

Privacy from an individuals' point of view in German Speaking Countries: Assessments and Empirical Results

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Abstract: - The primary objective of this article is to give a general overview of privacy-related issues by presenting the legal background of privacy from a European point of view (EU Directive 95/45/EC of 1995, national data protection laws), a short theoretical framework of privacy with a brief historical overview and presentation of several privacy concepts, followed by first results of an empirical study focusing on ones self estimations due to 'felt' privacy in German speaking countries. The quantitative survey was conducted as online-questionnaire and is based on several qualitative interviews testing the comprehension and usability of the questions and possible answer categories.

Key-Words: - Data protection, 'felt' privacy, informational privacy, triangulation-based approach, german-speaking countries

1 Introduction

The right to privacy has become one of the most important ethical issues of the so-called information age [1][2]. There exist several phenomenological perspectives and also disciplines (law, economics, philosophy, sociology, psychology, political science etc.) dealing with this topic. Generally speaking, privacy can be summarized as a restriction of diffusion. In the nineteen-sixties Westin as one of the most famous privacy protagonists has defined privacy as "the claim of individual, groups or institutions to determine when, how, and to what extent information about them is communicated to others." [3]

In the last 10 to 15 years a new category of data came up, namely data as 'waste-product' of ICT-usage or data collection by using the Internet (monitored Internet behaviour of users). Another stream is built by systematically stored and evaluated data in the sense of data mining, e.g. based on a connection of different sources (e.g. data of customers, participants of lotteries etc.) – on the one hand by private persons for commercial purposes, on the other hand also more and more by public or semi-public institutions. Datasets can be seen as parts of a mosaic – and the combination of different parts has the potential to bring together a more or less complete picture of a person's attitude, behaviour, social contacts / networks and habits as well as information concerning financial data, health data, job-related data etc.

2 Privacy

2.2 Legal Background

Existing data protection laws in German-speaking countries are focussed on data protection in a 'directly' sense and mainly deal with data abuse. The genesis of this focus can be found in traditional data protection with the help of 'physical separation', e.g. protection of large-capacity computers, especially in the nineteen-seventy years. Later, as a result of upcoming computer penetration, decentralisation of ICT and the beginning of the Internet, this traditional approach of data protection had to be reconsidered. Nowadays, existing data protection law is focussed on a distinction of data collection, storage, transfer and also so-called sensible or non-sensible data. But: most data protection laws in European Countries do not differentiate between 'data storage' and 'data flow' [4].

Especially due to developments and applications in the field of Ubiquitous Computing and surveillance technology applications for employees (cameras, internet monitoring etc.), customers (e.g. Future Store Initiative of Metro) or citizens in general (e.g. via e-government tools), person's privacy has become more and more important while existing data protection laws are not able to cover upcoming 'individual privacy risks'.

The so-called EU Directive 95/46/EC of 1995 [5] regulates data protection issues on a European level and is the base for data protection laws in all European countries. For example: According to the EU Directive 95/46/EC it is not enough to simply announce and declare data collection. Additionally, article 6 of the

Directive requires data controllers to collect only as much information as necessary for the declared purpose (also called the proportionality principle or the principle of data minimization) while article 7 requires them to obtain the unambiguous consent of the data subject before the collection [6]. Looking at present technological possibilities like the way how data is automatically (ubiquitous) collected, processed and stored this claim seems to be unrealistic.

2.2 Theoretical Framework of Privacy

Beside privacy debates focussing on a differentiation between the 'private person' and the 'political person' in the antique (e.g. Aristoteles) and later on in the second half of the 18th century (Enlightenment), in 1890 the legal specialists Samuel Warren and Louis Brandeis [7] published "The Right to Privacy" and focused on privacy as one of the important human rights in the 19th century. They argued that "recent inventions and business methods call attention [...] for the protection of the person, and for securing to the individual [...] the right to be let alone." The 'right to be alone-concept' of Warren and Brandeis has been widely criticized to be too vague [8][9][10]. Additionally, there can be mentioned further broadly discussed concepts of privacy such as 'limited access to the self', 'privacy as secrecy', 'control of personal information', 'personality', 'privacy as intimacy' and 'privacy as cluster concept' [11].

Smith [12] defines personal information privacy as "the ability of the individual to personally control information about one-self." A potential weakness arises when privacy advocates confront medically, economically and/or politically more powerful competitors. Then, the balance has tilted away from fully satisfying privacy needs all too often [13].

