Internet technologies relevant to private investigators' working practices

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By

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Abstract

Much has been written and discussed especially in the various US media and in legislative organs, about how the Internet is used illegally (hacking, stalking for instance), but hardly if any research has been done as to how the investigative industry employs the new medium to its benefit.

The author described in this thesis how private investigators (PIs) execute their profession these days using the facilities the Internet avail them in contrast to the time before the dawn of the Internet. This contrast is also investigated in an international context, an important part of the thesis, drawn from the author's 32 years of international business experience and that of PIs worldwide. The availability of the various online facilities in different countries are compared.

To better understand the new medium, and its facilities a short outline of the Internet's history, its set up in general and for the use of PIs in particular is supplied.

PIs also face limitations in their daily work, limitations originating from online, legal, educational, financial and international causes. The new medium not only helps PIs in their investigative, but also in their office work. Finally PIs' wishes for new tools to facilitate their daily investigative work and their outlook as to where the new medium will head are also discussed.

Acknowledgement

I wish to thank Prof. Malcolm Munro, at the Computer Science Department, University of Durham, for his supervision and guidance throughout the development of this thesis and for his intervention in the correction of this thesis, also his patience with me having been out of the academic scene for three and a half decades.

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Statement of Copyright

Declaration

No part of the material offered has previously been submitted by the author for a degree at the University of Durham or any other university. All the work presented here is the sole work of the author and nobody else.

Author's Publications

The following publications have been made as part of the research in this thesis.

Posredovalec informacij – pomembna stranka detektivov,

O detektivski sceni v Nemciji,

Detektiv, Ljublijana, Slovenia, January/February 2000 edition, pages 23 - 25

Information Brokers in Europe

Canada Association of Private Investigators' Newsletter, Alberta,

Summer 2000

http://www.dbugman.com/articles/eeside.html

Using the Internet

P.I. Magazine, Toledo, USA, January/February 2001 edition, pages 44 -45

http://www.dbugman.com/articles/internet.html

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Newsletter of Joseph Culligan, "Reunion P.I", Las Vegas, USA, Volume 1, Issue 18,

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http://www.pimall/nais/nl/pib.051001.html and

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also in Beijing, China in Chinese as International Credit Investigation and Its Inhibition Facts and Factors, page 217 - 222,

International Investigations, Comparing Investigations of All Kinds in Various Countries

P.I. Magazine, Toledo, USA, May/June 2001 edition, pages 39 -46

http://www.dbugman.com/articles/ininvest.html

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2001, http://www.dbugman.com/articles/efind.html

International Monetary Transfers as Payments

PI News, NAIS, USA, July 2001

http://www.pimall.com/nais/nl/n.payme.html and

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http://www.dbugman.com/articles/inmoney.html

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http://www.dbugman.com/articles/ebiz.html

Locating Companies In China

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Widening the search for information via the Web

Credit Risk International, London/UK, August-September 2003 issue

International Resources

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Locating Companies in China

Business Security, edited T.A. Brown, Carry Publications, Las Vegas, USA, 2004, pages 289-290

How to be a Highly Successful Private Investigator, What It Takes. What To Specialize In, What to Avoid, What Is Needed and Not Needed, What The Future Holds For You.

Thomas Investigative Publications, Inc., Austin, Texas, USA, 2004,

ISBN: 1-891247-59-X.

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Chapter 1: Introduction

1.1 Introduction

The aim of this thesis is to show changes in the working practices of general private investigators (PIs) that has resulted from the introduction of the Internet and the related technologies such as the Worldwide Web (also spelt: World Wide Web). Although by definition the Internet is a worldwide system of computer networks – "a network of networks", therefore at times called the "Net"-, it is also used as a pars pro toto for itself and all the related technologies, that is all the facilities supplied by the new online or virtual world. The thesis will show how PIs exploit this technology and moving their working practices into this new online world. Private investigators avail themselves of information sources, which in the past were under the ownership of governments, organizations or private individuals. With the dawn of the Internet and the Worldwide Web some information has become more readily accessible and the communication required to seek information has become easier.

There has been much written and discussed in the media and in legislative organs, especially in the USA, about how the Internet is used illegally for such activities as hacking and stalking. Little, if any, research has been carried out depicting as to how the investigative industry employs the new medium to its benefit, let alone in an international context. Although similar traits and modes of use of the Internet can also be found in other professions, the investigative profession has its own way of employing the Internet. This can be compared with Microsoft's products and their

applications: they can basically be adapted to most usages; still their real employments are in most cases not identical.

With the introduction of the third generation of computers and higher quality of software, at the same time the reduction of telecommunication fees and the prices for computers, the world of PIs has changed in some aspects dramatically.

In former times the work of private investigators (USA) or detectives (UK) were, and still are, quite different from the one depicted in the media. They obtained information by surveillance, interviewed sources by personally visiting them, and looked up records by going to the appertaining court or authority. However, such manners of investigation have in many instances become totally, in others to a certain degree obsolete since the introduction of the Internet and online databases. PIs are forced to embrace the new modes of investigation even quicker and in more depth than their clients who have started to do their own research.

The thesis will outline how PIs use the new techniques to streamline their office work by using emailing for instance to receive and dispatch documents and videos. The thesis will also describe how laws and regulations, restricted availability of sources and electronic infrastructure and financial as well as educational deficiencies have and still impede PIs' work, and so much more so in an international context. This is supplemented by PIs' wishes for an easier daily work in future by using new tools, some already here in an early stage, some are still fiction and even will remain so. Lastly some PIs' sincere opinions as to what the future will entail for PIs are outlined in this thesis.

1.2 Criteria for success

This thesis will deal with the working practices of PIs before and after the dawn of the Internet, in particular the use of the modern tools to help PIs in their daily investigative work. The criteria for success of this work to be judged in the final chapter are as follows.

1.2.1 Describe and discuss past working practices of PIs

This thesis will describe how PIs carried out their work before the Internet was available.

1.2.2 Formalise past working practices

The past working PIs' practices will be formalised by using some of the notations from UML diagrams. In particular, Activity and Association diagrams will be used.

1.2.3 Describe present working practices of PIs

The present working practices of PIs will be described showing how they have adapted to new technologies.

1.2.4 Formalise present working practices

Present working practices will be formalised by UML Activity and Association diagrams.

1.2.5 Discuss facts and factors inhibiting PIs in their past and present working practice

As in all professions there are some inhibitors to working practices. This thesis will describe the factors inhibiting PIs in their past and present working practices, also in an international context.

1.2.6 Review technology now used by PIs

The thesis will review the technology used by PIs concentrating on the Internet.

1.2.7 Identify important technology needed for PIs' in future

A survey will be conducted to identify important technology needed by PIs in future and what seasoned PIs think about future investigative modes.

1.3 Outline of the thesis

The remainder of this thesis is organized as follows outlining the material that will be covered within each chapter of the thesis.

Chapter 2 describes the former working practice of PIs. This chapter expands on tasks bestowed on PIs and how they executed them in the time before online facilities were at their disposal, although, as will be shown in Chapter 4 for instance, some are still used these days. Some examples are not outlined in detail because they are too specific to be considered here. In this chapter the simple process of the PIs'

work has been described and most of the tasks listed are carried out by using traditional information sources and investigative means in contrast to Chapter 4 where the more intensive use of Internet facilities is discussed.

Chapter 3 describes facts and factors which inhibited and inhibit PIs in their working practice, acting as barriers, even nationally and internationally. Some inhibitors were only in effect in the times before the dawn of cyberspace, others are still here unchanged or changed to a smaller or greater degree, some are new having come into being since the time of the online facilities. Various inhibitors are discussed and can be classified as personal or social, others as legal, educational or technical inhibitors.

Chapter 4 describes online tools available in the main part in the USA, but often also worldwide which PIs avail themselves for their investigations. The conclusion indicates that although cheap and easy communication is made available, more important is the availability of sources and services 24 hours a day, all year around and not restricted to locality. Thus PIs can also use them in bigger geographical scopes for instance.

Chapter 4 also discusses the two types of search engines showing how they work and their limitations. Furthermore both American and international search engines are looked at.

Chapter 5 discusses by means of case studies based on real cases how PIs use either only traditional or only online, or even mixed means. Finally also a case is described where a savvy client uses the Internet to do the investigation himself.

Chapter 6 describes PIs' wish list of new technologies and their opinions about future developments in the investigative fields. This chapter shows that the Internet (used here as pars pro toto) made PIs lose clients and jobs because their clients do the investigations themselves. Therefore PIs look for new areas and facilities for investigations beyond normal surfers' possibilities and abilities. Seasoned PIs' views outline as to where the online development goes. On the one hand due to legal reasons for instance some online facilities and sources now available will not be available anymore one day, on the other hand since villains always look for new and better modes to harm others, PIs must follow, even surpass them, especially by never stop learning. The speed with which the Internet develops is growing rapidly; there will be changes in the ways of executing investigations. Furthermore, the investigative opportunities for PIs will also change dramatically, including new fields of investigation, such as forensic science. Yet traditional investigative modes and means will not die out completely.

Chapter 7 describes the conclusion by reviewing the contents of the thesis and outlining possible future fields of investigation as to how PIs will continue to use future online tools and especially in international context.

Chapter 8 lists the references in both alphabetical as well as geographical order.

Chapter 2: The Traditional Work of PIs

2.1 Introduction

This chapter describes typical cases that general PIs are employed to investigate and indicates the traditional sources of information that enable an investigation to be completed so much so before the dawn of the Internet. The traditional information sources for PIs are still important, but the introduction of more electronic information online is changing the nature of how PIs operate. This chapter sets the baseline for how the PIs' work is changing and evolving.

Professional and successful PIs must have a number of attributes, these include:

- Imagination both as to who or what source may help as well as how to approach these sources to get the best out of them
- Skill at finding information buried in traditional as well as electronic files and in human memory
- Have an analytic mind and see "between the lines" or additional possible leads disregarded by others
- Act as independent third parties
- Skill at finding persons and facts both online and offline
- Be up-to-date as to how the sources work, especially how current they are
- Knowledge of languages
- Get along with persons of quite different cultures, also putting them at ease

- Be able to change looks and seemingly mentality at a short notice and to blend into the surroundings where the investigations are carried out
- Be always aware of cost and time limits
- Be seen as "servants" but also consultants to their clients
- Be experts in their field but also good businessmen
- Be persons of integrity and financially sound
- Be physically and mentally able to execute the field of activities chosen
- Legal knowledge of rules and regulations (local, national and international)
- Be generally well educated, but also ready to continue education in areas such as legal, general fields and modern equipment
- Be well equipped both with staff and equipment

In the same way as in the medical or the legal fields for instance where there are general practitioners as well as specialists, there are such in the investigative field. There are PIs who do not specialize in a geographical area nor in certain jobs, however there are also specialists, who may investigate certain types of cases nationally or even internationally, or specialize in a particular field, such as in the new areas of computer and internet frauds.

In this chapter the PIs are considered as "general practitioners" and will be looked at from the perspective of the types of cases that they may be engaged to investigate. The paramount aim of PIs is to help their clients and consequently they may be called upon to carry out a large variety of investigative assignments in order to obtain various kinds of information needed for diverse reasons.

To achieve this aim, to get the information required, several steps must be undertaken. These common steps will be described in more detail with investigative examples illustrating the process and the cases. They are formalised using UML diagrams.

2.2 The common PIs' process

2.2.1 Identify important steps to be undertaken

The cases to be investigated by PIs follow a simple common process. This process can be characterised in a number of steps:

1. Clients consult PIs concerning their investigative needs
2. The PIs state their requirements
3. Obtain precise details from the clients
4. Set the fees and/or time limits
5. Carry out the investigations
6. Present the reports to the clients
7. Bill for the jobs done
8. Obtain the fees from clients
9. Close the cases

This process can also be depicted by means of a general UML Activity Diagram as shown in Figure 2.1: PIs' General Activities Process.

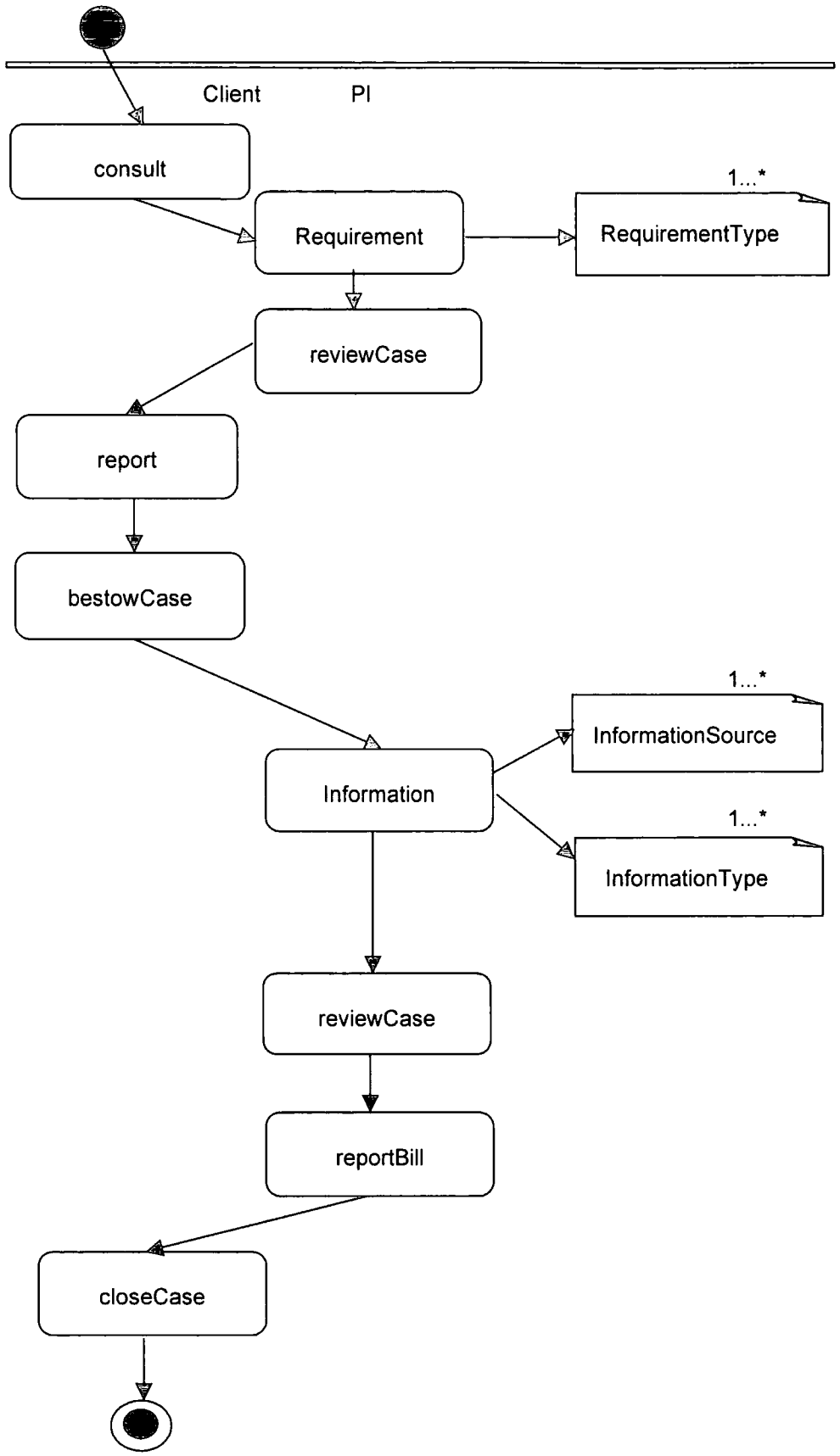

Figure 2.1: *Activity Diagram: PIs' General Activities Process*

A ***Client*** gets in touch with a ***PI*** and a ***Consul***tation takes place during which the client states what he wants the PI to do. The PI enumerates his ***Requirement***s by stating in detail the needed ***Requirement Type***s which include data, fee and time limits to execute the investigative assignment, as shown in more detail in the Association Diagram, Figure 2.2: PIs' Requirement Types.

Then the PI ***review***s the ***Case*** and ***report***s to the client by outlining what is feasible, and how much time and money is needed to handle the case. On account of the PI's ***Report*** the client ***bestow***s the PI with the investigative ***Case***. This case may be identical to what the client envisaged from the onset or changed according to the PI's ***Requirement***s, be it only because of financial or legal restrictions as discussed in Chapter 3. The PI then sets out to get the ***Information*** required by the client.

To get the ***Information*** the PI decides which ***Information Source***s (Association Diagram, Figure 2.3: PIs' Information Sources) he has to contact in order to get the ***Type***s (Association Diagram, Figure 2.4: PIs' Information Types) of ***Information*** needed for the case. Then the PI again ***review***s the ***Case*** to both determine how near he has come to reach the client's aim and whether further investigation is needed on account of new findings obtained during the investigation.

When the PI has successfully carried out the investigation and has obtained the required ***Information***, the PI compiles his ***Report*** and ***bill***s for the assignment done. When he has received the fee from the client either promptly or at times after reminders, debt collection, or other judicial means the PI ***close***s the ***Case***.

This process is shown as sequential but there may be iterations emanating to clarify the client's requirements in the light of new information developed. The originally supplied details may have proved to be insufficient or even wrong and more details must be gained from the client. The fee may be re-negotiated at any stage.

2.2.2 Requirement types

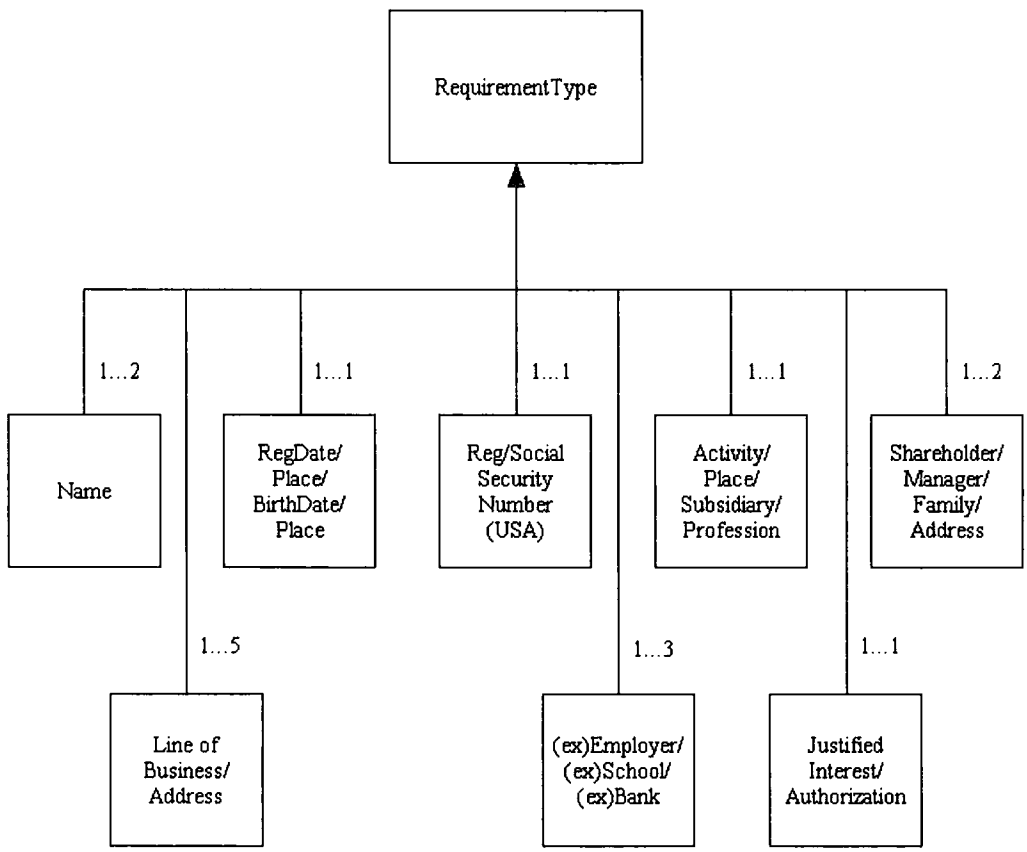

Figure 2.2: *Association Diagram: PIs' Requirement Types*

During the first ***Consult***ation the PI informs the client in detail what ***Type***s of ***Requirement***s he needs to execute his job successfully. The ***Requirement***s may not only differ from case to case, but also from country to country (see for instance

Chapter 3), and also the way a PI handles a case in particular. The Association Diagram depicted in Figure 2.2 (PIs' Requirement Types) shows the ***Requirement Type***s a client should supply the PI for the investigation. The author of this thesis states the ***Requirement***s based on her experience as are the number of occurrences for particular activities or information.

For the ***Requirement***s at least ***one Name*** is needed. If female individuals are investigated their maiden name are also required. In the case of private individuals their ***Date*** and ***Place*** of ***Birth*** are needed too. Since these can only occur once, only one instance of each is required. In the USA the ***Social Security Number*** is of vital importance when handling an investigation concerning private individuals, since in most instances it does not change during a person's life in contrast to those in other countries. To obtain ***one*** of the individuals' ***Profession***s would be of great help too.

Investigating a company the ***Date*** and ***Place*** of ***Reg***istration are required together with the ***Reg***istration ***Number***. It is helpful for the PI in such cases to get at least ***one Place*** of ***Activity***, the name of ***one Subsidiary*** if there is such. The name of ***one Shareholder*** and/or ***Manager*** and their ***Address***(es) are also of great assistance.

In the case of a company the ***Line of Business*** may be more than one, in the average ***one to five***, similarly there may be more than one ***Address*** through changes in the course of time, but in the average ***one to five***. The names and addresses of ***(ex)Bank***s are of great use, in the average a company has ***one to three***. A ***Justified Interest*** may be to export goods to a company located abroad or find a debtor who did not pay for the delivered goods. An ***Authorization*** is required already on legal accounts.

2.2.3 Information sources

The PI requires to obtain pieces of ***Information*** the number of which cannot be defined from the onset. However in the case of a simple investigation the PI resorts only to ***one to five Sources*** of ***Information*** (see Association Diagram, Figure 2.3: PIs' Information Sources) and obtains ***one to four*** pieces or ***Type***s of ***Information***, (see Association Diagram, Figure 2.4: PIs' Information Types).

The PI avails himself of various ***Information Source***s to obtain the results needed by his client. These sources are formulated in detail in the Association Diagram, Figure 2.3: PIs' Information Sources, and are based on the author's experience, usually restricted by time and financial limits. The sources may vary for instance in number and kind depending on the specific case and geographical area.

