lessons and challenges – The information-seekers' point of view." September 2001.

Tsipouri, Lena, University of Athens, Greece. "Europe and the Information Society: Problems and Challenges for Supranational Intervention." Journal of Comparative Policy Analysis: Research and Practice: 301–319 2000.

Vittet-Philippe, Patrick, Expert Advisor DG Enterprise. "Europe In The E-Economy: Challenges For EU Enterprises And Policies." Computer Law & Security Report Vol. 18 no. 1 2002.

Weiss, Peter. "Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts." Summary Report. February 2002.

Woods, John. "The Commercial Exploitation of Public Sector Information in Europe." Computer Law & Security Report. Vol. 17 no. 4 2001.

Books:

Cashman, Thomas J., Rosenblatt, Harry J., Shelly, Gary B. Systems Analysis And Design. Third edition. 1998. Course Technology.

Commission of the European Communities, Directorate-General Information Society. Information Society Technologies – Challenges and Opportunities. Luxembourg: Office for Official Publications of the European Communities. 1999.

Johnson G & Scholes K. Exploring Corporate Strategy. 5th edition, 1999, Prentice Hall, Salisbury, England.

Petersson, Roger & Reinholdsson, Klas. Personuppgiftslagen i praktiken. 2nd edition. 2000. Norstedts Juridik AB.

Companies:

D&B,.formerly known as Dun & Bradstreet. <www.dnb.com>. Accessed on 2003-05-15.

Pira International. <www.pira.co.uk>. Accessed on 2003-05-22.

Search Systems. <www.searchsystems.net>. Accessed on 2003-05-20.

The Heritage Foundation. 2003 Index of Economic Freedom. <http://www.heritage.org/research/features/index/2003/index.html>. Accessed on 2003-05-22.

Contacts:

Ilus, Tiina. Councillor of Analysis and Development Department, Estonian Data Protection Inspectorate. E-mail on April 21, 2003.

Koster, Tim. CEO. Pacific Information Systems, Inc. dba Search Systems. E-mail on April 29, 2003.

Potts, Michelle. Correspondent Market Manager. Emerging Markets Centre. D&B. E-mail on April 20, 2003.

Pödra, Erki. Estonian Data Protection Inspectorate. E-mail on April 27, 2003.

Volman, Yvo, PhD. Policy advisor for the Commission. Personal interview on February 20, 2003.

Weiss, Peter. Author of "Borders in Cyberspace: Conflicting Public Sector Information Policies and their Economic Impacts." E-mail on April 28, 2003.

Government resources:

Commission of the European Communities. Guidelines for Improving the Synergy between the Public and Private sectors in the Information Market (1989).

Communication From The Commission To The Council, The European Parliament, The Economic And Social Committee And The Committee Of The Regions. eEurope 2005, An Information Society For All – Action Plan. COM(2002) 263 final. An Action Plan presented in view of the Sevilla European Council, June 21-22, 2002

Communication From The Commission. Strategies for jobs in the Information Society. COM(2000) 48 final. Brussels, February 4, 2000.

Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. eEurope 2002: Creating an EU framework for the exploitation of public sector information. Luxembourg: Office for Official Publications of the European Communities, 2002.

Communication From The Commission to the Council and the European Parliament. Better Environment for Enterprises. COM(2002) 610 final. Brussels, July 11, 2002.

Community Research & Development Information Service (CORDIS). <http://www.cordis.lu/en>. Accessed on 2003-05-22.

Conclusion from the ICT and e-Business in Europe workshop. May 30-31, 2002. <http://europa.eu.int/comm/enterprise/ict/policy/ict-skills/wshop/final-workshop-conclusions.pdf>
Accessed on 2003-05-13.

Council Of The European Union & Commission Of The European Communities. eEurope 2002, An Information Society For All – Action Plan. Prepared by the Council and the European Commission for the Feira European Council 19-20 June 2000.

Estonian Department of State Information Systems (RISO). <http://www.riso.ee/en>. Accessed on 2003-05-22.