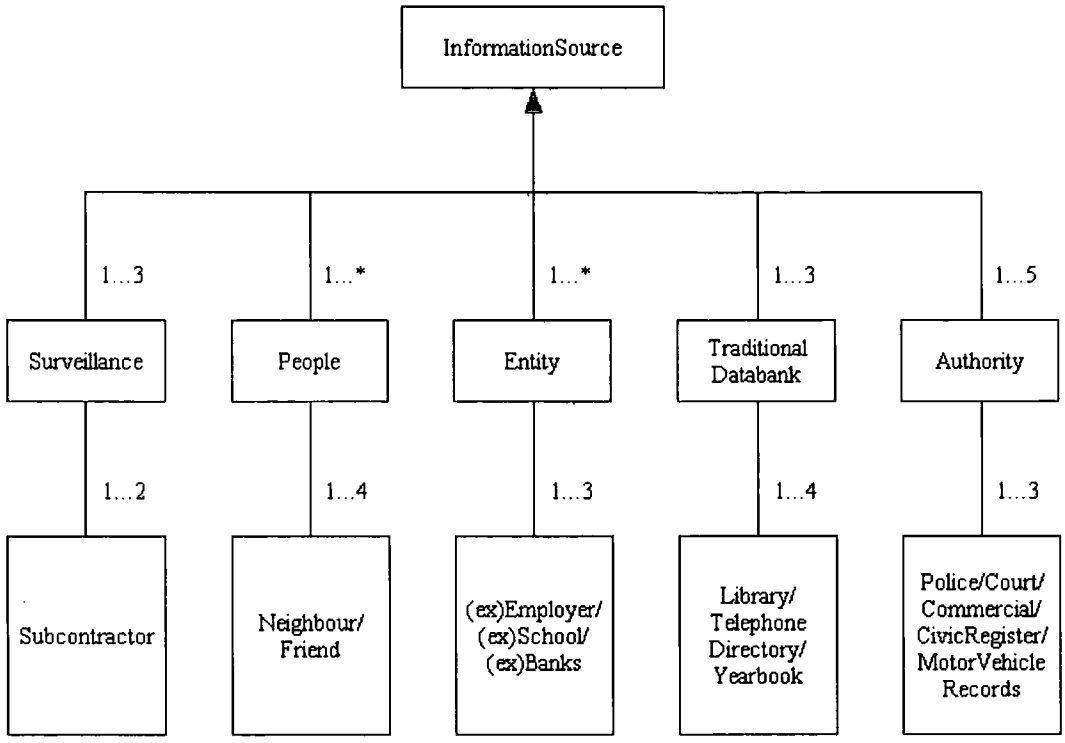

Figure 2.3: *Association Diagram: PIs' Information Sources*

In some instances such as finding a debtor or to prove the infidelity of a spouse, ***Surveillance*** is one of the powerful traditional means to obtain information There may be ***one to three*** times a surveillance takes place. If for instance the case is outside the realm or geographical area of the PI, he may use ***one to two Subcontractor***s as ***Information Source***s. Other ***Source***s are ***People*** in general, ***Neighbour***s and ***Friend***s in particular. The number of such sources varies.

Similarly ***Entitie***s are also good ***Source***s of ***Information***, be it ***(ex)Employer***s, ***(ex)School***s especially in investigative cases where the subjects are private individuals; ***(ex)Bank***s are also a good source, particularly in the USA, but more so when investigating companies. The ***Entitie***s are not restricted to the ones mentioned

above; an ***Entity*** may also be a club or a restaurant. The term is used in contrast to an official source or ***Authority***. Experience has shown that on average ***one to three (ex)Employer***s, **(ex)*School***s or ***(ex)Bank***s and other ***Entiti***es are contacted during the course of an investigation.

The same applies to ***Traditional Databank***s or databases. Usually ***one to three*** are consulted. These ***Traditional Databank***s may include ***Library*** books and documents, ***Telephone directori***es, ***Year Book***s that may be those of schools or universities, but also annual reports in the case of companies. Here again based on the author's experience the average consultation of each amounts to ***one to three*** instances.

Other important ***Information Source***s are ***Authoriti***es, which may be ***Civic Register***s in particular in the case of private individuals in contrast to ***Commercial Register***s in the case of companies under investigation. ***Police***, ***Court*** litigation and ***Motor Vehicle Record***s are important for instance when investigating the background of individuals, but also in accidental death investigations. They are also useful if PIs have to look for debtors trying to hide from their creditors. Generally speaking a PI will contact ***one to five Authoriti***es to get the needed information depending on the case in question. Then ***one to three Information Source***s are used on average.

2.2.4 Information types

In the Association Diagram, Figure 2.4 examples of the ***Information Types*** are formulated which PIs are requested to obtain.

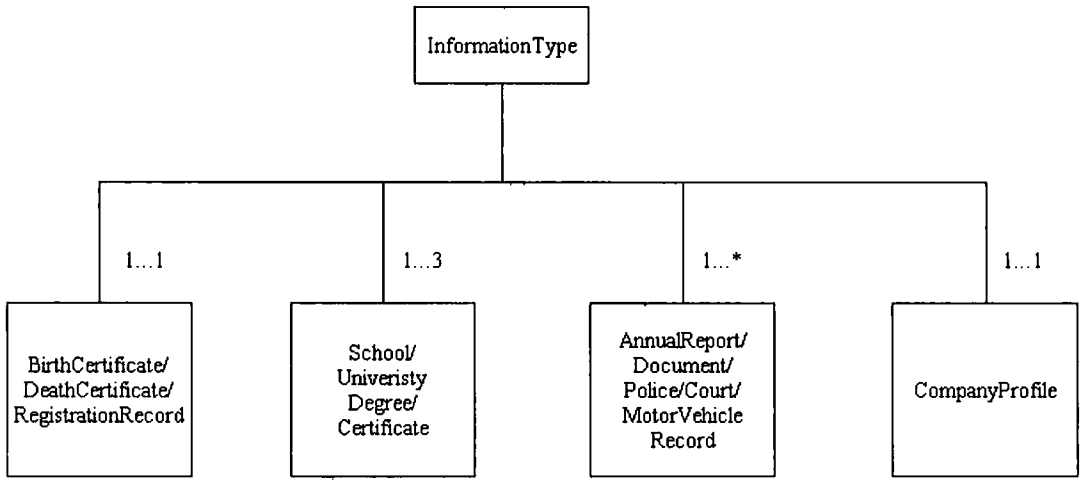

Figure 2.4: *Association Diagram: PIs' Information Types*

The ***Types*** of ***Information*** quite often needed are for instance the ***Birth*** and/or ***Death Certificate*** of a person. Of course there is only ***one*** per person but there may be the need of such documents of a couple, of siblings, of parents of an individual. ***Certificates*** of ***School*** and ***University Degrees*** for example may be required in the case of background searches of individuals. The PIs' assignment may also entail to procure diploma, medical records from the sources. Depending on the clients' needs ***one to three School*** and/or ***University Degrees*** or other ***Certificates*** are supplied.

Investigating companies the ***Registration Records*** are often needed to substantiate investigative findings, as are the ***Annual Reports***, ***Banking Records***, ***Documents*** such as land records may be requested. A ***Company's Profile*** is of use when a credit

report is compiled to determine whether a company is worthy for a loan or to get a shipment of goods.

2.3 Examples of PIs' cases

Section 2.2 formulated the general process undertaken by PIs in order to investigate cases for their clients. All PIs' cases run along the lines discussed above with some slight variations. These variations may not only originate from the kind of investigation undertaken, but also from the specific case at hand. The variations are for example shown by the number of steps taken, requirements needed, sort of sources contacted, fee limits set just to name a few possibilities. Typical cases are discussed below. The variations are shown with a decreasing degree of detail as the cases are described.

The most common investigative jobs bestowed on PIs are:

1. Find an heir
2. Find a natural parent
3. Find a missing child
4. Find a company
5. Supply background information on an applicant for a job or a loan
6. Supply a credit or due diligence report on a company
7. Provide documentation to prove a person's hospitalisation
8. Provide documentation to prove a person's school or university degree
9. Provide documentation for an insurance claim

2.3.1 Find an heir

Quite often people die leaving an inheritance without any obvious or known heirs, such as a spouse, children, or siblings. Then an investigator is bestowed with the task to find heirs of the deceased. The request may come for instance from an official source, such as a lower court, but also from a lawyer representing an insurance company or the landlord where the deceased lived. However there are also official publications where heirs are sought and if no heirs are found in a certain period of time the state inherits the estate. There are investigators who specialize exactly in this field of activities to find heirs where nobody else has been successful; they are termed *heir hunters*. Finding heirs more often than not entails finding also ancestors to create a "family tree" and thus the nearest still living relatives.

The PIs' process to investigate ***"Find an heir"*** case is the same as the general process depicted in the Activity Diagram, Figure 2.1: PIs' General Activities Process, and are specialised in the Activity Diagram, Figure 2.5: PIs' Tasks for Finding an Heir. Here the numbers for ***Requirement Type***s, ***Information Source***s and ***Information Type***s differ from those given in the general diagrams.

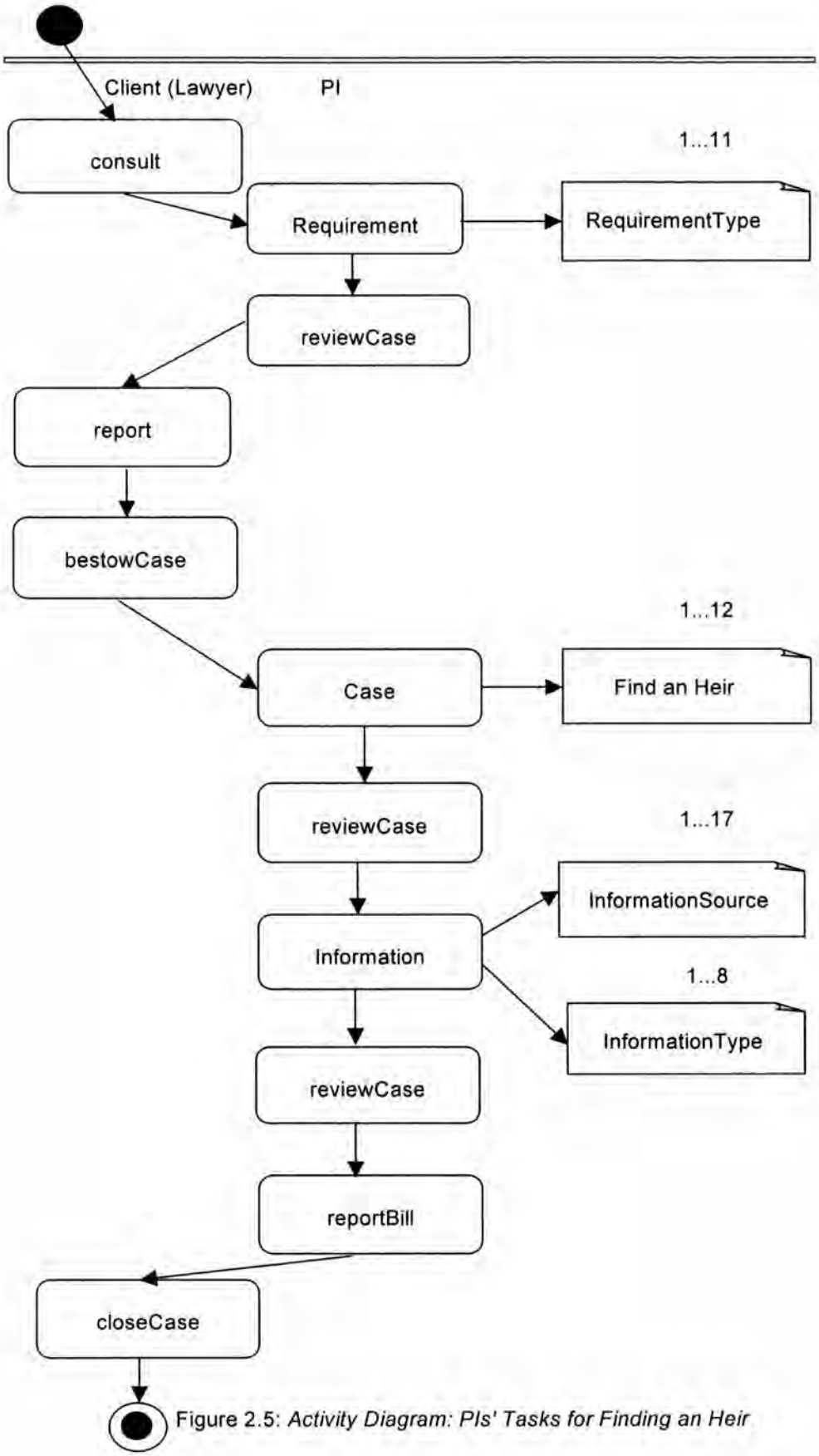

Figure 2.5: *Activity Diagram: PIs' Tasks for Finding an Heir*

The Activity Diagram, Figure 2.5: PIs' Tasks for Finding an Heir, shows the process of the handling of the search for heirs. A ***Client*** be it a lawyer or others as cited above gets in touch with a *PI* and a ***Consul***tation takes place. The PI enumerates his ***Requirement***s by stating in detail the needed ***Requirement Type***s which include data, fee and time limits to execute the investigative assignment, as shown in more detail in the Association Diagram, Figure 2.6: PIs' Requirements for Finding an Heir.

Then the PI ***review***s the case and ***report***s to the client by outlining what is feasible, and how much time and money is needed to handle the case. On account of the PI's ***Report*** the client ***bestow***s the PI with the investigative ***Case*** or task of ***Find***ing ***an Heir***.

To get the ***Information*** request on an heir the PI decides which ***Information Source***s (Association Diagram, Figure 2.7: PIs' Information Sources for Finding an Heir) he has to contact in order to get the ***Type***s of ***Information*** (Association Diagram, Figure 2.8: PIs' Information Types for Finding an Heir) needed. Then the PI again ***review***s the ***case*** to both determine how near has he come to finding the heir and whether further investigation is needed on account of new findings obtained during the investigation.

When the PI has successfully carried out the investigation and has obtained the required ***Information***, having found the heir or reached the financial limit, the PI compiles his ***Report*** and ***bill***s for the assignment done ***clos***ing the ***case***.

The general ***Requirement***s for ***Find***ing ***an heir*** are in the main:

- Name of the person, possibly birth name of the deceased
- Date and place of birth
- in the USA also the Social Security Number
- Parents' names and addresses
- (ex) schools, employers, banks
- Justified interest for the investigation
- Authorization by the client

These ***Requirement***s are also formulated by the UML Association Diagram as shown in Figure 2.6: PIs' Requirements for Finding an Heir.

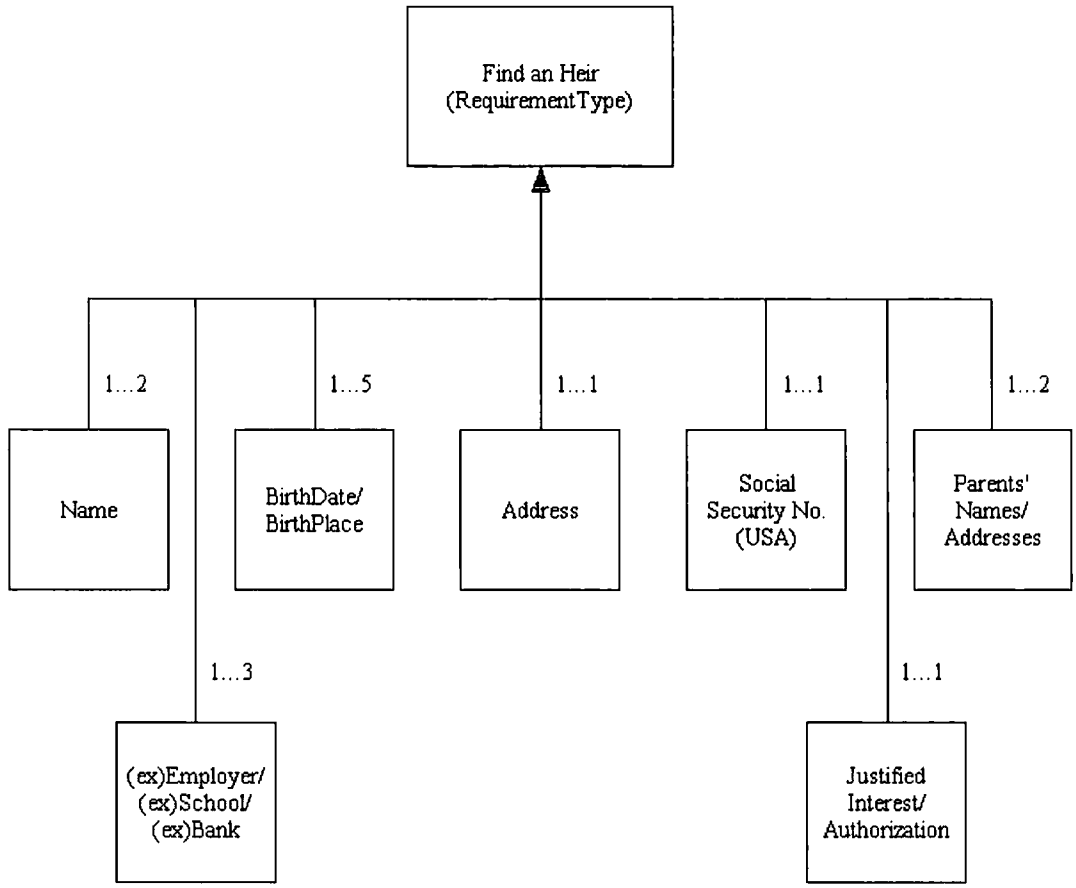

Figure 2.6: *Association Diagram: PIs' Requirements for Finding an Heir*

To ***Find an heir*** the client is required provide the ***Name***(s) of the deceased(s), possibly birth name too, if known, also the ***Name***(s) of the heir(s) if known. But in most instances the name of the heir(s) is unknown.

The ***Date***(s) and ***Place***(s) of ***Birth***, ***Address***(es) again may both apply not only to the deceased(s) but also to possible heirs if their names known. Although in the USA private individuals change their ***Address***(es) more often than for instance in Europe as a general rule one may take three ***Address***(es) as an average.

In the ***USA*** also the ***Social Security Number***, which is mostly only one for the whole person's life, is of paramount importance when handling ***Find an heir*** cases. ***Parents' Name*s, *Address***(es) are to be regarded as at least two names and two locations.

The requirement of ***(ex)Employer***s, ***(ex)School***s and ***(ex)Bank***s refer more to the deceased as possible sources of information than to possible heirs.

Authorization by the client and his ***Justified Interest*** are needed to both start the investigation but also some sources require such in the framework of the Data Protection Act.

The customary ***Information Source***s for ***Find***ing ***an heir*** are formulated in the Association Diagram, Figure 2.7: PIs' Information Sources for Finding an Heir.

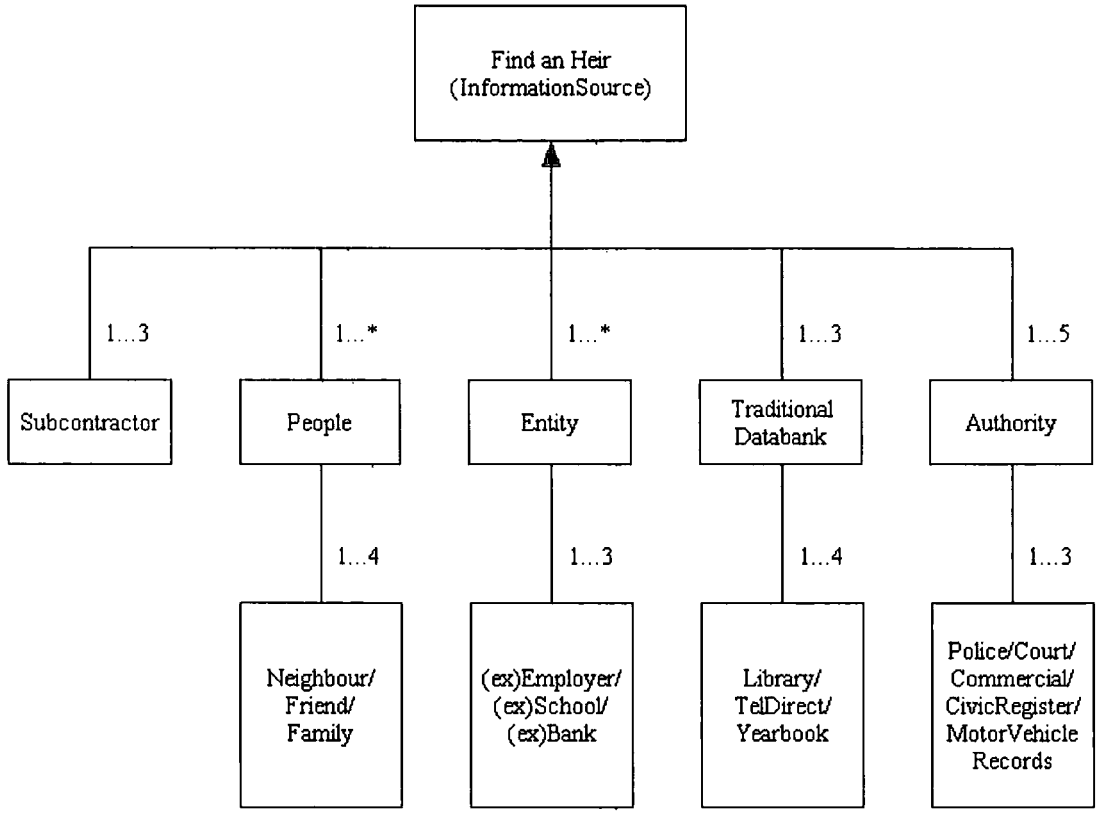

Figure 2.7: *Association Diagram: Information Sources for Find an Heir*

Depending on where the investigation must be undertaken, especially when the PI is located in another area, country or even continent he may use ***Subcontractor***s, mostly not more than ***three***, to help him in the investigation or even completely undertake the investigation. In this instance it means that the PI only acts as a *broker*.

In many countries it is best to start with the ***Authorities***, especially with the Registrar's records, in the USA with the ***Social Security Number*** to get information from these sources, including ***Police***, ***Court*** litigation or ***Motor Vehicle Records***. ***Commercial*** register records are useful if the deceased has been an owner or shareholder or a director of a company. Other ***Information Sources*** can be

Telephone ***Directori***es, ***Library*** books and documents as well as ***Year Book***s. Thus there is a good chance to find heirs or other ***People***, such as witnesses and ***Neighbours***. ***Entiti***es. ***(Ex)Employer***s, ***(ex)School***s and ***(ex)Bank***s can be other ***Information Source***s to find heirs of the deceased and in order to develop further sources.

In Germany the ***Registrar***'s office is the best place to contact first. Every locality of a certain size has its own Registrar's office. There is no longer a need to go there personally, but when the investigator has proved his justified interest preferably in writing accompanied by an authorization, most offices will cooperate and not hide behind the DPA. There the records of births, marriages, divorces are kept. They help to build a "family tree", at least showing who were the deceased's parents, with whom he was married or got divorced from. Depending whether the deceased had lived all his life in the locality where he finally died, there is a good chance to get complete records; but if the deceased had moved around a lot, then the records are not complete at the Registrar's office at the place he died, but there are hopefully cross-references found. The next step is to get in touch with the Registrar's office where the parents had lived, thus getting their places and dates of birth and death, hopefully also then records of possible further children. And the same procedure starts again. If the deceased was married or even divorced, the Registrar's offices where the marriage and divorce were recorded are contacted in the same manner as described above. Perhaps thus leads to up-to-then unknown children are located.

Similarly the PI may check old church records thumbing through often hardly legible records. This sort of a checking may be a rather tedious but rewarding task.

For other information found in the deceased's belongings, such as letters, the addressees or senders are contacted by phone if they are in the telephone directory, CD-ROM or telephone directory online, otherwise by mail. If the letters were written a long time ago, it is advisable that the PI contacts the senders or addressees by registered mail or even returned receipt, since then the investigator gets his letter back if the addressees are unknown or have moved away, hopefully in the latter instance with the addressees' new addresses noted on the returned envelops.

The deceased's bank and those who issued credit cards to the deceased are contacted likewise. They may hide behind the Data Protection Act, only prepared to answer when a court order is presented to them, but it is definitely an angle to be tried. This also applies to income tax authorities in most countries.

The (former) landlord and neighbours may also be good sources for information. The landlord may still have the former address of the deceased, cited at the time of the latter signing the rental agreement, neighbours may have known some visitors or remember cars of visitors. In the USA especially car licenses or tags are helpful.

If the deceased was the owner of his place of living, land records may assist to find a former address as a new starting point for further investigation.

Telephone directories are useful, especially the old ones, but they are mostly only available at larger libraries. Regional telephone companies do not keep copies in most instances.

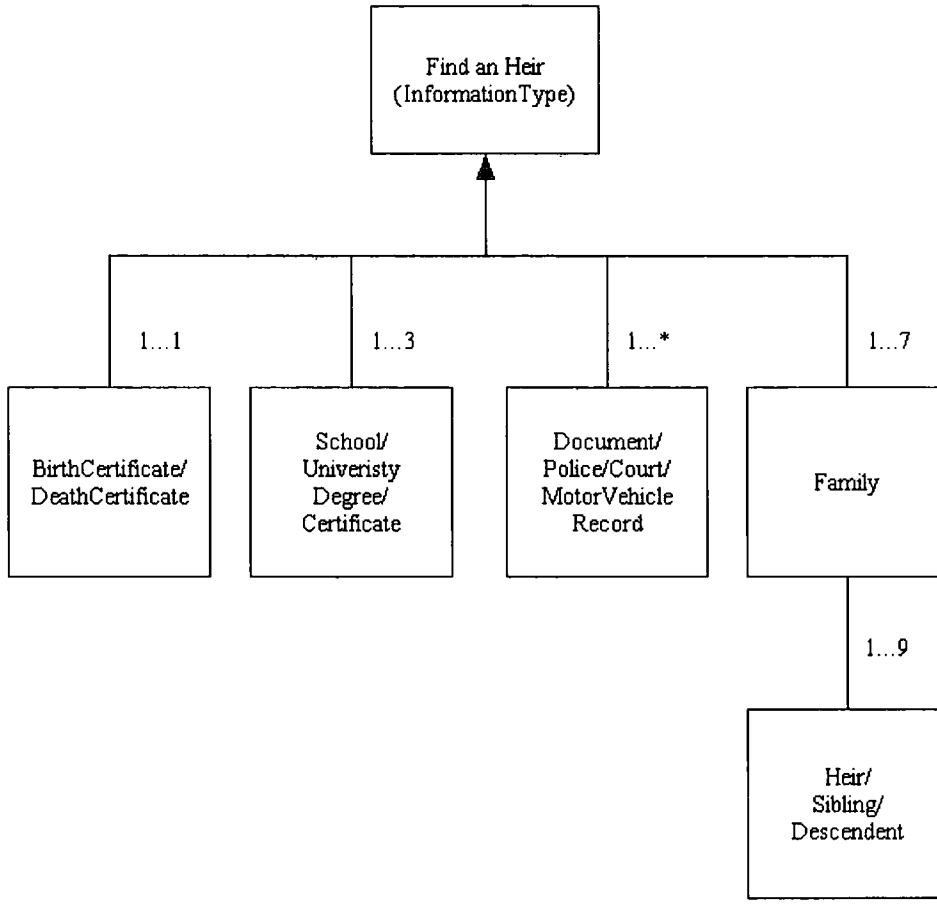

Figure 2.8: *Association Diagram: PIs' Information Types for Finding an Heir*

In inheritance cases the ***Type*** of ***Information*** needed to substantiate and confirm the legal heir(s) and depicted in Figure 2.8: Association Diagram: PIs' Information Types for Finding an Heir is frequently not only to obtain the deceased's ***Birth*** and ***Death Certificate*** which is only one document in each case, but when a family tree is construed often later similar certificates are needed for the heirs. Other ***Certificate***s which may be needed are those of ***School***s or ***Universitie***s, ***Police***, ***Court***, ***Motor Vehicle Record***s, names of ***Family*** members, ***Heir***s, ***Sibling***s, ***Decedent***s.

The PI cannot foresee how many names (of heirs), documents, certificates he will procure at the end, but the numbers indicated in the Association Diagram, Figure 2.8: PIs' Information Types for Finding an Heir, indicate an average number as is also the case in a similar way in the Association Diagrams, Figures 2.6 - 2.7.

In Germany this kind of case can be handled partly in writing, more so by legwork and the new media are hardly needed. In the USA the Registrar's part, motor vehicle, Armed Forces and other vital records are often substituted by looking at records available online.

2.3.2 Find a natural parent

The essential requirements for such an investigation are:

- Name of the parent, if known
- Date and place of birth of the child
- In the USA the Social Security Number
- Name and address of the hospital where the child was born
- Justified interest
- Authorization by the client
- Written agreement that name and address of the natural parent is divulged only with the permission of the said parent

Finding a natural parent, especially a birth mother, is quite a frequent task in the USA or for such offspring of whom one parent is in or originates from a foreign

country. In certain instances the US laws of adoptions are not so stringent as elsewhere. Some steps are identical with finding heirs or "ancestors". The "general practitioner" PI may start as cited above, then it is best to revert to the specialist, especially if the records are kept firmly closed to protect the privacy of the natural and the adopting parents.

Having been satisfied that the wish of the client is genuine, not wanting to harm the natural parent, a conscientious PI has the client sign not only an authorization but also an agreement that even if the PI is successful, the PI will only divulge the address to the client if the natural parent permits.

The Registrar's office and the court where the decree of adoption was issued may help. The same applies to the hospital where the child was born, if its address is known. Perhaps an old address is found, neighbours still live there, relatives are located. In the USA if the social security number is found, this is a good lead to go from there.

When the natural parent is located, in most cases it is the mother who is searched for, she is asked for the permission to divulge her present name and address to the natural child. However, more often than not, the natural parent refuses to give the permission being afraid to disrupt her present marriage, since quite frequently the spouse has no knowledge of her previous life.

In Germany this kind of case can be handled partly in writing, but in a great part it involves a great deal of legwork and the new media are hardly used. In the USA some more records are available online as shown above.

2.3.3 Find a missing child

To try to locate a missing child much legwork is needed: interviewing parents, neighbours, friends, teachers or any other people with whom a child has close contact in daily life. Some complete interviews may be conducted by phone, but in most instances a face to face interview is necessary in order to observe body "language" of a source for hints, and to see the locations where the missing child usually moves to possibly get more unforeseen leads.

The essential requirements for such an investigation are:

- Name of the missing child
- Age of the child
- When last seen
- Clothing
- Names of friends, relatives, neighbours
- Hobbies
- Photo(s)

In Germany and Australia [CHU01] information is available in most instances by intensive legwork only. Hardly any co-operation from anyone unless a case hits the

media, as was the case of the murdered Ulrike aged 12 in Eastern Germany in the year 2001.

There are some websites, composed at times by relatives of the missing children, but they are few and far between. In the USA there are groups which communicate online, specializing in finding missing children, and pictures of these children often appear on milk cartons and cereal boxes [EARN01].

At times in the USA the motor vehicle records and the Social Security Number are available online but rarely of help in these cases. American police departments will sometimes share their information.

In Germany this kind of case can be handled for the most part by legwork, with a little help from official sources, such as the Registrar' office. The new media are hardly needed. In the USA the Registrar's part is often substituted by looking at records available online, for instance motor vehicle records.

2.3.4 Find a company

This type of case may come about for a number of reasons, for example the collection of a debt.

The essential requirements for such an investigation are:

- Name of the company
- Last address, telephone, fax numbers, email address(es), subsidiaries
- Registration number, date, place
- Name(s) of shareholders and/or executives
- Line of business
- Bankers' names
- Justified interest
- Authorization

This can be formulated in an UML diagram as depicted in the Association Diagram, Figure 2.9:

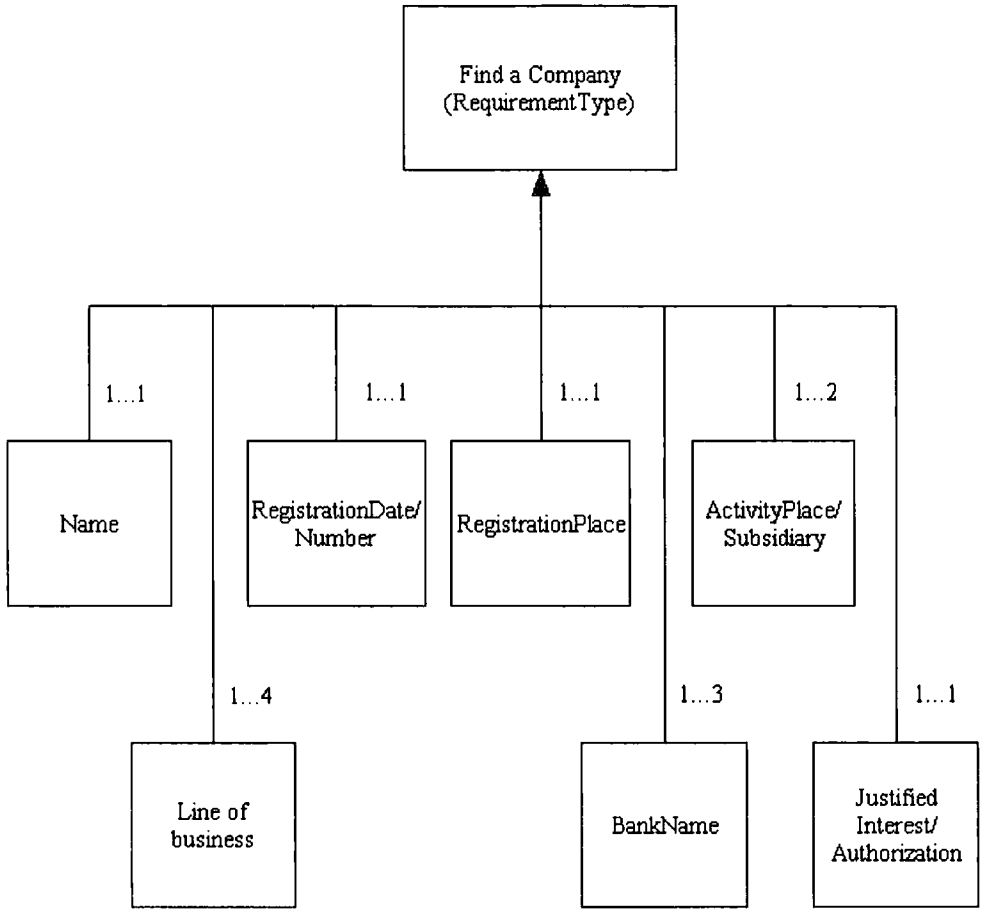

Figure 2.9: *Association Diagram: PIs' Requirements for Finding a Company*

To find a company it is essential to have its ***Name***, ***Date***, ***Number***, ***Place*** of ***Registration*** which are the identifying essential data of a company – similar to date and place of birth of a person.

Of course at times these essential data occur more than once but only average investigative cases are discussed here. Therefore in the most instances only ***one Name***, ***Registration Date***, ***Place*** and ***Number*** are required. Except for very small, mostly one-person companies, a company may have two ***Place***s of ***Activitie***s, four ***Line***s of ***Business***, up to three ***Bank***s which may be of use as information sources.

Also here the PI needs the client's ***Justified Interest*** and an ***Authorization*** to start the investigation in the light of the DPA.

The sources contacted can be also depicted in an UML Association Diagram as shown in the Diagram, Figure 2.10:

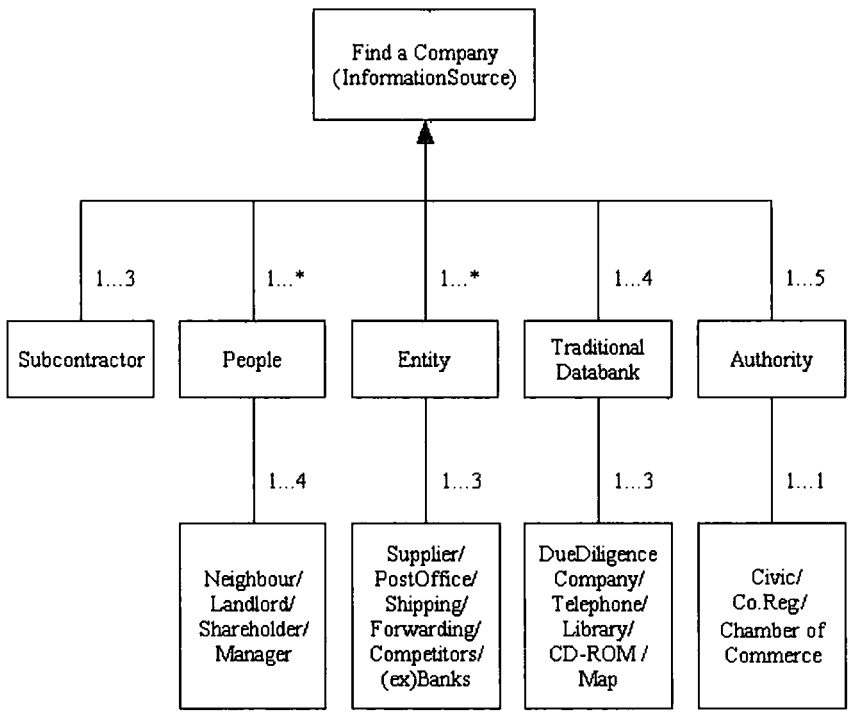

Figure 2.10: *Association Diagram: PIs' Information Sources for Finding a Company*

Depending on where the investigation must be undertaken, especially when the PI and the client are located in another area, country or even continent he may use ***Subcontractor***s, mostly not more than ***three***, to help him in the investigation.

In many countries it is best to start with the ***Authorities***, especially with the ***Commercial Register***'s records, ***Neighbours***, ***Landlords***, when the premises were

rented, (ex)***Shareholder***s as well as the (ex)***Manager***s as listed in the ***Commercial Register***, ***Chamber of Commerce*** and ***Civic Register*** to get information from these sources, less ***Police***, ***Court*** litigation records. Other ***Information Source***s can possibly be ***Supplier***s, the relevant ***Post Office***, ***Shipping*** and ***Forwarding*** companies. The latter are not easily developed, but the PI may get in touch with those who usually transport special goods which are also produced and traded by the company searched for. Other possible ***Information Source***s are ***Competitor***s and ***(ex)Bank***s. Furthermore ***Traditional Databank***s, including ***Due Diligence Co***mpanies, ***Tel***ephone ***Directori***es, ***Library*** books and documents as well as ***CD-ROM***s and ***Map***s.

The ***Companies' Register*** and the ***Commercial Register*** will supply information on the date of establishment, ownership, management, capital structure (if incorporated), line of business, and addresses. It is easier to obtain this information if the company is incorporated and the registration number is known.

Telephone directories and ***CD-ROM***s can be checked, ***Neighbour***s interviewed, owners and management developed and questioned. Databanks may supply leads, which are possibly old. If the company is a manufacturer, it depends on a shipping and forwarding company. So the latter in that (old) location must be contacted, as well as the Chamber of Commerce and Industry, possibly also competitors.

Interviewing the sources may partly be done by phone, but often they must be looked up in person to get their cooperation.

In the USA much more information is available online, for example a persons' social security number. By that the owners and the management of (defunct) companies may be located if not yet found. Defunct companies may be still searched for in the case that their bankruptcy has been initiated in a fraudulent manner and assets diverted illegally.

Banks and credit card issuing companies in the USA are much more likely to cooperate than in Europe where they hide behind the DPA, especially if the company is in bad financial state and the financial institutions still want to have a chance to get their money back they have loaned out to the company.

The ***Type*** of ***Information*** a client needs can be formulated in an UML diagram as depicted in the Association Diagram, Figure 2.11:

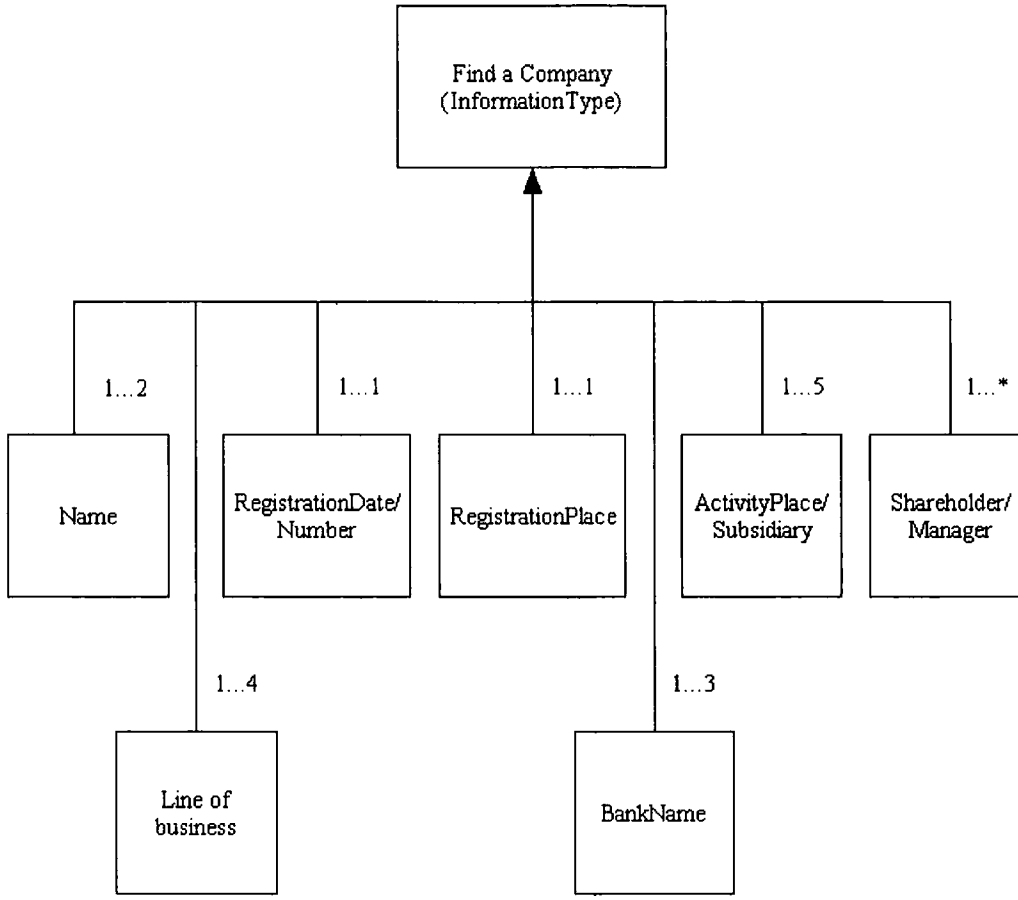

Figure 2.11: *Association Diagram: Information Types for Finding a Company*

The ***Type*** of ***Information*** a client needs for a debt collection for instance are the registered or legal ***Name*** of the company in contrast to its trade name often better known and quite different to the former, ***Date***, ***Place***, ***Number*** of ***Registration*** and in order to be able to serve paper in a debt collection case the PI handling the investigation must also find the ***Place*** of ***Activities***, since the registered place may not be identical with it and the persons who legally represent the company and to whom the documents may be served most likely are available at the ***Place*** of ***Activities*** or at times travelling to the ***Subsidiaries***. The location of a ***Subsidiary*** may be of importance if the company is located somewhere else, even abroad, then in certain cases the ***Subsidiary*** may be regarded as the legal representative and the

client saves much time as well as money when serving papers at the ***Subsidiary***'s location [ETT02] (see also Chapter 5, § 5.4).

Shareholders' and the ***Manager***s' names are of importance in legal matters such as process serving. The ***Line of Business*** or ***Bank***ers' ***Name***s may be additional pieces of information of use for the PI.

In Germany this kind of case can be handled for the most part by legwork, at times a little help can be obtained from official sources, such as the registering offices and beside databanks which are not yet always readily available online, the new media are hardly needed. The USA is much more developed in that area as shown above.

2.3.5 Supply background information on an applicant for a job or a loan

The background investigations on individuals is to a great extent similar to an ancestry search, discussed in the example of searching for an heir.

The requirements to start an investigation to supply background information on an applicant for a job or a loan are:

- Name of the person, possibly birth name
- Date of birth and place of birth
- In the USA the Social Security Number
- Justified interest
  - Authorization by the claimant

This case usually includes (past) education, (past) employment and at times assets. In the USA it also requires police, court litigation, and motor vehicle records and in other countries bankruptcy information as for instance in Germany and Switzerland.

In the USA such information can be obtained by means of the social security number and still by credit headers, which is a summary information from databanks. The information used to be much more detailed, but here is another example where the DPA shows its impact. The information usually contains the date of birth, marital status, current and past addresses, present and past employers, bank connections and the so-called credit history: where the applicant has banking and credit cards accounts, the manner of payment (prompt, past due), loans, credits sums and status, at times also evaluation of the applicant's financial standing.

Important sources are police, court litigation records, civic register or land records. These are sometimes available online, otherwise they require legwork or at least written applications with an authorization enclosed.

In Iceland [ICEO1] the source provides information about the creditworthiness of individuals online, but full reports are sent by fax or email to the interested client.