Estonian Informatics Centre. Principles of Estonian information policy. <http://www.ria.ee/english/principles.html>. Accessed on 2003-05-22.

European Commission Press Release. Council Definitively Adopts Directive On Protection Of Personal Data. Ip/95/822. July 25, 1995.

European Parliament. Report on the proposal for a European Parliament and Council directive on the re-use and commercial exploitation of public sector information. January 29, 2003. (COM(2002) 207 – C5-0292/2002 – 2002/0123(COD)).

Her Majesty's Stationary Office. <http://www.hmso.gov.uk>. Accessed on 2003-05-15

Single Face To Industry (SFTI). <www.eh.svekom.se>. Accessed on 2003-05-22.

Statistics Sweden. <http://www.scb.se/internationellt/eu>. Accessed on 2003-05-22.

Swedish Agency for Innovation Systems (VINNOVA). <http://www.vinnova.se/index_en.htm>. Accessed on 2003-05-22.

Swedish Data Inspection Board. <http://www.datainspektionen.se/in_english>. Accessed on 2003-05-22.

Swedish Ministry of Justice. The Right Of Access To Official Documents In Sweden. 1996.

Swedish Ministry of Justice. Information on the Personal Data Act. 2000.

Swedish National Land Survey. <www.lantmateriet.se>. Accessed on 2003-05-25.

The UK National Land Information Service (NLIS). <http://www.nlis.org.uk/docs/2000/index.htm>. Accessed on 2003-05-22.

Trade Partners UK. <http://www.tradepartners.gov.uk/index.html>. Accessed on 2003-05-22.

UK Information Commissioner. <http://www.dataprotection.gov.uk/commissioner.htm>. Accessed on 2003-05-22.

US Census Bureau. <http://www.census.gov>. Accessed on 2003-05-21.

US Commercial Service, US Department of Commerce. Country commercial guides. <http://www.usatrade.gov/Website/CCG.nsf/>. Accessed on 2003-05-22.

US Department of State. FY 2001 Country Commercial Guides. Prepared by the US Mission to the European Union in Brussels, Belgium. Released by the Bureau of Economic and Business in July 2000.

International conventions:

Berne Convention for the Protection of Literary and Artistic Works. September 9, 1886.

Paris Convention for the Protection of Industrial Property. March 20, 1883.

International organizations:

European Patent Office. <www.epo.org>. Accessed on 2003-05-21.

The European Ombudsman Homepage. <http://www.euro-ombudsman.eu.int/home/en/default.htm>. Accessed on 2003-05-21.

Council of the Baltic Sea States. Northern eDimension Action Plan.
<http://www.cbss.st/documents/cbsspresidencies/11finnish/dbaFile1763.html>.
Accessed on 2003-05-22.

Internet resources:

Commission of the European Communities. Information Society Directorate-General. Electronic Commerce Unit.
<http://europa.eu.int/ISPO/ecommerce/sme/definition.html>.
Accessed on 2003-05-17.

Commission of the European Communities. The eBusiness legal portal.
<http://www.ebusinesslex.net/index.asp>. Accessed on 2003-05-22.

e-skills UK. <http://www.e-skills.com/cgi-bin/cms.pl/45>. Accessed on 2003-05-13.

European Industrial Relations Observatory on-line (EIRO).
<http://www.eiro.eurofound.ie/2000/04/feature/EU0004241F.html>.
Accessed on 2003-05-20.

European Union On-Line. <www.europa.eu.int>. Accessed on 2003-05-22.

European Union On-Line: Information Society.
<http://europa.eu.int/information_society/index_en.htm>.
Accessed on 2003-05-22.

European Union On-Line: European Commission: IDA Programme.
<http://www.europa.eu.int/ISPO/ida/jsps/index.jsp?fuseAction=home>.
Accessed on 2003-05-22.

Federal Public Service Belgium, Information Society.
<http://mineco.fgov.be/information_society/administrations/greenpaper_en.htm>.
Accessed on 2003-05-21.

Infoplease.com. <http://www.infoplease.com>. Accessed on 2003-05-20.