If permitted by the client another source of information in the investigation is to contact (former) employers. The aim of that part of the investigation is to find out as to what degree did the applicant adhere to the truth when submitting his CV. The Americans are particularly afraid of forgery and the perceived opinion goes that 5%

of any documents submitted have been forged especially those originating from overseas.

An important part of this investigation is also to learn about the reputation of an applicant, all sources listed above can be interviewed concerning this angle of the investigation, but databanks must also be checked. In Germany for instance Creditreform [CRE], Bürgel [BÜR], and Dun and Bradstreet [D&B] can be used. In the USA the three leading databanks are Equifax [EQU], Experian [EXP], and Trans Union [TU].

This kind of case can be handled for the most part in writing and the new media are hardly needed; only at times to locate an address and telephone number. In the USA sometimes with a few academic yearbooks, police records, checks with databanks, the investigation can be partly handled that way online. Databanks in other countries have started to supply checks online.

2.3.6 Supply a credit or due diligence report on a company

To check the credit worthiness of a potential client (company or individual) several investigative steps are needed. In UK there are three leading databanks (Equifax [EQU/UK], Experian [EXP/UK], Dun and Bradstreet [D&B/UK] supplying information on companies online for a fee. But there is also the Companies House (Companies House Direct) [COMP] and [CORP] to see if a person is at present a director or has resigned and has been struck off the register. This information is fee

based. Similarly a report on a company can be obtained from there online as well [HEIM01].

In Germany for instance Creditreform [CRE], Bürgel [BÜR], and Bradstreet [D&B/DE] are contacted. In the USA the three leading databanks are Equifax [EQU], Experian [EXP] and Dun and Bradstreet [D&B]. The same applies to Greece [LEN01], Belgium, and France with more leading databanks in each country not working internationally.

Databanks are not yet available online in Mexico [MCHEN01]. The investigator in Mexico undertakes much legwork visiting the sources to be consulted, private or governmental. In Australia there is a lot of information on companies supplied by databanks to their members for a fee [CHU01]. In Iceland [ICEO1] the said source provides information about the creditworthiness of individuals and companies online, but full reports are sent by fax or email to the interested client.

2.3.7 Provide documentation to prove a person's hospitalisation

According to an informal assessment by the US insurance industry there is a strong need to prove hospitalisation of a claimant since there is no national health service in the European sense of the word. According to the US insurance industry, there is a rough estimate of 5% of fraudulent claims, so the other 95% must also be checked. Copies or at least summaries of the hospitalisation records are needed.

This investigation also runs along the lines depicted in the Diagrams, Figures 2.1-2.4, therefore as an example only the ***Type***s of ***Requirement***s are discussed here.

The essential requirements for such an investigation are:

- Name of the person
- Date and place of birth
- In the USA the Social Security Number
- Name and address of the hospital
- Telephone number and name of department
- Justified interest
- Authorization by the claimant

The ***Requirement***s can also be formulated by a UML Association Diagram as shown in Figure 2.12:

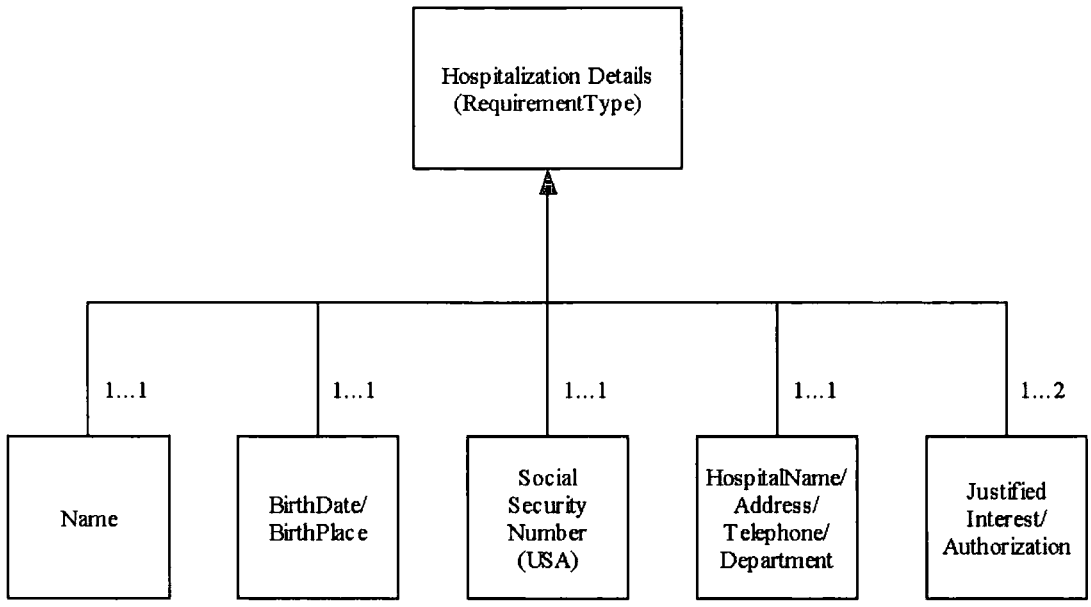

Figure 2.12: *Association Diagram: Requirement Types for Hospitalization Details*

The ***Name*** of the (ex)patient is needed, as well as his/her ***Date*** and ***Place*** of ***Birth***, in the USA also the ***Social Security Number***. The ***Name*** of the ***Hospital***, its ***Address***, ***Telephone*** number also often of use as are the date of hospitalisation. The hospital file number and the ***Department*** or illness or reason for the hospitalisation are also required. The hospital may require one or two ***Justified Interest***s or ***Authorization***s because often more than one client (insurance companies for instance) is involved.

In the USA it is still customary to go to the hospital and ask for the files, whereas in most European countries for liability reasons it is necessary to apply in writing and at the same time supply a written authorization issued by the patient (if deceased then by the heir as for instance in life insurance cases). In most cases a faxed copy (as obtained from the client) is sufficient, but not always.

In Europe physicians regard a summary of the hospitalisation records as being sufficient for that purpose, they rarely supply copies of the complete files. For American clients this is hard to understand.

Quite often the PI must remind the physician at least 3 times to get the needed information. A faxed copy of the original request with a stamped "polite reminder" probably suffices. After another such reminder it is advisable to pick up the phone and "push" the doctor by this means or try, if no direct contact possible, to convince his secretary to forward this "push" on.

When the file or the summary are at hand, it is advisable to do a photocopy for the PI's files both for possible further questions by the client, rarely because the documents get lost in transit. Quite frequently the client also asks for a full translation and not a concise summary. But then he must pay for the translation. The concise translation is supplied "free of charge", or at least is part of the service and billed for the time spent which is less costly then a translation service.

PIs should keep in close contact with their clients either for further leads or for possible more funds needed, at the request of the clients or just to show them that they have bestowed the task to real professionals who do their job for the fee agreed upon and often partially already paid in advance.

When the requested information is at hand, if necessary also translated and the physician's invoice is paid, the PI has concluded his task successfully.

This kind of case can be handled for the most part in writing and the new media are hardly needed, only at times to locate an address and telephone number.

2.3.8 Provide documentation to prove a person's school or university degree

On account of informal surveys US employers are of the opinion that there is an estimate of some 5% fraudulent claims of having gained a degree, especially when degrees were obtained overseas. These claims must be verified by obtaining copies from the schools or universities.

The essential requirements for such an investigation are:

- Name of the person
- Date of birth
- In the USA the Social Security Number
- Name and address of the school or university
- Justified interest
- Authorization by the claimant

To facilitate matters considerably the PI also needs dates of attendance, department, name of the head of department and/or direct supervisor/tutor, subjects (major and subsidiaries) studied, date of graduation and the classification of the degree.

In the USA it is customary not only getting the confirmation of the degree, but the grade (honours, major subject), and also the marks in every subject.

This kind of case can be handled for the most part in writing and the new media are hardly needed, only at times to locate an address and telephone number. In the USA at times with a few academic yearbooks or alumni's listings available online the investigation can be handled that way.

2.3.9 Provide documentation for an insurance claim

When claims are filed for an insurance sum, insurance companies worldwide check the claims for their feasibility and authenticity. Depending on the amount involved, first in-house investigators undertake the checks, and then they may ask independent investigators to get more information on the claimant. Such checks are frequently executed when claimants file claims for disability insurance benefits especially in cases when *workmen claim disability*, because they are no longer able to execute their job. For a case study see Chapter 5, § 5.5.

The ***Requirement***s to start an investigation to supply information on a claimant for disability benefits are:

- Name of the claimant
- Date and place of birth are of use but not imperative
- in the USA also the Social Security Number
- Claimant's currant address

- A photo or two of the claimant
- Justified interest
- Authorization by the claimant

These ***Requirement***s are also formulated by the UML Association Diagram as shown in Figure 2.13:

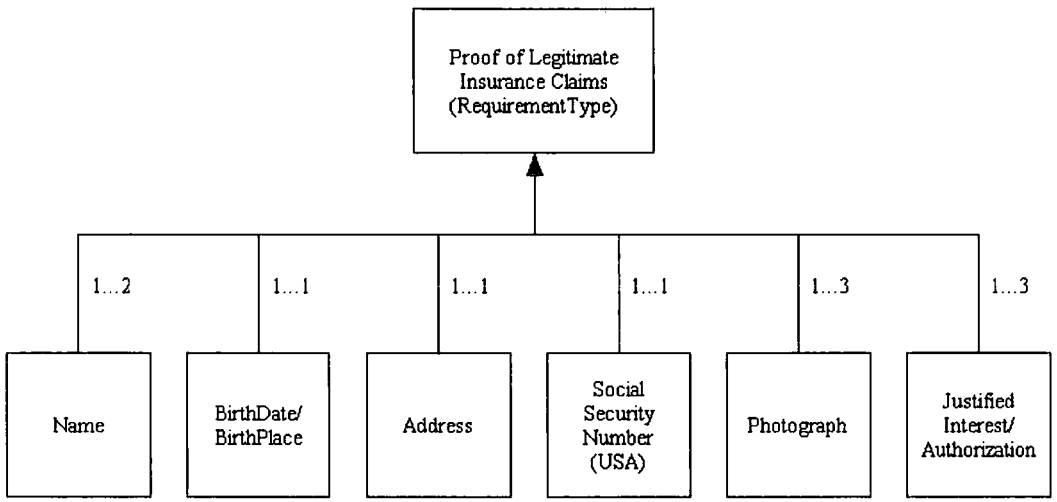

Figure 2.13: *Association Diagram: Requirement Types for Proving a Legitimate Insurance Claim*

Although the PI gets information from the insurance company like the ***Name*** of the claimant, ***Date*** of ***Birth***, ***Place*** of ***Birth***, ***Social Security Number***, the claimant's current ***Address***, perhaps even ***one to three Photo***s depicting the claimant as well as the ***Justified Interest*** and the claimant's ***Authorization*** which is part of the claim file, these data are often still insufficient. It is advisable to get some information for instance about the claimant's background, family, hobbies, specialities.

The customary ***Information Source***s for ***Proving a Legitimate Insurance Claim*** are formulated in the Association Diagram, Figure 2.14:

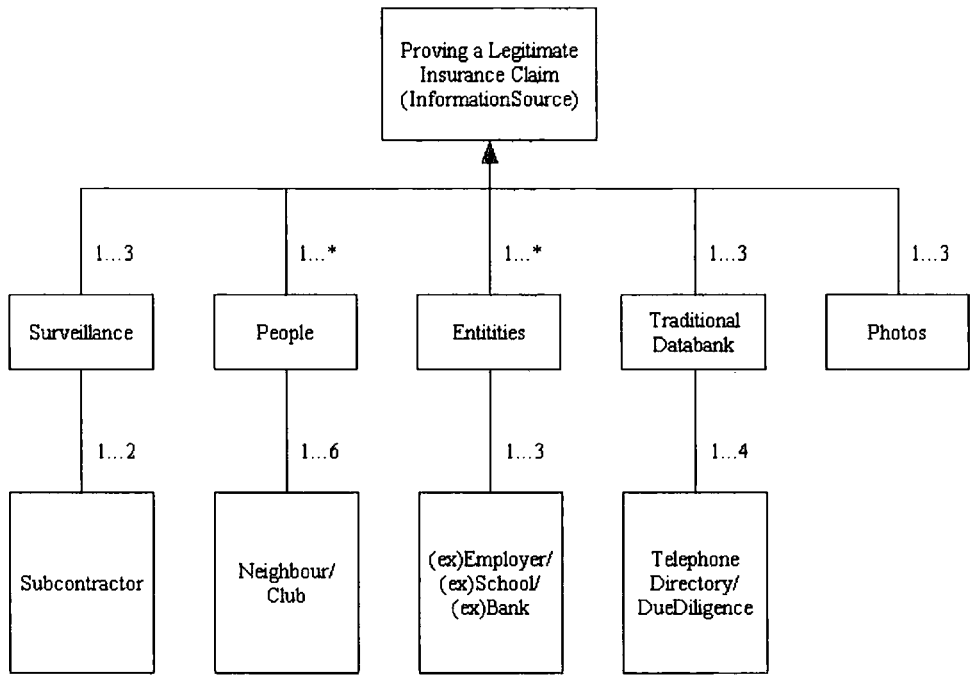

Figure 2.14: *Association Diagram: Information Sources for Proving a Legitimate Insurance Claim*

There are similarities to ***supply***ing ***background information on an applicant for a job or a loan*** (§ 2.3.5), because at times credit reports supplied by ***Due Diligence*** companies contain some of the information needed to check whether an insurance claim for benefits is justified.

Information sources are ***Surveillance***, at times even one or two ***Subcontractor***s are needed due to the geographic range involved or the kind of activities the claimant may execute while not at work. However ***Surveillance*** is regarded in such claim cases as an undisputable and at times the most important ***Information Source*** (see Figure 2.3: Association Diagram: PIs' Information Sources). Surveillance is mostly a

tedious job even if two or more operatives are put on the job to minimize the chance of losing the subject or target, since many hours per each day and many days in sequence may be needed to prove that the claim is either justified or fraudulent.

Surveillance consists for instance of following the claimant by car, on foot or at times even by air to obtain information as to how the latter passes his time and how is his daily routine. The PI also tries to document what he sees by photos and videos and if possible by taping conversations if legally possible so as to compliment his report to the client.

In the USA the ***Social Security Number*** is of great use to get hold of information for instance from ***Databanks***, such as ***Due Diligence*** companies. Also ***Employers*** and ***Neighbours***, ***Clubs*** may be useful providers of information.

2.4 Conclusion

This chapter has formalised the process that the PI goes through in investigating a case for a client. Example cases have been described to show how the generalised UML diagrams are specialised for a particular case.

Chapter 3: Inhibitors to Former and Present PIs' Working Practices

3.1 Introduction

The aim of this chapter is to illustrate and discuss the national and the international investigative inhibitors in former times as well as since the dawn of the Internet and its derivatives, such as the Worldwide Web (later only referred to as the Internet).

Investigation is important at any stage for handling clients' cases, especially when they are engaged in international business. To be successful an investigative specialist must also know the facts and factors which may inhibit his clients' business transactions as well as executing his own tasks both locally, nationally as well as internationally.

For PIs there are quite a number of inhibitors acting as barriers, sometimes insurmountable. Some barriers only have an effect locally or nationally. However the internationally active investigator may encounter completely different, additional and frequently more complicated barriers and their impact may also differ considerably.

Some inhibitors were only in effect in the times before the dawn of Internet, others are still here unchanged or changed to a smaller or greater degree, some are completely new. Various inhibitors are discussed in the course of this chapter. Some

may be classified as personal or social, others as legal, educational or technical inhibitors.

3.2 Inhibitors

3.2.1 Age and condition of health

In former times surveillance lasting long hours or undertaken during odd hours of the night were too onerous for elderly PIs. Therefore these tasks were bestowed on younger colleagues. These days the same still applies.

Furthermore many investigators regard themselves to be too old, even lacking the necessary health condition to rise up to the challenge to get acquainted well enough with the electronic and information age in order to make their living by means of the virtual world. Consequently some have amalgamated their business with those of others who in turn were forced to look for partners. Other investigative companies were bought up by strong partners due to the formers' lack of means to acquire and maintain the equipment needed in the new electronic age. This is how the American organisations Equifax [EQU] and Experian [EXP] as well as COFACE/France [COF] have and still enlarge their networks. Others have totally given up and closed their business. Additionally even if in some cases PIs were ready to delve into the new electronic space, because of their age or health conditions they no longer got loans from their banks required to update their investigative equipment needed for profitably acting in the Internet Age. Good examples -without going into detail because of confidentiality reasons- are available on the COFACE's [COF] website. For instance Veritas, Intercredit and Frontline, companies whose original names are

for the time being part of the new names, but are doomed to disappear sometime in the near future or have already disappeared altogether in the meantime.

3.2.2 Companies' policy

In former times as in these days employees, including in-house investigators, are under time restrain and pressure exerted by their superiors.

In the pre-Internet age the average employee did not have much chance to be side-tracked. Not so in present times. Although to surf the Web is a good way of finding information, it is also time consuming. It happens quite frequently that self-employed investigators are so overloaded with work that they have little time to log on to the Web. The situation may be even worse for in-house investigators who are more under time restrain on account of their supervisors even if they were empowered to surf the Web. Furthermore employers may be concerned that the in-house investigators surf the Web for their own pleasure [QUIN01] instead of handling cases or checking legal precedent cases to support a claim denial for the benefit of their company. The surfing possibilities are abundant, such as from watching porno sites to booking a journey or bidding on eBay. Therefore there are employers who record employees' surfing activities by installing the appertaining software and hardware equipment. Not all do it; others have forsaken this idea, since the damage is small compared with having unhappy employees whose quality of work may deteriorate as a consequence thereof.

3.2.3 Legal barriers

As the global market has expanded, international investigations have become more and more important. With the rise in international business, appreciation of the restrictions to the access and use of data have become of paramount importance.

Many PIs such as Church [CHU02], Heims [Heim01] or Nilsson [NILS02], working within the legal restrains consider legal aspects to be major inhibitors of which the greatest inhibitor of all being the Data Protection Act (DPA) (US), also known as the Right of Privacy Act (UK) [DPA].

A private person rightly expects that his personal and confidential information submitted orally or otherwise in a non-public place will not be divulged to third parties, especially when the result of such a disclosure is embarrassment or emotional distress. The information disclosed but which is to be kept confidential should include for instance images of any kind like as videotapes, photographs, but also facts, different opinions, documents, official, legal, medical and other records [STAN].

If confidential information is not divulged to anyone, it is easy to keep it confidential, but this means that a person would live in recluse and would not get important services needed in daily life such as medical care and would also live under restrictions making life unnecessarily unbearable [STAN].

The roots for the privacy law –at least in the USA- are found in the Constitution compiled in 1791, especially in the Fourth and Fifth Amendments to restrict a powerful government intruding on the privacy of individual citizens. Today individuals also need protection from intrusion of companies and even from other individuals. The article by Warren and Brandeis, The Right to Privacy, 4 Harvard L.R. 193 (1890) is in the USA generally recognised as the first publication advocating privacy [STAN].

The European DPA evolved in the main in the 20th Century in the separate countries at different speeds. However, in the European Community the Data protection Act was finally formalised in 1998 becoming law on March 1, 2000 [DATA].

Not every country has privacy laws as such, especially in those where Communism still prevails, where a military regime rules or others where no PIs are allowed to execute their jobs at all, as for instance in Arabian countries and Franco-Africa.

In this electronic or information age shaped by technology and the collecting as well as processing of data augmenting at a high speed, privacy has become an issue of greatest importance [SOLV]. The right of privacy has only recently been legally recognized and laws are still being evolving and developing [STAN].

Whilst the Americans initiated this legal aspect, it is less strictly adhered to compared with Europe - although things are currently changing even in the USA. To

PIs these laws may seem draconian, still the situation is better than in those countries where it is strictly illegal to undertake investigations of any sort. So in order not to hinder business especially with Europe, leading American entities usually voluntarily seek the 'Safe Haven'. This means that in doing business with European companies, they subject themselves to the stricter European privacy laws.

Banks have their own rules and regulations including keeping their clients' data confidential. These rules and regulations were already in existence before the DPA became so prominent, but banks misuse the DPA for that aim as do for instance civic registers, wishing to deter PIs asking for information in order to prevent their workload to be augmented further.

From the point of view of a PI the DPA regulations especially hinder investigative activities for instance in obtaining banking, medical, telecommunication information, including emails and faxes, also letters, official records such as real estate, civic register or judicial records.

As discussed in Chapters 2 and 4 PIs need the help for instance of official, institutional or commercial sources, be it for assets searches on account of a client's divorce procedure or monies owed to clients on account of fraudulent bankruptcy or damage done to clients' health or property.

In the USA police, court litigation and motor vehicle records are important sources of information. In most countries in the world they are not accessible to PIs. Police records are available for instance in South Africa and motor vehicle records in

certain instances in UK. No tax information is supplied to PIs in Germany in contrast to Norway and some Swiss Cantons. (Ex)employers, schools or universities may refuse to divulge any data, also "hiding" behind the DPA. In Germany bankruptcy information is available, but no information from criminal or civic law suits. The same applies to for example France, Greece and Mexico.

In the USA the social security number is still the key to open locked doors and to start an investigation with, because most official information is filed by the social security number, which is unchanged throughout an individual's life. In Germany, however, one may have several social security numbers in the course of one's life. In the UK the equivalent National Insurance number is unchanged as well, but credit reference searches for instance must be done by name and address and since about the beginning of the year 2002 also by the date of birth of a person. The credit reporting bureaux do not record the national insurance number even though it would aid credit assessment and prevent fraud significantly. In Europe the DPA does not permit access to the social security number records nor its use for investigative purposes.

In many countries there is no access to the driving records. In Germany for instance even lawyers not involved in litigation with a charged driver in any manner are refused to get a copy of the records without a court order. Passport information is not available either which may be of use for locating a person.

Dumpster diving, meaning to search through the investigated individual's garbage, used to be a rewarding investigative tool. Persons, companies, even authorities

handling sensitive personal data are often negligent and careless when discarding documents and files such as bank or tax statements, personal records or private letters. They discard such documents without tearing them up, let alone running them through a shredder. In UK this practice is not permitted [DPA]. In the USA laws are changing these days to forbid dumpster diving as well [DPA].

In Germany there is a big discussion as to whether the garbage is forsaken by the producer even if dumped on the sidewalk, a public area. The legal view is that the garbage albeit being in a public area as per the community's regulation is not accessible to third parties, but has been handed over to the garbage company so that they can use it to their liking within the framework of environmental laws and regulations. This means that the garbage company represented in the street by the garbage collectors may sell the garbage collected for profit, destroy part or all of the garbage as it chooses.

The fact that a government does not keep to the rules set by themselves is illustrated by an article compiled by the US Federal Government [ARM01]. The Federal Trade Commission (FTC) set out its own privacy principles in May 2000 in a report entitled Fair Information Practices in the Electronic Marketplace when regulating the commercial sector, forgetting however to regulate itself and other governmental entities. Rep. Billy Tauzin and Dick Armey asked the General Accounting Office (GAO) to apply the FTC's privacy criteria to the government itself. The FTC failed to act according to the very standards it had asked Congress to apply to everyone else, nor did 97 percent of all federal websites checked.

The various government entities collect data from the citizens maintaining that these data are needed to properly execute the tasks bestowed to them by the government. Quite a number of citizens may concur. But the governmental entities do not stop there. They will routinely share data and information with other agencies. That means citizens' complete life histories are floating around the bureaucracy, whether the citizens like it or not. Some of this information sharing is beneficial, allowing agencies to work more efficiently. But too much sharing infringes the citizens' privacy, thus curtailing their legal rights too much.

The US President Bill Clinton shortly before the end of his presidency drafted a resolution designed to protect the citizens' privacy concerning medical information. Buried in the text filled with new regulatory requirements for health care providers is a passage allowing the Department of Health and Human Services to collect all personal medical records from any health care provider without a court order or notifying the patient ahead [ARM01].

This author's decades of experience has shown that while the Americans put a high value on their privacy, still, when interviewed in the framework of a mortgage application, a prospective employment, a license investigation, they are much more willing to supply information compared with their European counterparts. If the Americans are willing to answer 80 to 100% of the questions, the Europeans may answer at the start only 40 - 60%. Subsequently with much persuasion by the interviewers, showing that answering the questions is for the interviewees' own benefit, the Europeans may answer some further 20%.

This applies also to e-commerce. The American e-commerce business in the largest sense of the word (not only the trading of goods but also supplying of services) is by far more developed compared with other parts of the world because there are less impeding factors than elsewhere.

One reason of course is that the American computerised world is by far the most developed, but additionally Americans supply more readily their private data, including social security and credit card numbers.

3.2.4 Lax security online

Another hindrance in the electronic world is the lax security. It is already very easy to undertake identity theft using offline facilities, so much more when a user surfs online.

As shown in Chapter 4 quite a number of investigative sources, especially those in the USA, are available online. In order to get the information required, a PI first has to supply his name, address, contact data, possibly also his social security number to register. Then to search for the information needed, sometime already then payment must be effected, but not always, although some facilities go by "no hit no fee". If say the PI finds the information he looks for and has to pay for it, payment must be effected by means of online banking or more often by a credit card. Banking and credit card data are sensitive information. It is common knowledge that online security is not only prone to hacking, but even more so to such persons who then use the information illicitly obtained for their malicious ends, all because online security

has not that standard to keep hackers out of the system. Therefore Dick Armey [ARM01] stated that he has not yet undertaken the transition to online banking being afraid of the lax security online. The author of this thesis uses online banking because of long distances to the banks, but defers from using payment facilities of information online because of the fear of hacking and the information getting into the possession of entities not really known to the author.

Those who run websites of any kind, especially traders and those offering services, must take the security angle very seriously to remain in business by imposing or accepting notice rules and standards on web sites most likely becoming relevant in the coming years.

Still there are measures taken going into the right direction. For instance the Deutsche Post (German Postal Authorities) and Thales E-Security were awarded in Paris/France in October 2002 the "Award for Excellence in Secure Electronic Business for 2002" for the PC stamping system STAMPIT [STAM]. This award by the European Electronic Messaging Association (EEMA) is granted for outstanding European projects in the area of security of e-business. STAMPIT, a way for users to download the needed postage into their computer and print the stamps by means of a needle or laser printer, was regarded by EEMA to have innovative techniques and be of great practical use.

3.2.5 Lack of education

A great inhibitor or obstacle in handling investigations is the lack of education, general, legal or commercial.

Any investigator must be able to read and write well - at least in his own language. Read, meaning to understand the client's written instructions, sources, legal, commercial or any others required to get on with the investigation. Write, namely letters asking for information in a correct language, for instance in a background investigation addressing an applicant's (ex)employer's human resources department. If the investigator's written application does not concord with the minimum professional requirement, it is very likely that he gets no answer at all or at best an unsatisfactory one.

An investigator must also have a good legal knowledge, especially so as not to undertake any investigative steps forbidden by law, and know where to search for any needed advice in specific instances. By acting in an illegal manner not only does the PI in question jeopardize himself and may face fines or even imprisonment, but he also does not do any good to his client who can face similar measurements. Furthermore any information gained illegally cannot be used in court. Much legal advice, laws and regulations are available online these days [LEX], [LEV00].

For a successful PI it is not enough to know how to investigate both in a traditional manner as well as using modern modes. He must also know how to run his business, meaning that he has to have a commercial education.

Leading PI associations such as the World Association of Detectives [WAD] and Council of International Investigators [CII] only accept PIs as full members if they have been running their own business for a minimum of 3 years even if the applicants have been police investigators for tens of years. The reason is that as policemen they were not concerned about gaining clients, paying bills, working profitably. When vetting applicants the PI associations want also to guard their members not to request the assistance of a PI who is about to be or even is really bankrupt using the down-payments to satisfy his creditors and not to execute the job allotted to him.

3.2.6 Language barriers

The knowledge of languages was already important in former times but by far not so important as in these days. As in other professions the lack of languages, especially in this age at the dawn of globalisation, the knowledge of several major languages is a good start in the investigative profession, particularly since the international business still bears a potential for business growth.

Furthermore, to speak and read well in a language enables PIs to have better access to original sources, written or oral ones. Any translator may overlook or omit something between the lines while translating which really may be the key or the step for further important information.

The same applies to copied documents. The professional investigator will always ask for original documents. Translators and copiers can make fundamental mistakes,

such as writing the digit '7' in English in such a way that it looks like the German digit '1'. An interpreter may overlook hints supplied by an interviewee involuntarily through his body language. He or she may maintain not knowing the person being investigated. However, the seasoned investigator will know when the interviewee is lying or does not tell the full story. Indicators may be the flickering of the eyelids, twisting of left corner of the lips or closing a hand to form a fist (thus inwardly gaining strength), sitting up more erect or moving uncomfortably in his chair. An interpreter will of course overlook signs like these.

3.2.7 Cultural barriers

Albeit with the appropriate experience, PIs may still fail to appreciate the nuances of a foreign communication.

Assuming that two investigators speak the same language perfectly well, nonetheless they may not understand each other. This sounds illogical, but experience has proved it correct often enough. There are already linguistic and cultural differences between the USA and UK.

For example, in the UK one pays the bill (invoice) with a cheque, while in the USA one pays the check (invoice) with a bill. So if a British customer in an American restaurant asks for a bill, the American waiter will most likely be disconcerted, since he is asked to pay money on top of the expenses incurred through the meal and drinks.

Thus different cultural background and upbringing may lead the investigator in a foreign country to accept the assignment, but understand the requirements in a different way than intended. The clash between cultures already existed in former times, for instance Grecian or Roman cultures clashed with their Jewish counterpart, the British in Victorian times with the Indians when they played the "Big Game" of spying. The agents were at their best when they blended into the surroundings they spied in (Kipling). The clash of cultures still applies in the present time, also in the investigative profession.

Americans are much more easygoing, taking etiquette much less seriously. They use first name terms immediately, also in instances where they have had no contact with their counterparts ever before. In Germany this is a big faux pas. One is addressed by Mr. or Mrs./Miss and family name, often adding the recipient's title, such as Dr. Miller. In Austria they go further addressing a person by his (professional) title (Herr Geheimrat Müller) or a higher grade than bestowed such as Herr Baron to express respect. Letters are also more formally composed. In the USA a writer may close with only 'Jack'. In France a business letter may close with "Nous vous prions, Monsieur, d'agréer nos salutations les plus distinguées" (We ask you, dear Sir, to accept our most respectful greetings) or similar phrases. These days things get more informal, perhaps under the influence of the USA and in the wake of globalisation.

Therefore a client, be it a PI or any other customer, is well advised to contact and relate his request in terms understandable to the local PI but also along the cultural customs prevailing in the latter's country and not the other way around. Thus the

requestor is able to ensure the full cooperation of the local PI and also get better results.

3.2.8 Lack of training

As in any profession proper training both in former times as well as these days is a most important factor for a successful investigation. With training comes experience not only knowing where to turn to in order to obtain the information needed to continue the investigation, but also using various investigative modes and means to completing it successfully. Training and experience also develop a feeling, a hunch, how to undertake the investigation. This hunch or intuition, which is an invaluable means, takes years to be obtained. Other important tools are imagination, resourcefulness and readiness to try new ways.

The usefulness of any tool, be it a surveillance van, a computer, intuition or resourcefulness for instance, improves with a PI's experience based on training. So lack of training impedes any investigation. Training does not only apply to investigative training, meaning how to investigate, training also implies the knowledge as to how to use any equipment needed to execute a successful investigation. For instance if a surveillance is to be done, it is imperative for a PI to know how to use a camera, possibly a recorder, or just to drive well in order not to lose the target. In other investigative cases it may be imperative to be able to read finger or foot prints as well as knowing to discern sounds such as hollow earth or wall spots or smells like acid. These are only a few examples showing that without

training PIs cannot execute their investigative tasks well enough to satisfy their clients.

3.2.9 Lack of equipment

Lack of equipment is another great inhibitor for the simple reason that if there is no equipment at hand a PI cannot execute certain investigative jobs. For instance for some surveillance jobs a specially equipped van is needed with a night vision camera with an excellent resolution. Similarly without a computer a PI cannot search the Web nor have access to online sources. The lack of equipment may be the result of no such equipment being available in a certain country or not up to the standard needed by a professional PI. Electronic maps do not only aid to find one's way in another city but are a good device in surveillance to help seeing where a target may take shortcuts. The development of electronic maps for cars is still in its infancy in China. In Germany the automobile manufacturer BMW has started inserting such devices in high priced cars and other manufacturers follow.

The lack of equipment may also be the result of being illegal in the certain countries, as "bugs" to eavesdrop are forbidden by law in Germany. The use of "bugs" would facilitate many investigations, such as in matrimonial cases or commercial counter-espionage by listening to the talks of the adverse parties. But where such devices are illegal, PIs have to spend much more time and consequently resort to more expensive methods like surveillance to hopefully get the same results.

To insert a tracing device in a car without the consent of the owner is illegal in the USA for instance. If inserting tracing devices were permitted, it would be a simple game for a PI to follow a target and not losing him.

The lack of equipment may also be the result of being too expensive to be acquired by a PI. The lack of financial means to acquire the appropriate equipment was already acting as an inhibitor in former times, only the equipment used or at least its standard have at times changed, as are for instance a manual typewriter compared with a computer, or a Landauer carriage compared with a highly powered car.

3.2.10 Technical barriers: equipment not (yet) available

There have always been technical inhibitors. In former times the lack of telecommunications may have acted as an inhibitor or slow vehicles when following a target already well ahead of the pursuing PI.

The traditional information sources may not be accessible because they have been destroyed due to age, mildew or war, or they are maybe in private possession. They may also be inaccessible because they are at a too great a distance from the PIs' offices.

Some equipment needed by PIs is not yet invented or if already here not developed to that extent as to be of easy and satisfactory use for PIs as shown in Chapter 6.

To resort to video cameras while interviewing applicants for jobs, or claimants in insurance cases, may be of great use to record hints expressed by involuntary body language. Following these hints experienced PIs, district attorneys or human resources personnel may obtain other, even contrary or contradictory results of vital importance to the appertaining cases than to those taking the interviewees' words by their face value. To resort to professionally useful video cameras may not be possible in many countries since the equipment is not available because being nefarious for professional use or their price too exorbitant for an ordinary PI as is still the case in Eastern Europe.

3.2.11 Lack of availability of data stored both offline and online

Online availability of information to the public at large really started in about 1995/6 although some information was available earlier [LEV00a]. According to a study published in the July 8, 1999 issue of NATURE, the Worldwide Web was estimated to contain some 800 million sites of publicly accessible information in 1999 [LAW99]. Now if in 1999 there were already 800 million sites, with the exploding growth of the Web, there must be many more than a billion sites in 2003, although it is difficult to guess how many.

A major inhibitor to access this fast growing medium is that more and more hosting providers have started to restrict their facilities to paying surfers. The availability of online information, even non-sensitive information or information of low importance is becoming restricted. Followed by AltaVista, Yahoo started in 2001 to charge US $199 per annum for just listing the URL of a website in their databanks thus

available for surfers to visit the sites. (Fees are partly being reduced and raised again trying out the acceptance of the fees by the surfers). If the fee is not paid, the URLs are rigorously erased from their database, therefore no longer available to search engines. So quite a number of sites containing valuable knowledge are lost to the public online.

A much more important hindrance in accessing knowledge by investigators and other segments of the public is that access to information is often restricted either to a special field of activities (surgery information only for surgeons or multi-media information to multi-media providers). Fees levied, linguistic barriers or lack of facilities able to read non-standard alphabet as for example the Cyrillic letters act also as inhibitors.

There is the additional issue, namely that the Internet information may be inaccurate through the passage of time or even become outdated. Over-reliance on the Internet could therefore result in incorrect evaluation of a client's portfolio or worse the loss of a business or a client altogether.

A new trend is developing. Some information is no longer made available in either print, on a disc, or a CD-ROM, but only online. The Deutsche Bibliothek et alia started a pilot project in 2003 to conserve online publications in German [DDB].

But even if a double and triple or a multiple amount of sites or documents linked become available on and via the Worldwide Web, it is agreed that only a very small percentage of human knowledge will ever be available online.

3.2.12 Lack of facilities to store data online

It does not seem feasible nor realistic that all human knowledge be available online if only because of the lack of the capacity and human resources for such a monumental task at present, partly because of financial reasons, partly because of lack of capable staff to undertake the job.

Old documents may not be suitable for scanning or photographing without being damaged; or the equipment is too expensive to become of common use whereas ordinary equipment may not be good enough to properly read old scripts. Furthermore quite a number of documents may be regarded as being outdated and therefore not worthy to be put online by whoever are the decision makers, while some of exactly these documents may be regarded as needed by PIs in certain investigations, such as looking for heirs. Some information may be buried in places not readily accessible such as in cellars or represented in a language an average webmaster is unable to understand and therefore disregard it. These are only a few of many examples why all information or human knowledge will not be available online.

3.3 Conclusion

Figure 3.1: Inhibitors summarizes the review of the inhibitors discussed in this chapter. It shows the factors whether they were relevant in former times or still relevant these days. The section where the inhibitors are discussed are also listed. For example in the instances of age and health both inhibited and still inhibit the average PIs using their equipment and executing their jobs to the full but the real nature of

the inhibitors have changed. Formerly the inhibitors prevented PIs to do surveillance in the streets, now they inhibit PIs using the online facilities sitting in the office.

Similarly insufficient equipment was a problem in former times and these days too, but the nature of the equipment itself has changed. Also formerly PIs had to be satisfied with a box camera, and nowadays a high-powered digital camera is often not sufficient to make good photos at night.

The DPA in its present form can be looked on as a new inhibitor, since in this electronic or information age shaped by technology and the collection, recording and processing of data is escalating, privacy has become an issue of extreme importance, especially since data regarded confidential become easily available to an increasing number of persons, companies and institutions that may for instance be located in other continents.

The online security is also a new inhibitor. A substantial number of online users be it private persons or entities defer from using the Internet and its derivatives to the full because they are afraid of their confidential data getting in the wrong hands.

Cultural barriers and the lack of language knowledge were prevailing in former times and still exist today; also here the nature of the inhibitors has changed. Formerly in Western Europe the German and French languages were much more important than English, the latter being now the "global" language. Cultural aspects change, just to mention Communism formerly and the Sharia these days.

Inhibitors to the availability and storage of information exist both in these days as did in former times, even going back to Egyptian and Babylonian times. Storage means not only putting books and printed matters in storage. Before the times of Gutenberg, the inventor of printing, it meant for instance to store information by carving it in stone or engraving it in wet clay. These days it means also putting it online. Even in times when high speed printing machines produce printed matters in large amounts the inhibitors exist. Since the dawn of the Internet and the Web producing and storing information has shifted to online products and storage. So the inhibitors still exist however the nature of production and storage has changed, but to produce and store information takes time requiring financial, human and storage resources to be well executed.

The life of an investigator can be exciting, especially when covert research is required. Perhaps, in a perfect world, all human knowledge and accurate data would be available via the Internet and free at that. This would remove many of the inhibitors and PIs would not be confronted by any legal, physical, cultural or other inhibitors, but could execute their job more easily, quickly, successfully and less costly.

Factors	Former Times	Cyber Age	Remarks	Sections
Age & health	x	x	Too onerous or too old to start anew	3.2.1
Work load		x	Surfing forbidden since too much work at hand	3.2.2
Legality	x	x	Various laws forbid access to sources	3.2.3
DPA		x	Forbids access to sources	3.2.3
Security		x	Tools, software insecure	3.2.4
Education	x	x	Lack of mental/financial means	3.2.5
Languages	x	x	Lack of mental/financial means	3.2.6
Culture	x	x	Different education /religions	3.2.7
Training	x	x	Insufficient	3.2.8
Equipment	x	x	Financial/legal reasons	3.2.9
Technical	x	x	Insufficient/undeveloped equipment	3.2.10
Availability	x	x	Insufficient / undeveloped data	3.2.11
Storage	x	x	Insufficient / undeveloped storage	3.2.12

Figure 3.1: *Inhibitors*

Chapter 4: The Internet: a Tool of Growing Importance to PIs

4.1 Introduction

Chapter 2 of this thesis discussed the traditional working practices of PIs which were quite frequently time consuming as well as restricted to a certain geographical area.

This chapter discusses how and to what degree the present working practices of PIs have changed with the introduction of new technologies, in particular of the Internet. The new technologies have made some practices less time consuming and the even extending geographical working areas to regions on the other side of the globe.

Furthermore the sources of information available online and offline around the world and needed by investigators for helping clients to trace ancestors, search missing persons, and produce credit reports on companies or individuals are discussed. These sources are also looked at in the context of an international arena showing to what extent these sources are available in different countries. The availability of sources fluctuates across different countries, but is growing with the increasing availability of the Internet. This does not exclude the availability of sources or tools located in one country to be accessible to PIs established in other countries or even in other continents. A great number of sources or tools are located in the USA.

Although the availability of sources grows, the number of low cost or even free sources are being reduced considerably due to the tightening financial situation of providers. Furthermore various laws pertaining to information dissemination in general and the Internet in particular, especially the Data Protection Act are becoming stringent in a growing number and level, considerably effect the use of the Internet sources.

To better understand how PIs use the Internet for their investigative tasks, the set up of the Internet (and its derivatives) as well as the various modes of employing this new medium for business purposes are outlined. PIs have also got accustomed to the Internet and put it to use for their own purposes, namely to better execute their investigative tasks. They even have developed new investigative fields of activities, which are geared to the Internet.

4.2 The Worldwide Web

The Internet is colloquially also called " the NET". Its most widely used part is the Worldwide Web (or World Wide Web, often abbreviated to "WWW" or "the Web"). A technical definition [HYP], [DIE] of the Worldwide Web is: all the resources and users on the Internet that are using the Hypertext Transfer Protocol (HTTP). It may become obsolete in the near future being replaced by XML, also referred to XHTML [XHTML].

4.3 Internet's applications

In this section the author supplies a short description of various applications of importance to PIs.

4.3.1 Browsers

A ***browser*** is a software application for searching the Worldwide Web, translating and changing the Hypertext Markup Language (HTML), the programming language of the Internet, into words, graphics and displays them [LEAR] on the screen [ALGO]. Browsers may be different from each other in capabilities and limitations [MARK]. The most common ones are "Netscape" [NETS], "Internet Explorer" (I.E., part of each Windows system) and "Opera" [OPER].

4.3.2 Websites

Websites can be composed in many ways, but mainly contain information about services and goods provided and their providers' names and contact data. They can also have links to sub-websites or of interest to visitors. Since the beginning of 2002 in Germany a site must also list the owner of the site, name of the company, contact data, judicial representative, registration number and place of the commercial register so that the company may be served upon if necessary. These data are quoted under "Impressum".

4.3.3 Listservs

On the Internet there are mailing lists known as ***listservs*** or ***virtual clubs***, connecting people of common interest like same profession (private investigators, certified fraud examiners, attorneys), indulge in the same hobbies, originating from the same town or are employed by the same company. There are thousands of such ***listservs*** with Yahoo.com [YAH] being probably the most popular provider for free ***listservs***. PIs also regard them as an important tool for getting help, referrals, judicial, and professional updates.

4.3.4 Emails – asynchronous communication

Electronic mail or ***email*** is an asynchronous form of communication. A message is often writing without greeting phrases, such as Dear Sir, Dear Mr. Smith – nor the closing ones, such as Yours sincerely, respectfully yours. Frequently a writer only signs with his first name or not even with that, let alone adding his contact data, which should be listed in the so-called signature line.

4.3.5 Chat rooms – synchronous communication

The chat rooms consist of a group people of a like mind, the communication being synchronous. The chat rooms are for the greater part used by private individuals. However there are a few PIs who use this facility to look for wrong-doers such as predators, sometimes the only place where (first) leads are unearthed [POS00].

4.3.6 Newsletters

A ***newsletter*** is an electronic newspaper supplying news or information of interest mainly to a special group [WEBS]. Beside being a written report, periodically published, composed by or for a business for instance, a group, an institution, a governmental agency, or for the purpose to disseminate information to contributors, employees, stockholders and often to the press, it can be used as forecasts, sent to a special audience, as business people, and mailed to subscribers. It can also be regularly published, not lengthy, for a specific audience or purpose.