IPR Helpdesk. Coordinated by Universidad de Alicante.
<http://www.ipr-helpdesk.org>. Accessed on 2003-05-21.

Management of Global Information Technology.
<http://www.american.edu/academic.depts/ksb/mogit/country.html>.
Accessed on 2003-05-22.

Open Sweden Campaign. <http://www.oppnasverige.nu/html>.
Accessed on 2003-05-22.

smith & hopen, p.a.. Intellectual Property Glossary.
<http://www.baypatents.com/glossary/default.asp?ID_Glossary=76>.
Accessed on 2003-05-20.

SverigeDirekt. <www.sverigedirekt.se>. Accessed on 2003-05-22.

Wordsmyth Dictionary-Thesaurus. <www.wordsmyth.net>. Accessed on October 2002-May 2003.

Yahoo Finance: Industry Center. <http://finance.yahoo.com>. Accessed on 2003-05-16.

Legislation and Court decisions:

EU:

Commission of the European Communities. Amended proposal for a Directive of the European Parliament and of the Council on the re-use and commercial exploitation of public sector information. Brussels, March 17, 2003.

Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.

Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases

Directive 2001/29/EC of the European Parliament and of the Council Of 22 May 2001 on the Harmonisation Of Certain Aspects Of Copyright And Related Rights In The Information Society.

Judgment of the Court of First Instance (Fourth Chamber, extended composition) of 17 June 1998. Svenska Journalistförbundet v Council of the European Union. Case T-174/95.

Proposal for a Directive Of The European Parliament And Of The Council on the re-use and commercial exploitation of public sector documents (presented by the Commission), 2002/0123 (COD)

Treaty on the European Union. Signed in Maastricht on February 7, 1992, entered into force on November 1, 1993. Amended by the Treaty of Amsterdam, signed on October 2, 1997.

Estonia:

Estonian Databases Act. Translated by Estonian Legal Language Centre. <http://www.riso.ee/en>. Accessed on 2003-05-20.

Estonian Personal Data Protection Act. Translated by Estonian Legal Language Centre. <http://www.riso.ee/en>. Accessed on 2003-05-20.

Estonian Public Information Act. Translated by Estonian Legal Language Centre. <http://www.riso.ee/en>. Accessed on 2003-05-20.

Sweden:

Swedish Personal Data Act, SFS 1998:204.

Swedish Secrecy Act, SFS 1980:100.

US:
US Copyright Act. 17 U.S.C. §§ 101 – 810.

US Electronic Freedom of Information Act. 5 U.S.C. Sec. 552, As Amended by Public Law No. 104-231, 110 Stat. 2422.

US Freedom Of Information Act. 5 U.S.C. §552.

US Paperwork Reduction Act. S.244.

UK:
UK Data Protection Act 1998. 1998 Chapter 29.

UK Freedom of Information Act 2000. Passed on November 30, 2000.

Reports:
Commission of the European Communities. Publaw 1 Studies (1991); Publaw 2 Studies (1993); Publaw 3 Studies (1995).

Commission of the European Communities, Directorate-General for the Information Society. Commercial exploitation of Europe's public sector information – Executive summary. Prepared by: Pira International Ltd., University of East Anglia and KnowledgeView Ltd.. 20 September 2000.

Commission of the European Communities. Public Sector Information : A Key Resource For Europe. Green Paper On Public Sector Information In The Information Society. Com(1998)585.

Ministry of Justice, Sweden. Fact Sheet: The Swedish Approach to Public Access to Documents. November 2000.

IBM Community Development Foundation. The Net Result - Report of the National Working Party for Social Inclusion. Report from 1997.

Information Technology Industry Council. IT and the Economy.

Lisbon Summit. Summary of conclusions on <http://www.eiro.eurofound.ie/2000/04/feature/EU0004241F.html>. Accessed on 2003-05-21.

Pira International. Commercial Exploitation Of Europe's Public Sector Information, Final Report. For the European Commission - Directorate General for the Information Society. October 30, 2000.