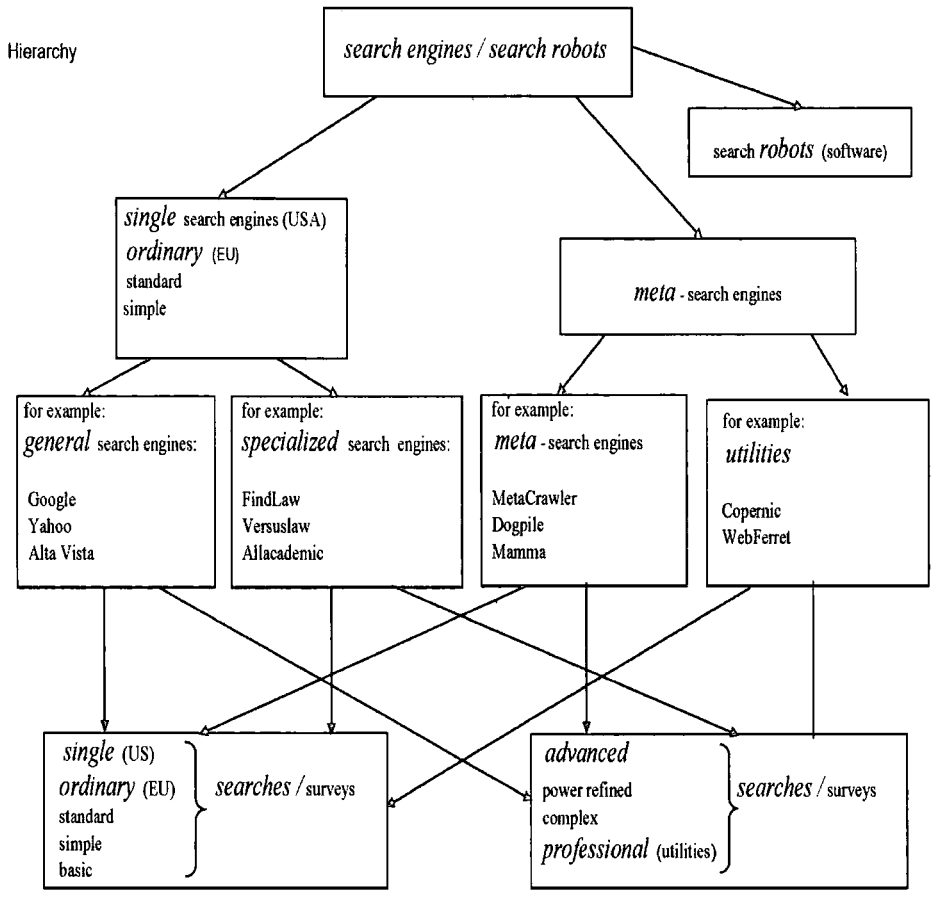

Figure 4.1: *Hierarchy*

4.4 Search engines

There are ***single*** and ***meta-search engines***, important utilities to facilitate the searching of the Web and finding information buried in online databanks worldwide [ADK1]. Search engines may help with links and directories, but also act as a collection of databanks.

Both ***single*** and ***meta-search engines*** form a simple hierarchy (Figure 4.1). Figure 4.2 depicts ***single search engines***, while Figure 4.3 lists ***meta-search engines***. These diagrams show that for the general surfer the set up of search engines looks the same by having ***simple*** and ***advanced*** searches and the results of the searches are often served to the surfer in the form of links. The main difference is that meta-search engines do not have their own databanks but search single search engines from the same site or even several simultaneously.

4.4.1 Single search engines

4.4.1.1 A definition

There is no fixed nomenclature for the search facilities nor for the search execution, but some terms are used more often than the others (Figure 4.2), for instance ***search engines*** in contrast to ***search robots*** [TILB]. Search engines make use of ***spiders, crawlers, robots*** to search for (hyper)links or URLs across the Web [TILB], ***robots*** to search or ***survey*** the Worldwide Web to incorporate the information found to build up their databases [BARL02].

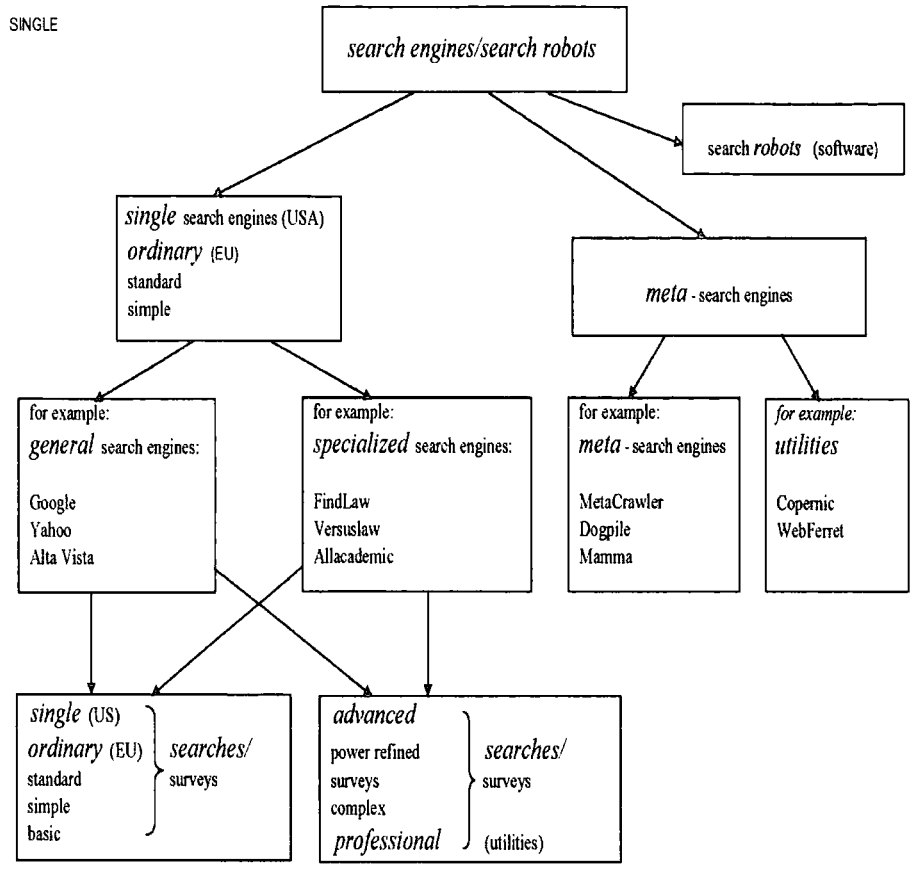

Figure 4.2: *Single Search Engines*

Single [BRAD], [VIVA], [TCFN] search engines, the more common term, are also called ***ordinary*** [SEW02a], [TUD], [NETCO] or ***standard*** [DEL] search engines. The term ***ordinary*** seems however to be preferred by European sources as in contrast to ***single*** more often used by American sources, but in neither case exclusively. They may even called only ***simple engines*** [SKY]. ***Single*** search engines enact ***single*** (the most common term), ***simple*** [NLR], [THET], ***ordinary*** [HANS], [WHACK], ***standard*** [LOGOS], [NETSD] or ***basic*** [SEW02b], [BARL02] searches. They can

also carry out ***advanced*** (the most popular term) [SEW02b], [ALLW], [YAH], ***power*** [SEW02b], [NLR] ***refined*** [BARL02] or ***complex*** [TCFN] searches.

4.4.1.2 General and specialized single search engines

There are search engines offering general information such as *Yahoo* [YAH], *Google* [GOOG] and *AltaVista* [ALTA], servicing mainly the general clientele. There are numerous search engines for a specific clientele. An American lawyer for instance will most likely resort to a legal search engine such as *FindLaw* [FIN] or to *Versuslaw* whereas European attorney more likely to the *Guide to European Legal Databanks* [GUI]. American toxicologists or physicians prefer *TOXNET* [TOX].

4.4.2 Meta-search engines

4.4.2.1 A definition

Meta-search engines combine several ***single*** search engines together, thus cutting down the time online and improving the search results. Some also have an ***advanced*** search facility (Figure 4.3 *Meta-Search Engines*).

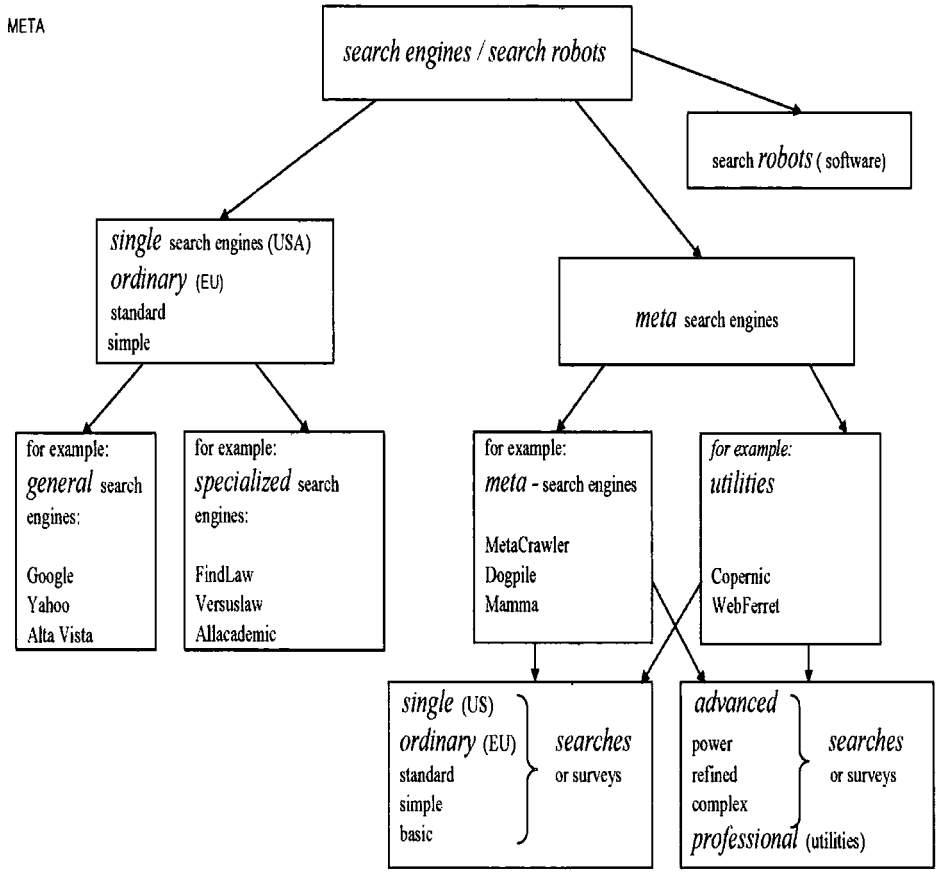

Figure 4.3: *Meta-Search Engines*

4.5 PIs' sources available online

4.5.1 Surveys of online sources

Figure 4.4: Availability of Internet Facilities as well as their use Worldwide shows the result of a survey carried out about the availability of information sources online. The survey was conducted by the author of this thesis, having emailed approximately 300 leading PIs worldwide asking them to describe the situation prevailing in their respective country. Sometimes more than one answer from a country was received, complementing others.

Chapter 2 discussed the sources PIs needed -and often still need- in executing their investigative tasks. The great difference to former times is that many sources already in use formerly are now available online.

Figure 4.4: Availability of Internet Facilities as well as their use Worldwide indicates which of the common PIs' most needed sources are now available online in which country surveyed. The sources have been grouped according to their contents or usages by PIs. The table was originally compiled early 2001, but updated in August 2002.

Countries	Australia	Canada	China	Germany	Greece	Israel	Mexico	S. Africa	Switzerl.	UK	USA
Groups											
a) Records											
Court records						x		x			
Land records	x							x			
Motor vehicle rec.								x		x	x
Civic register								x			
Soc. Sec. #								x			x
Patent records								x		x	
Real estate rec.		x						x		x	
Commercial reg.	x	x		x				x		x	x
b) Directories											
Telephone	x	x	x	x	x	x		x	x	x	x
Yellow Pages	x	x	x	x	x	x	x	x	x	x	x
Fax	x	x		x		x		x	x	x	x
c) Other listings											
Area codes	x							x			x
Inmates	x										x
Governmental org.				x				x		x	
Companies' reverse								x		x	x
Attorneys' listings				x				x		x	x
d) Databanks											
Merlin											x
Lexis Nexis											x
Information brokers	x	x	x	x	x	x	x	x	x	x	x
e) Misc. sites											
Maps	x		x					x		x	x
Translations										x	x
Ancestry searches								x			x
Newspapers	x			x				x		x	x
Peoples' locators	x							x			x
Investigators	x			x				x		x	x
Domain search	x							x		x	x

Figure 4.4: *Availability of Internet Facilities as well as their Use Worldwide*

The facilities available on the Internet are divided into five groups comprising:

a) Records
b) Directories
c) Other listings
d) Databanks
e) Miscellaneous sites

In some countries, such as the USA and South Africa, many are already available, in contrast to Mexico, partly due to the well-developed online infrastructure. Below the various items are explained.

a) Records

Records such as civil and criminal ***Court records*** are consulted for instance when credit and background checks are made. ***Land records*** may contain real estate records which are used for plots covered with buildings in contrast to woods, desert or other land outside cities and villages. ***Land records*** are needed for investigative instances such as credit checks, divorce or bankruptcy cases.

Motor vehicle records may be needed when PIs investigate an automobile accident, check an applicant for employment or credit granting.

In the USA ***Social Security numbers*** often represent the starting point or key for example for background, creditworthiness or locating searches.

Patent records may be needed in competitive intelligence or scientific search cases. ***Commercial register*** records are important when PIs look for companies or investigate a company's financial situation and creditworthiness.

b) Directories

There are numerous ***Directories*** available online. Their usage is abundant, for example when searching missing persons, heirs, companies or just for interviewing a possible source for information needed.

c) Other listings

Area codes may be of importance when searching for missing persons or investigating an automobile accident since the jurisdiction where the accident occurred may differ from the place of living of the person causing it.

Governmental organisations' listings are of use for instance when a professional license must be verified, in the USA to get information from the tax authorities or obtaining certain forms needed in the daily business environment.

Companies' reverse search facility can be used for finding a company by inserting its telephone number in the ***reverse*** telephone facility. Then the full name and address are displayed. The same facility can be used for locating private persons.

Attorneys' listings are what they say. Attorneys of various specialties may be needed for legal consultation during the course of an investigation such as to determine

whether a certain investigative undertaking is illegal and therefore should not be undertaken to avoid jeopardizing the case at hand. The attorneys may be listed also per location.

d) Databanks

Databanks, also termed "databases", are numerous and their specialty varies. ***Merlin*** for example can be used for obtaining information on private individuals or companies, and ***Lexis-Nexis*** is a databank specializing in legal topics and laws. ***Information brokers*** are often regarded as ***databanks*** since they act like such.

e) Miscellaneous sites

Miscellaneous sites list sites of all sorts, such as ***Maps***. ***Maps*** may be of a topographical nature, or depicting weather, but also "historical", meaning any past dates. There are street maps, often in connection with telephone directories [INFOB].

Translations sites –apart from the facility offered by *Google* [GOOG] for instance- are special sites where texts can be translated by inserting them in special boxes on the site. *Babelfish* [BAB] is quite popular or *Freetranslation* [FRT], two sites free of charge. The quality of such sites leaves much to be desired, but are still helpful for PIs to understand the contents of documents obtained during an investigation and to decide whether they are of importance for the case at hand.

Ancestry searches are needed when looking for heirs or relatives of a certain person who may be still alive or has passed away [ANC], [ANYW], [GENE].

Newspapers are also good sources of information. Often clients specifically ask for "newspaper clippings" as part of a bigger investigative assignment. ***Peoples' locators*** can be special search sites [ANC] or general ones [ANYW].

Investigators' sites are many, listing PIs and may be either accessible free of charge [IWWA] or are mainly but not exclusively a service to the members of the appertaining association [WAPI], [WAD], [BDD]. At times these sites are only accessible to the association's membership [CII].

Domain search is another tool for finding the location of a company or other entities by first finding their website through the ***Domain*** endings such as .com, .edu.

The usage of sources described above is incomplete and may also vary from case to case. Which sources to use and when as well as to what extent is decided by the PI for each particular case.

As part of the survey PIs were also asked for their opinion concerning the speed with which online sources are becoming available in their countries. The outcome is that the speed varies considerably between moving fast, fairly slowly, hardly started to go online or not at all [ETT01], see Figure 4.5: Speed of Availability of Sources Online.

Country	Quick	Slow	Very slow	Hardly available
Australia		x		
Canada	x			
China				x
Germany		x		
Greece				x
Israel			x	
Mexico				x
South Africa	x			
Switzerland	x			
UK	x			
USA	x			

Figure 4.5: *Speed of Availability of Sources Online*

Country	White Pages		Yellow Pages		Reverse Checks	
	Online	CD-Rom	Online	CD-Rom	Online	CD-Rom
Australia	x	x	x	x	x	x
Canada	x		x	x		
China	x		x			
Germany	x	x	x	x		
Greece	x		x			
Israel	x	x	x	x	x	x
Mexico	x		x			
South Africa	x	x	x	x	x	x
Switzerland	x	x	x	x		
UK	x	x	x	x		
USA	x	x	x	x	x	x

Figure 4.6: *Telephone Directories*

Figure 4.6 shows in which form and kind telephone directories are available in certain countries only being representative examples. In a growing number of countries telephone directories come not only in the form of books but also as CD-

ROMs and being available online. Often only ***Yellow Pages*** (classified directories) and not ***White Pages*** (general telephone directories) can be accessed online. This can be viewed by visiting the site of the international telephone directory *Infobel* [INFOB] and looking up some Arabian countries. But the situation changes for the better continuously.

In ***Australia*** there are ***reverse*** phone CD-ROMs that come out every six months [CHU01]. In the ***UK*** [HEIM01] such searches, even on CD-ROMs, are illegal because of the Data Protection Act regulations prevailing in these countries. In Germany it was illegal until about the middle of 2004. In ***Canada*** everything is available legally. In Mainland ***China*** [HAI01] there is nothing yet online except for telephone directories, and these are in Chinese. In ***Israel*** you may get all, but for some US $500 [GIOR02] but not always up-to-date. In ***Mexico*** only telephone directories are online [MCHEN01]. In ***Switzerland*** telephone directories are public, though until recently a user had to be a subscriber of the Swiss Telecom to get telephone numbers both online and offline. For foreign users their national telecom company had to have a special reciprocal agreement to access to these data. Nowadays they are available free of charge to any user [KENZ01].

In ***South Africa*** all these searches are available for free but are mostly neither complete nor up-to-date. For the latest information except for Yellow Pages a search fee is levied or a CD-ROM must be purchased [GRU03]. In the ***USA*** one may search for companies and private individuals by inserting the telephone number at hand (*reverse phone numbers searches*) online, also find their email address: http://www.freeality.com/findet.htm.

The availability of the directories in various countries improves continuously. However the number of users also grows at the same time, meaning that the online telephone directories become over-subscribed and are not easily accessible.

4.5.2 Databanks

Databanks covering a wide range of data, supplying information on companies and/or individuals, legal matters or weather. For the common PIs databanks providing information on companies and/or individuals are of great interest. PIs may get the information online from databanks where they must become a member and pay in most instances a basic annual fee. Usually a fee for each report generated has also to be paid as is the case in Germany Bürgel [BÜR] and Creditreform [CRE].

In Iceland Icecredit [ICE01] provides information from the land register and about the creditworthiness of individuals and companies online for a fee, but full reports are sent by fax or email to the interested clients. They also supply a "national" registry search for names and addresses of individuals or companies. This service is online and free of charge. In Greece, [LEN01] databanks supply information on companies online for a fee. For instance Icap SA and Alpha MI both located in Athens. The same applies to Germany, at times for private individuals too, for instance Bürgel/Aachen [BÜR], Creditreform/Neuss [CRE], Dun and Bradstreet/Frankfurt [D&B/DE].

In UK there are three leading databanks (Equifax [EQU/UK], Experian [EXP/UK], Dun and Bradstreet [D&B/UK] supplying information on companies online for a fee.

But there is also the Companies House (Companies House Direct) to see if a person is at present a director or has resigned or has been struck off the register from a particular company. This information is fee based. Similarly a report on a company can be obtained from there. In the USA in forensic cases *(parentship, murder)* PIs may use http://www.pacinfo.com, especially in California it is a good site to view. There is a coroner database showing autopsies. This site is also good when researching the effects of an illness typically affecting a human body.

Another good starting point for forensic cases is http://www.crimetime.com. The researcher should then follow the links there, too [YON01].

4.5.3 Public records in general

Public records are to a large extent available to the public in the USA and some of them are online. Property records are public as are court records (unless they involve juveniles). Court records are public such as at the level of the magistrate (city court), district court (county or state) and federal courts including the supreme courts [EARN01]. Adoption records are public in some states but not in others [EARN01].

Some driving record information is publicly available, and for example in New Mexico the driver's history of accidents is online, but does not include pictures from the licenses [EARN01].

In most countries around the world these records are not available to third parties and PIs are regarded as such.

4.5.4 Specialized search sites

In the USA there is a wealth of information available through specialized search sites [EARN01], [YON01]. There are sites to search for people, alive or deceased, for instance looking for heirs or ancestors: [ANC], *Rootsweb* [ROOT], *Genweb* [GENW], *Cyndislist* [CYN] with plenty of links to genealogical sites. To find American persons' birth dates the site http://anybirthday.com/ is a good source to start with for this kind of search.

There are some websites composed especially by the relatives of missing children. In the USA there are groups which communicate online specializing in finding missing children [EARN01]. All of this information is legally accessible. If any of the sites wants a written application, they say so on the site.

Checking the credit worthiness of a potential client (company or individual) can be done online in the USA by accessing for instance the site http://crimetime.com. It has a free bankruptcy check. Corporations may be investigated by the state where they are located. Corporations and UCC (payment records) are usually available through the home page of the appertaining secretary of state for each state anyway but *crimetime* is easy to use as the starting site.

Checking a company's creditability and the name of the owner is possible for example through http://www.businesscreditusa.com [YON01].

To undertake background checks on private individuals in the USA criminal records are still available from sites such as http://www.iqdata.com and http://www.knowx.com. To check applicants' credentials for a job for example educational verification is important. There are online searches available in the USA for national public schools and universities such as http://nces.ed.gov/ccdweb/school.asp and http://www.braintrac.com/.

4.5.5 Newspapers online

Searching newspapers is also a useful tool for finding information. For instance such searches may also help in fraud or murder cases when the police or court litigation records are not available to third parties. Major newspapers grant access to interested parties online, mainly subscribers, for a fee, and smaller newspapers start to follow this trend.

There are US newspaper listings by state at the following website: http://members.tripod.com/~donjohnson/newspapers/states.html as well as international listings. A site for 10,000 online newspapers from around the world: http://www.onlinenewspapers.com/.

4.5.6 Weather, time and maps tools online

In investigations it may be of great importance to know the weather condition at a certain date, day time or location when reconstructing incidents. For example an automobile accident where the road condition may vary at daytime to night time, or when a gale hits the location in contrast to dry and sunny conditions when an

accident may not have occurred. The same applies to topography. In a homicide case the decomposition of a body may be delayed if the weather is cold and the body lies in an icy river which has a strong current. By taking these and possibly other factors into consideration a forensic researcher may reconstruct the time and the location of the homicide. Some sites are: http://weather.yahoo.com/ which can be browsed by location. http://weather.noaa.gov/ and http://www.spaceweather.com/.

4.6 Tracing packages online

Following a package sent from A to B may be of importance not only for the sender and recipient, but also in the case of a suspected illicit package. Packages sent by DHL [DHL], FedEx [FED], UPS [UPS], Airborne Express [AIRB], Packtrack [PACK], United States Postal Service [USPS] can be traced online.

4.7 Tracing cars electronically

Cars can be traced by means of a GPS system following the movements of a vehicle without following or tailing it [PIM01]. The GPS equipment can be plugged into a cigarette lighter for the electricity needed to run it. The system also supplies a complete map with date, time, location and travelling speed as well as stops. The device is a good record keeping tool for business owners, independent contractors and individuals who need support to document their taxes, mileage and billing time as well as employers who want to keep an eye on their employees (if legally permitted). It may also be used by a woman checking on her husband's doings or parents checking their offspring's activities. Without a proper map it cannot be used

to its full potential. Maps can be obtained from the Internet in a rising number, but not for the time being in China for instance.

4.8 Governmental organizations online

In Germany there is the project "Online 2005" which aims to have all public entities listed on the Internet by the year 2005, thus augmenting the efficiency of the 650 federal authorities. This would save PIs time waiting for the authorities to answer certain documentary checks needed. For instance when searching for an heir or a company. Some facilities are already available such as submitting one's income tax declaration, notification of an address or automobile tag change. In some German states land records may be searched by other authorities online, but are inaccessible to PIs as yet. Lawyers may file suits online.

In Bromley, UK the "E Government" in miniature already exists to handle all public and other needs of the citizens [FTD01].

In Helsinki, Finland, an Internet portal that is a wireless virtual village has been set up, from where any private person, businessman, or others can link into the Internet of any community [FTD01]. In Switzerland governmental organizations are available online [KENZ01]. Hong Kong has a good portal for the various governmental authorities in Chinese and English [HKGOV02].

In the USA there are abundant links to access governmental organizations or sections of them, for example:

- US state and local governments: http://www.piperinof.com/state/index.cfm
- US federal & county court locator: http://www.skipease.com.

New ones are added constantly. Some are free; some are available for a fee.

Skipease [SKIP] like others does not restrict itself to one topic but supplies numerous other searches, for instance telephone directories, reverse lookups, search for a city by means of an area code or telephone prefix, identification of the owner of a domain name and finding the social security number of a person. http://www.freeality.com/findet.htm also supplies useful links.

The multiple search applies to public records available online: http://www.investigate-claims.com and a biographical directory of the US Congress: http://bioguide.congress.gov./biosearch/biosearch.asp.

4.9 Finding companies online

Databanks are not available online everywhere. Furthermore traditional databanks or local PIs may fail to supply the needed information perhaps because they do not specialize in that field or need further information which the clients do not have. In this instance PIs must employ their own expertise ([ETT02] and [BOUR01] in [ETT02a]). Furthermore local telephone directories [INFOB], *Yellow Pages*, trade directories should be consulted as a starter. Names cannot be listed here, since there are too many.

4.10 Data transfer via the Internet

The Internet can be employed for data transfer in form of Internet telephoning which can be used like the traditional telephone. By adding a video camera the Internet "telephone" can be used as video conferencing equipment. Thus the telephoning parties on both ends of the "wire" are able to see each other, discuss photos obtained during surveillance and decide the further steps to be taken.

Video cameras can also be used when interviewing an applicant for a job, a claimant in an insurance investigation, a witness in a court case. When using a video camera in such instances, not only the interviewer, who most likely will be in the same room as the interviewee, but also other interested parties may be onlookers, even participate in the interview, although in fact being in another room, city, country or even continent. Internet telephoning is much cheaper than even the best traditional telephone fee package, so much more so when compared with the traditional video conferencing. Of course businessmen like PIs are even more interested in saving time and having less travelling stress. Furthermore possible necessary re-contacts are much more easily established.

4.10.1 "Nanny" observation

Another PIs' use of a video camera in particular with a remote control and often with data transfer online is to watch a "nanny", a babysitter's activities when the child's parents are absent. This sort of investigation and pre-hiring background checks of "nannies" have become a lucrative new field of activities in the USA due to many cases of "babies" having been maltreated. When one or more video cameras are

installed in the client's house by the PI, he can document the "nanny's" activities on tape and by still photos and also transfer the photos to his office, to the parents, to a colleague (if being his client) and the police station, if needed, all via the Internet. In Germany such kind of an investigation is still illegal.

4.11 Conclusion

This chapter has shown how in a growing number PIs avail themselves of the Internet sources around the world, such as email, listservs, chatrooms, single and meta-search engines, databases and records of all kinds both governmental as well as commercial now available online but located around the world to facilitate and at times even improve the handling of their investigative tasks. By means of the Internet PIs can do their search in off-times from their offices when there is less hassle also in far-away areas in minutes or hours in contrast to days, even weeks in former times when PIs had to go to places on foot, by car, train or plane.

Chapter 5: Case Studies

5.1 Introduction

In this chapter cases are outlined based on real cases, while names are changed and details not divulged due to confidentiality reasons. The case studies are to illustrated how PIs solved investigative tasks by using either only the Internet or no modern media at all but traditional means, finally by using both the Internet as well as traditional means.

Each of the case studies proceeds along the model described in Figure 2.1: PIs' General Activities Process, and each is presented under five headings: a) Case description; b) Information required; c) Information sources; d) Investigation description and finally e) Conclusion. Furthermore references are made to UML diagrams detailed and explained in Chapter 2 for each case where applicable.

The outcome of the case studies shows that for instance all requirements needed as well as information sources available and listed in Chapter 2 are often unrealistic but ideally described. One may also say that they are not flexible enough to cover all instances PIs encounter.

5.2 A case handled by Internet means

This case study is an example where only online means were used, thus saving much time and money for the client and presenting less hassle for the PI.

5.2.1 Case description: Finding a relative

A PI had the task to find a client's relatives for a birth family reunion. The client located in Canada wanted to find her father's birth family. This task is similar to ***Find***ing ***an heir*** because ***find***ing ***a relative*** runs along the same lines. The sequence of the particular activities for this type of case are given in Figure 2.5: Activity Diagram. PIs' Tasks for Finding an Heir. The client's father was dead but she knew that there were other relatives, for instance an aunt.

5.2.2 Information required

The only requirement type of information the client could supply were a ***name*** and part of the ***address***, namely a city for the father's sister, and that she had been divorced but no ***date*** of ***birth*** nor a ***social security number***. These cited requirements correspond to that hoped and expected for this kind of case as listed in Figure 2.6: Association Diagram: PIs' Requirements for Finding an Heir.

5.2.3 Information sources

The online information sources put into use were simple search engines such as *Google* [GOOG], but also special databanks specializing in information on individuals such as *Anywho* (http://www.anywho.com/), *Infospace* (http://www.infospace.com) (see Chapter 4, § 4.5., including Figure 4.4: Availability of Internet Facilities as well as their Use Worldwide) and online maps such as *Whereis* (http://www.whereis.com), *Excite Maps* (http://maps.excite.com), *Mapquest* (http://www.mapquest.com) (see Chapter 4, § 4.5., including Figure 4.4:

Availability of Internet Facilities as well as their Use Worldwide) and the online Canadian telephone directory (http://www.555-1212.com).

5.2.4 Investigation description

The PI searched for the name of the sister, and she showed up as a special business librarian. The web page found was from 1997, but because librarians tend to stay librarians, the PI continued to search based on the vocation. The name with the library connection got the PI to another conference web site from 2001. The PI consequently knew that the client's aunt had moved to the province of Ontario, so the PI narrowed the search to that province. Then the PI found another web site where the librarian was associated with and that gave the PI a general geographical area for her place of living. Having come to this point the PI then used an online map to find the specific listing for the location and the telephone directory to obtain her current address. It took the PI about an hour from the moment of obtaining the task to finalizing successfully it.

5.2.5 Conclusion

Here the benefits of the Internet are clearly shown: The PI could never have done the investigation so quickly but would have been flying all over Canada for two to three weeks with a manifold fee to charge the client [LAP]. This case study has shown that albeit only a few requirements were available at the onset of the investigation, due to the PI's expertise the case has been brought to a successful end. Furthermore some stages of the case could be formalised with the UML type of diagrams while following them more or less closely.

5.3 A case handled by traditional means

In this case only traditional means were used, because online means were either inaccessible to outsiders or did not supply any useful information.

5.3.1 *Case description: Finding proof of a person's death*

An American insurance company needed an undoubted proof that the German prince Siegfried von Hohenberg (an assumed name), had passed away so as to be able to pay out the life insurance sum to the heirs. Since in the USA there are no civic registers, a certified copy of the death certificate presented by the heirs was not relevant nor sufficient for the American client; therefore other documents were needed, such as newspaper clippings. The case runs along ***Find***ing ***an heir*** (Chapter 2, § 2.3.1 and in parts modified according to Chapter 2, § 2.3.7 ***Provide documentation to show a person's hospitalisation***, while ***hospital*** is substituted with ***place*** of ***death***.

5.3.2 Information required

Most of the data required as in Chapter 2, § 2.3.1 for ***Find***ing ***an heir*** or § 2.3.7 in ***Provid***ing ***documentation to show a person's hospitalisation*** (see Figure 2.6: Association Diagram: PIs' Requirements for Finding an Heir), such as ***Birth Date*** and ***Birth Place*** as well as ***Address*** of any kind, the only information supplied were the name and the justified interest (see Figure 2.6: Association Diagram: PIs' Requirements for Finding an Heir). In this case ***Parents' Names/Addresse***s and ***(ex)Employer***s, ***(ex)School***s, ***(ex)Bank***s deem of negligent important while the

Social Security Number did not apply here, since the deceased prince had neither been a US citizen nor had lived and worked in the States.

5.3.3 Information sources

In this case the PI contacted regional newspaper archives, White and Yellow Pages (CD-ROM), telephoned a tourists' information, finally confirmed the death with newspaper clippings (see Chapter 2, § 2.2.3 and Figure 2.7: Association Diagram: PIs' Information Sources). The ***Newspaper Archive***s can be compared with specialized ***Libraries*** or ***Hospital Archive***s, mostly not accessible to the public at large, the ***Telephone Directorie***s were used here in form of CD-ROMS (see also Figure 4.6: Telephone Directories) which become increasingly popular because they are so easy to handled. Also ***People*** were contacted, but in this case instead of ***Neighbour***s, ***Friend***s or ***Family People*** in the ***Newspaper Archive***s and in the ***Tourist***s' ***Office*** were contacted.

5.3.4 Investigation description

The PI assumed that the name Prince of Hohenberg refers to a place "Hohenberg" believed to be located in Baden-Württemberg. Reverting to the Internet no pertinent information was developed. So the PI first contacted the archives of a leading newspaper in that region (see Figure 2.7: Association Diagram: PIs' Sources for Finding an Heir). Albeit even talking finally to the head of that department the PI was unsuccessful in obtaining their cooperation, because they hid behind the Data Protection Act.

So the PI searched for the place name "Hochberg" finding it indeed in Baden-Württemberg, then consulted the Yellow Pages of Hochberg (see Figure 2.7: Association Diagram: PIs' Sources for Finding an Heir) and found a ***Tourists' Office*** where an official was very cooperative, since the people of Hohenberg are very proud of their princely family. She confirmed that the Prince had passed away, also divulging the name of the local newspaper which would cover the Prince's death and the burial. Consequently the PI contacted the ***Archives*** of that local ***Newspaper***. Two days later the PI had a printed article with a big photo on the desk describing the burial ceremony in the presence of some 750 high ranking dignitaries from all over Europe.

5.3.5 Conclusion

So the PI could successfully close the case by merely using traditional means while the modern online means were of no avail. Also this case study has shown that albeit very few requirements were available at the onset of the investigation, the PI's personal contact, expertise and persistence brought the case to a successful end. Furthermore some stages of the case could be formalised with the UML type of diagrams while following them more or less closely.

5.4 A case handled by a client alone

In this case study the client handled the case by himself primarily using the Internet.

5.4.1 Case description: Locating and finding business information on two Chinese companies

This is a case where an American businessman needed to locate two companies on the Chinese mainland and determine their legal representatives (see Chapter 2, § 2.3.4 ***Find a company***, but also additionally Chapter 4, § 4.9 ***Finding companies online***).

5.4.2 Information required

In Chapter 2, § 2.3.4 ***Find a company*** the author describes what is ideally needed to find a company. Figure 2.9: Association Diagram: PIs' Requirement Types for Finding a Company lists those requirements. From all data required, such as ***Registration Date***s and ***Number***s, ***Registration Place***s, ***Activity Place***s, ***Subsidiar***ies, ***Line***s ***of Business*** the businessman had was only the ***Justified Interest*** and the ***Name***s but as known in English and not their Chinese names in the Chinese script.

The ***Justified Interest*** was to serve legal papers to the Chinese companies as required in a debt collection procedure while the companies' names were "*China Power Lighting Ltd.*" and "*Chinese Fishing Export Ltd.*" (*Names changed for confidentiality reasons.)

5.4.3 Information sources

Since the names were only available in English instead of in Chinese as required by local sources such as ***Subcontractor***s, ***Authorit***ies (for instance ***Co***mmercial

Registers, ***Chambers of Commerce***), any kind of ***traditional Databank***s (like ***Tel***ephone directories, ***Due Dil***igence ***Co***mpanies) (see Figure 2.10: Association Diagram: PIs' Sources for Finding a Company), with no address, not even a town cited, even well versed local Chinese sources of any could not help.

Therefore the businessman had to resort to the Internet. For the investigation of this case he used online sources such as international telephone information service and the search facilities *Yahoo* [YAH] (termed *directory*), and *Copernic* [COP] (termed *utility* but acting like a ***meta-search engine***, see Chapter 4, § 4.4.2 ***Meta-search engines***) and the companies' web sites (see Chapter 2, § 2.3.4 and Figure 2.10: Association Diagram: PIs' Sources for Finding a Company and also Chapter 4, § 4.9 and Figure 4.4: Availability of Internet Facilities as well as their Use Worldwide).

5.4.4 Investigation description

First the businessman tried to develop a telephone number for the companies, contacting the international telephone information service. It could not help since the Chinese telephone assistant needed the names in Chinese writing or at least the location (Chapter 2, § 2.2.2, ***Requirements***, § 2.3.4 ***Find a company***, Figure 2.9: Association Diagram: PIs' Requirement Types for Finding a Company and also Chapter 4, § 4.9: ***Finding companies online***). The businessman was unable to accommodate them. Knowing from past experience that there was only a little chance to get help from Chinese ***databank***s because they too needed the names in Chinese characters, the businessman therefore decided to revert himself to the

Internet although often Chinese companies still have their websites only written in Chinese.

Being online the businessman opened *Yahoo* [YAH], then inserted the term "China" in the search box. At the same time the businessman opened the ***utility*** *Copernic* and clicked on "The Web," then inserted the name of the first company *China Power Lighting Ltd* and checked the "Search for the exact phrase" button, finally hitting the "search now" button.

While *Copernic* was searching about a dozen search engines, the businessman reverted back to *Yahoo*, inserting the name *China Power Lighting Ltd.* in the search box, surrounded by the quote character ". This tells *Yahoo* that only the whole phrase is of interest, and that single instances of "*China*", or "*Power*" or "*Lighting*" or any combinations thereof should not be shown.

Yahoo could not help in either instance but *Copernic* provided the needed links to locate the companies. Clicking the cited websites the businessman was able not only to get the official legal seat of both companies and their legal representatives needed for the process serving, but also the board of management, the line of business and the companies' history, all information which supplemented the data for the report to be submitted to the businessman's attorney. Furthermore, most important, information about the companies' American subsidiaries and their legal representatives were also listed. As per American laws subsidiaries are regarded as legal representatives of companies whose head offices are located outside the USA. Therefore legal documents may be served on the subsidiaries. Consequently the

businessman saved himself a sizable sum of money, not needing certified translations nor high process serving expenses abroad and therefore less hassle. With the transmission of the developed information to his attorney, after having used online facilities, the businessman brought the case to a successful end.

5.4.5 Conclusion

In this instance a case was solved by the client himself using online facilities since traditional sources could not help because of not having the needed facilities at hand. This case study has shown that albeit only rudimentary requirements were available at the onset of the investigation and even PIs' expertise failing here, with the help of the modern medium Internet the case has been brought to a successful end. Furthermore some stages of the case could be formalised with the UML type of diagrams while following them more or less closely.

5.5 A case handled by both traditional as well as modern means

In this case study both traditional and modern means are used.

5.5.1 Case description: Uncovering a false insurance claim

An insurance company was going to settle a workman's compensation case with a disabled applicant for a sizable sum of money, but wanted to check on the applicant's activities before finalizing the case.

5.5.2 Information required

The basic information required was as listed in Figure 2.13: Association Diagram: PIs' Requirements for Proving a Legitimate Insurance Claim. The claimant's ***Name***, ***Address***, ***Social Security Number***, the ***Justified Interest*** as well as ***Authorization*** were needed. The ***Date*** and ***Place of Birth*** were of less importance but useful. ***Photos*** of the subject were handed to the PI since frequently a helpful means when surveillance is envisaged as in this case.

5.5.3 Information sources

The case was handled as in most cases really by both using online search facilities (here *Copernic* and *Google*) as well as traditional means (here ***surveillance***). It was not needed to getting in touch with ***Neighbour***s, ***Club***s nor resorting to ***Subcontractor***s, ***(ex)Employer***, ***(ex)School***s nor ***(ex)Bank***s due to the information obtained through online searches. By checking one racing place after another and a graphological test applied in a laboratory, a source not mentioned in the general sources listings as for instance Figure 2.7: Association Diagram: PIs' Sources for Finding an Heir, not even in Figure 2.3: Association Diagram: PIs' Information Sources, since in such disability checks this sort of source is rarely used) in order to bring the case to a successful end.

5.5.4 Investigation description

In order to find first some background information on the applicant which might help to handle the ***surveillance*** by learning perhaps the latter's customs and hobbies, the

PI first checked for the applicant on the Internet using *Copernic* [COP] (see Figure 4.4: Availability of Internet Facilities as well as their Use Worldwide and Figure 4.3: Meta-Search Engines). The search found that the subject had run in a road race shortly before, placed in the top 10. The subject's photo displayed on the Internet matched that in the PI's possession. The PI looked into the matter further by then visiting one ongoing road race after another, and finally during one the PI located the applicant and got his signature on a fan card (another match with the original photo). Through a graphological test by an expert in the latter's laboratory, the PI had another source to confirm that the claimant and the racer were one and the same person [LOSE].

5.5.5 Conclusion

With both traditional and online means the PI could show that a claim against his client was false, saving the insurance company a great sum of money through his investigative skills. This case study has shown that albeit only a few requirements were available at the onset of the investigation and only a few information sources used due to the PI's expertise the case has been brought to a successful end. Furthermore some stages of the case could be formalised with the UML type of diagrams while following them more or less closely.

5.6 Conclusion

The case studies also proved that each case is different, although in part may run along formalised stages as described in Chapter 2. In most cases however a PI's expertise is required to bring a case to a successful end. There are cases however

where at least to some extent a client can handle his case alone with the help of the modern media.

The case studies also showed that the ***Requirement***s, ***Information Source***s and the like as formalised in Chapter 2 are idealistic and that expert PIs often have to handle an investigation with much less at hand and still are able to solve their cases successfully.

Chapter 6: Future Trends and Technologies for PIs

6.1 Introduction

Seasoned PIs who started their career before the dawn of the Internet look at the electronic development with "one laughing and one crying eye": The Internet and its derivatives has made their life in many respects easier both in their investigative activities as well as in their office work. But the Internet has also made them lose a substantial amount of work since clients have started to do a great part of the traditional research themselves using online facilities. In this chapter PIs' wishes for even more sophisticated, at the same time more easy to handle, modern investigative tools are outlined.

Progress and change are an ongoing process. Even high ranking governmental officials realize it. Schily [SCHIL], the then German Minister of Interior, welcomed the PIs attending the WAD's (World Association of Private Detectives) [WAD] annual meeting in Berlin in August 2001 by stating that the commercial and sociological changes effect the PIs' profession too. He furthermore said that the classical conception of PIs no longer concurs with reality and new forms of criminal acts go along with the commercial and technical development.

Although with online facilities PIs have tools at hand which make investigations easier at times, still they have a wish list for the invention, improvement or change of

tools and conditions for the days to come. Some wishes will become true as time passes, some will remain but a dream.

6.2 PIs' wish list of new technological equipment

This wish list was obtained by an informal survey of PIs. It is not intended to be an unbiased scientific study, but an indication of the informal thinking of practicing PIs.

6.2.1 The Internet: a free and easy "tool" to handle

For PIs to get free information on the Internet is rapidly decreasing and becoming the status of "wishful thinking". The same applies to free gifts of all sorts, including software and other downloads. These so-called "freebies" disappear in a growing number, searches become more and more restricted to groups or to a paying clientele. Submitting a site to a search engine, for instances to Yahoo or Google, is no longer free of charge. To have a URL listed cost US $199 per annum, raised even further to US $299, a sum that private persons or small business owners are no longer able to afford. But this tendency of charging seems to be reversed again to some extent.

The number of providers of free fax facilities diminishes too or such facilities are discontinued altogether, as happened with Web.de (a German provider) shutting this service down sometime in 2001 or early 2002.

According to the German second leading TV Station "ARD" [ARD02] various providers have introduced the "pay by click" mode as have Yahoo, AOL, AltaVista, Web.de and T-Online. When a surfer clicks on a certain link to view a site, he must

pay for viewing it. Many links are either not high-lighted as cost generating URLs, others not made clear as such for surfers. The ARD reporter stated that in the USA there are already law suits being filed against such a "practice". German organisations have also started to file law suits and the providers seem to be inclined to make cost-generating URLs noticeable by another colour or font for instance.

6.2.2 All databanks should be available and free

Kenzelmann [KENZ02] would like to have all available databanks accessible, even those of governmental and armed forces databanks which are secured for instance, to get better information for their searches. He as other PIs would like to add to this and wish the databanks to be free of charge and with easy search facilities.

6.2.3 Improved computer and online software

The software PIs mainly use for their work are databases, word processors, presentation systems, communication tools and browsers. PIs would like to have the computer software improved to fit better for their purposes and work well from the very start. They also do not want to be test persons for software producers. They want to spend their valuable time on their own business. [CHU01]

The improved software should also prevent any computer crashing and the "freezing" of single sites or of the whole computer while PIs being online [CHU02]. This "freezing" is a great nuisance and both time as well as money consuming.

No errors should occur when for instance a PI's computer is voice activated during normal operation and while reports are compiled. Next to the computer a tea or coffee making facility should have its place responding to voice commands [CHU02].