Publaw III. Final report. Prepared by PSI, London and CRID, Namur, under contract with EU DGXIII November 1995.

TNS Interactive. Global eCommerce Report. June 2002.

APPENDIX A

The following list summarizes the questions raised in the Green Paper:

1. Which definition of public sector is the most appropriate in your view?
   What categories of public sector information should be used in the debate?

2. Do different conditions for access to public sector information in the Member States create barriers at European level?
   If so, what elements are concerned: requirement of an interest, exemptions, time, format, quantity?
   What solutions can be envisaged?

3. Could the establishment of European metadata (information on the information that is available) help the European citizens and businesses in finding their way in the public sector information throughout Europe?
   If so, how could this best be realised?
   What categories of content should directories of public sector information resources contain?

4. What bearing do different pricing policies have on the access to and exploitation of public information?
   Does this create differences in opportunities for citizens and businesses at European level?

5. To what extent and under what conditions, could activities of public sector bodies on the information market create unfair competition at European level?

6. Do different copyright regimes within Europe represent barriers for exploitation of public sector information?

7. Do privacy considerations deserve specific attention in relation to the exploitation of public sector information?
   In what way could commercial interests justify access to publicly held personal data?

8. To what extent may the different Member States' liability regimes represent an obstacle to access or exploitation of public sector information?

9. To what extent are the policies pursued by the EU institutions in the field of access and dissemination of information adequate?
   In what way can they further be improved?

10. Which actions should be given priority attention at European level?

APPENDIX B

Articles of the:
Proposal for a
DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the re-use and commercial exploitation of public sector documents

- *Article 1 – Subject matter and scope*: On circumstances where access to and exploitation of PSI is excepted from the proposed Directive.
- *Article 2 - Definitions*: Definitions of the most common and important terms covered by the Directive.
- *Article 3 – General principle*: On making documents that are generally accessible re-usable for commercial or non-commercial purposes.
- *Article 4 - Availability*: Minimum guidelines proposing that documents should be available in their current existing formats, but carefully imposing no extra burden on administrative bodies.
- *Article 5 – Time and requirements in case of a negative decision*: Entails proposal of a reasonable time frame within which a requested document should be delivered to the requester. Also covers the procedures for a potential negative decision.
- *Article 6 – Charging principles*: Covers the sensitive matter of charging principles, i.e. the proposed reasonable amount of money a public body should charge for releasing information.
- *Article 7 – Non-discrimination*: Covers the important, but often overlooked, issue of non-discrimination. All requests for access to and re-use of information should be treated in a non-discriminatory manner.
- *Article 8 – Transparency*: On making charges and other conditions for the re-use clearly expressed and published.
- *Article 9 – Facilitating re-use*: On ensuring the availability of standard license agreements for the commercial exploitation of public sector information.
- *Article 10 – Prohibition of exclusive arrangements*: On prohibiting the practice of exclusive rights to re-use public sector information, unless special conditions prevail.
- *Article 11 – Implementation*: Proposes that Member States are to bring into force the laws, regulations and administrative provisions necessary to comply with the Directive by 31 December 2004 at the latest.
- *Article 12 – Review:* On conditions for review of the impact of the Directive within three years of its entry into force.
- *Article 13 – Entry into force*: On the time frame for entering into force of the Directive.
- *Article 14 – Addressees*: The Directive is addressed to the Member States.

APPENDIX C

Questions sent out to public and private organizations by e-mail:

Questions for government agencies:

- Are there any restrictions for re-use of public sector information for private and/or profit-making purposes? Are there any specific conditions applying to the use of personal data?
- Are there any copyrights on public information?
- Are there any restrictions for private parties to transfer public information abroad?
- Are there any technological difficulties communicating or processing public sector information?

Questions for companies:

- Do you obtain your input data from public sector sources?
- If so, are there any obstacles (legal, administrative, financial, etc.) that makes it more difficult to operate your business?
- Would you like to see any changes in public sector policies that would facilitate your business?
- What are the main differences between doing business in different countries, regards the relationship with public sector agencies?
- How do you look upon future opportunities in Europe?