Faster communication is also an important PIs' wish. The quality and the speed of transmission should improve drastically to include the loading of websites, and the despatch of audio and video documents by email or fax. Cobb [COB02] wishes an Internet connection which is immediate so that there is no waiting time when trying to open a new site or download a document or software needed within the investigative task at hand. At the same time the fees for such improved communication facilities should be lowered.

The quality of the search engines should greatly improve, too. PIs should be able to access many more sites simultaneously and refine their searches to a much greater extent already at their first attempt.

Perhaps this could be achieved when they are requested to complete a short questionnaire. Although filling in the questionnaire in an advanced search may take some time, in most cases it is envisaged that the time thus spent will be much outweighed by the satisfactory results obtained. This improved software, going even beyond the capability of meta-search engines should be able to reduce or even replace the time consuming and often fruitless task of online searching as wished by Kenzelmann [KENZ02], Nilsson [NILS02] and Cobb [COB02]. With improved filters the system should intelligently be able to discern and present to the PIs what is

available on the Internet, since this information may be found valuable for PIs not having thought of in the first place consequently improving their investigative results.

Another feature of improved software is that of a greater security since "data are nowadays the most valuable commercial asset" [GOCK]. Security software should be of such a quality that it can ward off any virus attack. The outlook for the future is that virus attacks are here to stay and the common PIs have to accept this unpleasant fact. A good virus checker updated regularly and automatically should be the tool to fight against such attacks so that they no longer cause havoc to PIs' computers and their files [COB02]. These days to repair the damages takes much time, nerves and money, although often no full recovery is attained [CHU02]. At present there are already firewalls to ward off virus attacks, but Church would like to have a computer that when attacked its software installed reveals immediately the hacker's exact name, address and phone number, especially since the tendency grows even amongst spam senders to forge the email "headers". To obtain a hacker's data is already possible but only sophisticated specialists are able to find some of the culprits after having spent much time and money.

It is also a wishful thinking to have such software securing PIs' computers or any providers' servers that when payments or other transactions online are executed, the PIs' sensitive data, such as their credit card numbers cannot be hacked nor a hacker be able to get into their private spaces.

6.2.4 Video cameras with good online resolutions

Bar Giora [GIOR03] wishes that new equipment, such as video cameras that help to facilitate the investigative daily work would become much cheaper. At present good investigative tools and aids are too expensive for common PIs to acquire.

Ideally a video camera can be used for surveillance penetrating for instance into a house, a car or an office without any hindrance to check the activities of a spouse, an employee or a "babysitter". Targets should not be able to shut down surveying devices installed, or if devices have been deactivated, the investigators should have the means to re-activate them from their offices without the targets being able to take note of it. [THOM01].

A good but mini video camera with a powerful transmitter is of great need. Then for an extended time PIs may watch targets while sitting in their offices, when the targets are in a house, a bar or in another location where they cannot be watched personally without them becoming aware of the surveillance.

Much smaller cameras are needed that do digital movies and still photos to be transmitted from any phone or computer connection to another. Such cameras are already available, but their sizes and the resolution of the photos are still not quite of the quality really needed by common PIs and are too expensive for them as yet.

6.2.5 GPS and other surveillance devices in automobiles

Ideally, when undertaking surveillance PIs should be allowed to access their targets' cars to place tracking devices in them and then watch the movements of the cars by means of the PIs' computers in their office or relayed to their mobile phones [WEAV], all this without any legal or other restrictions, see Chapter 3.

To use the global positioning system (GPS) [GPS] originally developed for US military use to the full, good electronic maps installed in the PIs' automobiles are needed. The maps are to show the movements of cars at any moment both in real as well as in "historic" times. Historic times mean that the executed movements of a car are recorded and documented during the whole length of the surveillance and can later be used as a proof when needed in court for instance. In the USA in some towns maps are available in a usable quality, but most of Europe is far behind, although some manufacturers such as BMW have started to install them in upper class cars. Other countries, such as China, have no such maps as yet.

Those PIs who do much surveillance would love to have a car like the "Knight Rider" which is an American TV serial where the car changes its looks not only its colour. There are some trends towards this development, but it is doubtful whether it will become full reality. An owner of a new *Maibach* car produced by Daimler Chrysler may choose a glass roof which can change its colour from white to dark; a similar principle is available in sunglasses. The latest development of automobile lights by the same manufacturer allows the lights to move parallel to the direction a car runs, which is very helpful when driving in mountains or in particular up and

down serpentines. Furthermore, there are already first developments of material where the colour changes due to light impact.

The change of the colour of cars during daytime would save PIs doing surveillance using two or more cars, the same applies to a changed looks of the front or rear of cars. At night anyone surveyed and followed by a car cannot discern the colour of a car but notice well the look of the lights, such as their distance from each other, size and shape. By moving the lights, changing their shape a second car may be redundant. These major changes of the looks of a car could be done either by the driver or from the PIs' office using software like GPS or other means via the Internet.

6.2.6 Investigative tools needing improvement or not yet invented

There are quite a number of investigative tools already in use by PIs which need improvement or other means not yet invented, for example [WEAV02]:

1. Infra-motion detectors are desired that can show the presence of life behind walls and doors and any optical device that can look around a corner or above a fence or under a door and send the obtained data back to the PIs' office or computer.

   Such a device already exists also for civilian use but that model is too big in size and cumbersome to handle in contrast to such already used by GIs in the Iraqi War in Spring 2003.

2. Audio visual drones that can be launched by hand, hover over an enclosed or open area and provide full surveillance capabilities remotely controlled. There are already drones used by armed forces, e.g. in Israel, but they are not yet of use for PIs.

3. Advanced remote viewing (RV) capabilities. Both the Americans and the Russians have used remote viewers for psychic spying. RV refers to the discipline which enables trained users to view objects/plans at remote locations without physically being at the target location.

4. Lip activated HF burst transmission communication devices to send speech to a remote location or base station. Currently in Weaver's company they use such a communication medium to prevent unauthorised interception. HF is difficult to detect and burst transmission means that messages can be sent through a compressed modem and very quickly.

5. A discreetly pulsing strobe light to induce hypnosis in suspects to facilitate interrogation and encourage truth telling. This is a flashing light that induces an altered state. A strobe is often used in a disco, but can be altered to induce hypnosis in receptive subjects.

To facilitate PIs' investigative duties Weaver wishes suitable technical aids such as software driven, miniaturised tools. However he also desires:

1. A discreet method of sourcing a suspect's DNA for comparative purposes a match such DNA with a databank of the trace evidence found at a crime scene. Added to this is the fact that state and federal police laboratories have started to collect such, but common PIs, legally regarded as common citizens, have no access to these databanks. For PIs to get access to them is an unrealistic dream for the time being.

2. A device for checking natural language understanding by scanning witness's verbal or written statement for inaccurate details or even for lies.

3. The ability to intercept all communications, data, voice or fax that targets have generated. Such intercepts would automatically decrypt any secure transmissions and present them in clear text.

4. A data safe for the storage of case files that can be remotely trashed either when all space available has been used up or if an unauthorized person tries to access the files.

5. A website for clients that will require full settlement of the account before the authorised access is given to the full and final report. This is something Weaver's company is in the process of developing.

6. A tool by means of which PIs can read written material which is either upside down or otherwise inverted

7. An ultra lightweight ballistic armour jump suit.

8. Night vision binoculars are already available not only in film scenes, but often used by border police task forces, for instance at the German-Polish as well as at the Amro-Mexican borders and in Afghanistan by the UN Forces [ZDF] or by the American Forces during the war in Iraq in Spring 2003. Most spectacles or binoculars available for civilian use are still quite cumbersome in size and of low quality. One day lightweight night vision spectacles will be on the market affordable for common PIs too.

9. Biometric locks envisaged to guard sensitive protected areas such as offices, hotel rooms, computers and be controlled by biometric units requiring finger or thumb prints, retina, voice or DNA identification. After the checks are done and the persons wishing to enter the restricted areas are cleared, access is granted. The first biometric locks (at times also called lock picks) are already here, their development has been boosted after September 11, 2001, but for sometime they still will be restricted to military projects, leading airports and not yet to general daily use. According to reports in the media (print and online) the German Secretary of the Interior Otto Schily introduced this system at the Frankfurt/Main Airport on February 12, 2004. Since October 2004 the USA request passports with biometric data, at present they accept such with only one, particularly those of faces, later also of finger prints, when the EU has the equipment to also handle such. The USA takes the biometric data (faces and fingerprints) at their boarders from incoming passengers already.

6.3 PIs' opinions about the future development

Beach [BEACH02] stated that with the closing down of computerized sources to comply with government and legal regulations PIs are being forced to revert back to the traditional ways which are time consuming and therefore more expensive. How much as she did express her regrets about that situation, yet she is well aware that PIs must comply with the regulations and accept the situation.

According to Raghuvanshi [RAG02] there always will be data not accessible via the Internet, therefore the traditional or old fashioned skills will never fade away.

Cobb [COBB02] believes that on the one hand the Internet and with it computers have greatly enhanced some areas of investigation, on the other hand they have also hampered the development of new investigators' ability to think beyond the "box" or computer.

Bar Giora [GIOR03] is a strong believer in that young investigators do not know what real down to earth investigation is, but all they know is how to try and obtain info from computers legally or illegally.

Newman [NEW02] states that as long as there are better tools, there will be more crafty criminals but also more sophisticated investigators to combat them.

Bronstrup [BRON02] is of the opinion that what works today may or may at times no longer work tomorrow. The Internet is constantly changing and only if PIs stay ahead

of the learning curve they will be able to stay ahead of their competitors and succeed in their profession. Therefore PIs should make commitment to continuous learning.

6.4 Conclusion

The speed with which the Internet develops is growing rapidly as does the capacity of the computer hardware (Moore's Law). On account of these developments and consequently of modern tools, there has been and furthermore will be changes in the modus of executing investigations. This is the opinion of a greater part of especially seasoned PIs.

The investigative opportunities for PIs will also change dramatically. Already these days there are investigative specialists for computer forensics as well as for digital investigations. Therefore PIs must continue to educate themselves to remain competitive but also in order to follow their "targets" into the new fields of activities so as to bring them to justice.

Traditional investigative modes and means will not die out completely albeit drastic online developments and changes. Yet human brain and experience most likely will remain the best tools both to combat criminals with their despicable doings as well as help PIs' clients in any of their problems.

Chapter 7: Conclusion and Further Work

7.1 Introduction

This chapter summarizes the research which has been carried out in this thesis and suggests possible directions and ideas for future research related to this work.

The aim of this thesis has been to show changes in working practices of general private investigators (PIs) that have resulted from the introduction of the Internet and the associated technologies such as the Worldwide Web (WWW).

Much has been written in the form of educational manuals on how the Internet and its derivatives, including the Worldwide Web, the leading one, have been and still are used in an illegal manner, for instance by hacking and stalking, but not in their use in a constructive way in general, let alone by PIs, particularly in an international context.

The previous chapters discussed the work carried out in relation to each of the objectives set at the start of this thesis. The results of the research within each objective were reviewed and the degree of success in meeting each one evaluated. It is the aim of this chapter to look more globally at the success of the work and draw final conclusions regarding the state of the research today and the contribution of this research to advancing that stage.

Whilst a significant amount of work has been achieved within the context of this thesis there will always be the need to explore some of the issues in greater depth and expand the research into new areas to fully encompass the ever expanding software industry. Additionally, other areas of complementary research became apparent during the work, which although closely related were considered to be outside the scope of the thesis. These are topics for future research projects, outlined for instance in section 7.4.

7.2 Review of the work

With the introduction of the third generation of computers and higher quality of software, at the same time the reduction of telecommunication fees and the prices for computers, the world of PIs has changed in many aspects dramatically. These dramatic changes were outlined by first showing how PIs worked in former times and their traditional tools compared with these in the present time when online facilities are employed. The thesis showed that using the modern online facilities have helped to considerably reduce the number of investigators, time and expenses required for an investigation. But on the other hand the thesis also showed that there will always be some traditional modes and tools employed even when a number of PIs' wishes for better tools and conditions of investigations have been realized.

The initial chapters of the thesis covered the required background to introduction and development of PIs' work, their traditional tools, modern tools generally available online tools and what formerly inhibited and still inhibits PIs in their investigative work.

This outline has been enhanced by formalising the work using for example UML diagrams. These formalizations proved to be an effective strategy to show the relationship of PIs to their clients from the moment of the first to the final contact. Furthermore, the benefit of these formalizations is the provision of easy visualization as to how and of which methods PIs avail themselves while executing their jobs. This has also been discussed in an international context.

7.3 Criteria for success

This thesis deals with the working practices of PIs before and after the dawn of the Internet, in particular the use of the modern tools to help PIs in their daily investigative work. In Chapter 1 the Criteria for success of this work are stated as follows:

1. Describe and discuss past working practices of PIs
2. Formalise past working practices
3. Describe present working practices of PIs
4. Formalise present working practices
5. Discuss facts and factors inhibiting PIs in their past and present working practices
6. Review technology now used by PIs
7. Identify important technology needed for PIs in future

7.3.1 Describe and discuss past working practices of PIs

Research into the past working practices of PIs has revealed that the tasks bestowed on PIs in the past as such were not really different but not always identical in scope to those in the present days. Examples are: to find an heir, a natural parent, a missing or kidnapped child, a company, a stolen car; to procure information on an applicant for a job or a loan, information on a company interested in getting in or furthering business relations with another; or to provide documentation to prove a subject's claim for hospitalisation or disability benefits, marital status, education or death.

This thesis has described how PIs formerly had to carry out much of their work outside their office by going to meet and interview sources, look up information in libraries, public records, and newspaper archives, and do surveillance to obtain the relevant information.

The thesis has further outlined that at times these modes of operation are still employed, but in a relatively small percentage nowadays.

7.3.2 Formalise past working practices of PIs

The past working PIs' practices have been formalised by using some of the notations from UML diagrams. In particular, Activity and Association diagrams have been used, the former depicting the interrelations between PIs and their clients. Without these interrelations the investigative results would prove often less successful. Furthermore the sources and modes PIs applied when executing their investigations especially in former times before online facilities at hand were discussed.

7.3.3 Describe present working practices of PIs

Research into the present working practices of PIs has revealed that they mainly use online facilities available via the Internet and its derivatives or by accessing sources through online facilities such as databanks, (telephone) directories, websites, and public records (land, motor vehicle, police records). The online facilities are also used for surveillance, teleconferencing, transmission of documents, both written, still or moving photos, voices and multi-media.

The thesis has shown that PIs can now do a great part of their investigations from their offices, no longer needing to be "on location". Thus they save much time, money and manpower. The new media also help PIs to enlarge their geographical range of their activities. Not only do they "follow" their clients who go global so as not to lose the latter, but PIs are also able to gain clients in areas they formerly would never have thought of, because these days telecommunication, especially by means of the Internet, is so easy and cheap compared with former times.

7.3.4 Formalise present working practices

The present working PIs' practices have been formalised by using some of the notations from UML diagrams. In particular, Activity and Association diagrams have been used, the former depicting the interrelations between PIs and their clients. Without these interrelations the results would prove less often successful. The sources and modes PIs apply when executing their investigations these days are also depicted.

7.3.5 Discuss facts and factors inhibiting PIs in their past and present working practices

The thesis has shown that quite a number of facts and factors inhibited and in a growing number still inhibit PIs' work. Some inhibitors have remained the same, for example age and health, although their contents may be different, some are exactly the same, for example lack of cultural understanding and education, and some are new, for example computer crashes, keeping updated with modern equipment, but also growing inhibiting aspects of the Data Protection Act.

7.3.6 Review technology now used by PIs

The thesis has reviewed the technologies used by PIs such as databases, telephone directories, public records, newspapers to trace people and goods online, find governmental entities and companies by online means and transfer video and still photos as well as documents by means of the new media.

The review of technology used by PIs such as online facilities like records of courts, companies, civic register, real estate, telephone directories, CD ROMs, GPS, photos and documents transferred via email or wireless facilities has been discussed.

7.3.7 Identify important technology needed for PIs in future

There is no doubt that the Internet and its derivatives are here to stay. The thesis has shown that there is much room for PIs to use increasingly online facilities for their investigations, as a vehicle to transport data and results, and for facilitating their

office work. The thesis has identified future technological needs of PIs. Also PIs' opinions as to the future of their profession have been discussed. The research has shown that some modes of investigations have become easier to execute by online means and a number of sources are now available online, depending for instance on the availability of hardware and software, legal and online infrastructure in the appertaining area and country. The research has also shown that there is a lot to be done to improve the online tools and facilities which can be of valuable use for PIs in future. The research also has revealed that some of the tools and facilities wished by PIs will remain a wish, that continuous training will be needed to remain up-to-date also because the villains avail themselves of the new media so PIs have to follow them using these new media. As a consequence thereof new investigative fields will be developed. However, no seasoned PIs can fully envisage where the development of online tools and facilities will go due to their exorbitantly fast development.

The thesis has shown that PIs use and will continue to use the new media in a growing number for their investigations as well as a vehicle to transport (intermediate) data and results, but also for facilitating their office work. The Internet and its derivatives, such as email, teleconferencing, multi-media and other online facilities will even more rely on the capability of computers to make these facilities accessible and usable. Telephones and computers will become a centre of telecommunication without PIs needing to sit in front of these tools because of wireless facilities.

The thesis has also shown that there is still a mix of modern and traditional working practices executed by PIs and the mix will stay on account of various reasons, only the percentage may vary.

7.4 Directions for further research

A number of further research issues can be addressed from the results of the work presented in this thesis. An issue can be of how further developed software and online facilities can help PIs in their future work, such as biometric, wireless facilities and computer forensic field.

PIs using online facilities, such as databanks, reference books, or the Worldwide Web can supply further and new service, such as computer or even regular forensic science, the latter for instance by comparing notes with colleagues via video conferencing. This is particularly so when compared with other services which have had much time to be become established in their working practices and which are not subject to such a propellant degree of technological change as that presently manifested in the investigative field. There is therefore still considerable research to be done, consequently also much movement and changes within the methods and tools produced and used.

There is research to be done in refining and continuously improving the tools and methods employed and even developing new ones as well as with the gradual development and number of applications, in order that more information and tools will be made available for PIs' use. The information and tools may be of specific

character with regards to a particular application or of a more general character pertaining to general applications which are not necessarily only developed for PIs' use, since there are many possibilities of usage in the online world.

Even if and when by means of online facilities, including the Internet and its derivatives, PIs will be able to automate to a greater degree their investigative and office work, still human PIs will be needed to handle and oversee the information collection and comparison process as well as the interpretation of results. Additionally, the quality of the decisions based upon the obtained information is very much influenced by the prior knowledge, experience and expertise of the past and present PIs.

PIs may collect information by interacting with other PIs, by roaming within networks and databanks, by reacting to clients' needs and available conditions presented at the beginning, during or at the end of an investigation or by joining two or more such processes together.

7.5 Conclusions

Two major criteria must be met to satisfy the requirement for MSc level research. Firstly, an area of research must be found and identified for an original contribution to the existing frame of knowledge concerning the relevant field. Secondly it must be shown that the research process itself can be carried out in a defined and systematic manner and the results passed on effectively to other researchers.

Very few people would disagree that software and online facilities are becoming increasingly common and important in people's everyday and working lives. Hence, there is a very dire need that today's rapidly growing industrial and consumer products are to be made available for an easy use also to PIs around the world while inhibiting factors both from the infra-structure, hard and software, legal point of view are kept to a minimum.

The aim of this thesis has been to outline present working practices of PIs around the world using online and Internet facilities and evaluate these, especially in comparison to former working practices before the dawn of the Internet in order to demonstrate how general users, here PIs, avail themselves of the modern tools for the benefit of their work.

Another interesting area for further research would be that of further possible new investigative fields of activities to be developed beside computer forensic science for instance.

The research and resultant findings have set the grounds for a firm basis for more valuable research concerning the future development of online and Internet tools and facilities for the benefit of PIs and their clients to improve their investigative methods since they seem to need further improvement. The process through which the research has been carried out has been structured and iterative in nature. To summarize, the modern PIs' investigative methods and tools were analyzed, tested with a number of practical applications. During each stage of the research a feedback was provided into the previous stages and chapters.

While this thesis does not present the final word as far as the investigative online and Internet tools and facilities available are concerned, it has made a valuable contribution to this field especially since hardly any investigation has been done into PIs' present working practices compared with former ones. A number of publications in the UK, the USA, Slovenia and China, partly also available on the Worldwide Web, have been produced from the research which were partly instrumental to bestow the writer the honorary membership of World Association of Professional Investigators (WAPI) in the UK.

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Examiners' Changes

The Examiners wished several changes of the thesis in form of additions and deletions which were handled as described below. The Examiners' wishes are written in the bold italic font whereas the author's remarks in New Times Roman font :

This thesis needs to make clear its internet focus as per title. As such we recommend the following:

1. Chapter 4 and Chapter 5 should be reduced to a total of 6 pages then to be combined with the existing content of Chapter 6.

Chapter 4 and Chapter 5 were reduced to about 6 pages and combined with the existing content of Chapter 6 and then renamed to Chapter 4 headed by:

The Internet: a Tool of Growing Importance to PIs,

see pages 75 – 102.

2. Furthermore at least 3 case studies of PI work should be added to the thesis.

This was completed with the new Chapter 5 headed:

Case Studies

see pages 103 - 115

a) Case study 1 to illustrate the benefits of using IT

This was completed with the new paragraph headed:

5.2 A case handled by Internet means,

see pages 103 – 105.

b) to illustrate some of the drawbacks of using IT (e.g. no access to non-verbal clues)

This was completed with the new paragraph headed:

5.3 A Case handled by traditional means,

see pages 106 – 108.

c) Illustrate how IT may mean client conducts own research

This was completed with the new paragraph headed:

5.4 A case handled by a client alone

see pages 108 - 112

d) Another case study was added showing the more common instance, namely the combination of modern and traditional modes of investigations.

This was completed with the new paragraph headed:

5.5. A case handled by both traditional as well as modern means

see pages 112 – 114.

For each case study cross reference to work in Chapter 2 ensuring comprehension coverage of content discussed and possibly linking to UML.

This was done and in order to substantiate the case study 5.5 the author compile a new paragraph in Chapter 2 headed:

2.3.9 Provide documentation for an insurance claim,

see page 47.

This material should form a new chapter to be inserted before existing Chapter 7.

This was done by naming the new chapter as Chapter 5, see pages 103 – 115. Furthermore Chapter 7 was renamed Chapter 6, see pages 116 – 28, Chapter 8 to Chapter 7, see pages 129 – 139, and Chapter 9 to Chapter 8, see pages 140 – 169.

Last not least: All typographical corrections made as specified by the Examiners.

Miriam Ettisch-Enchelmaier