In the major reviews of privacy in the 1970s, Westin's and Altman's theories became prominent [3][14]. Since that time, many researchers have discussed different kinds of privacy definitions [15][16][17][18][19][20] and tried to work on a composition of existing literature [21][22][23][11].

For DeCew [24] informational privacy includes personal information, e.g. medical history, personal lifestyle, finances, and academic achievement. In general, informational privacy defines the control of whether and how personal data can be gathered, stored, processed or selectively disseminated. It may be seen by a person as information not to be divulged and to be guarded by any recipients of that information. Another definition of informational privacy is supplied by Stone et al. [25] as "the ability of the individual to personally control information about one's self".

The protection of information privacy focuses on shielding individuals from intrusions and fears of threats of intrusions and also enables individuals to control the

decision 'who has access to the information and for what objectives'.

3 Empirical Study

2.1 Problem Formulation and Study Design

There are currently no existing empirical studies in German speaking countries focusing on ones self estimations due to felt privacy. Therefore, it was interesting to carry out a survey especially focussing on a target group of persons which could be considered familiar with privacy issues.

The questionnaire has been developed by following a triangulation-based approach. Therefore, the relevant questions have been developed after several qualitative interviews. The responding answer categories were selected regarding the outcome of those interviews too. The next step was the testing of the comprehension of the questions as well as the answer categories in a smaller quantitative test round.

The real survey itself was carried out using online-questionnaires which were secured by a TAN-code list to prevent double votes. The TAN-codes have been handed out to IT professionals, managers and academics during several visits on exhibitions and congresses in German speaking countries (mainly in 2007).

2.2 Study Results

The sample of 144 filled out questionnaires consists of 85% male and 15% female persons. Respondents are mainly Germans (76%) but also Austrians (16%) and Swiss (5%). So, one can assume, that this allocation of respondents approximately corresponds with a respective share of the population of Germany, Austria and Switzerland (German speaking parts). 30% of respondents are scientists (partially at the same time working as entrepreneurs) and 70% managers / professionals (mainly working in IT-related companies).

The respondents are mainly higher educated - approximately 82% got a university degree. The overall age distribution shows values of 22% of the respondents in the age of 21-30, 34% in the age of 31-40 and 29% between 41 and 50 years old (see figure 1).

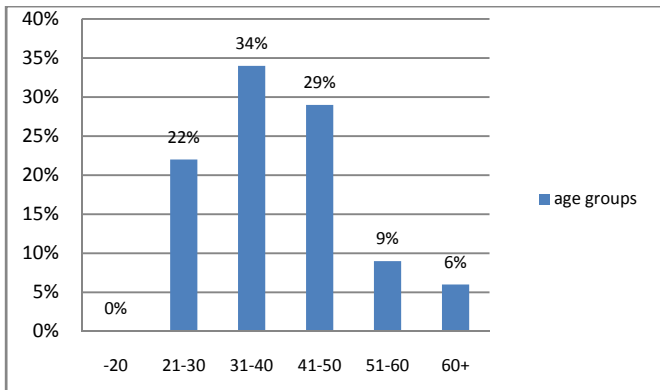


Fig. 1: Age distribution of respondents

Generally speaking, the respondents seem really confident with their privacy protection: 58% ‘strongly agree’ or ‘rather agree’ and 25% ‘rather disagree’ to the statement “I feel my privacy well enough protected.” (see figure 2)

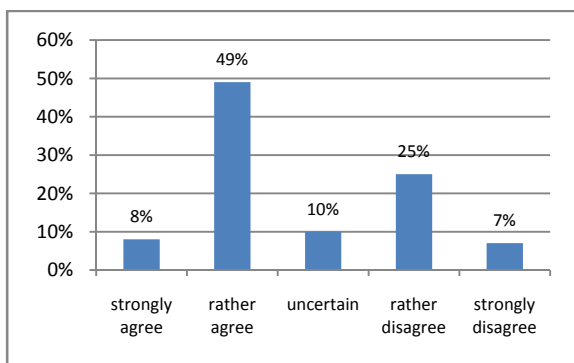


Fig. 2: 'Felt' privacy protection

The confidence levels show with a probability of 95% that 40.9% to 57.8% of the population would ‘rather agree’ to this question, and between 4.4% and 14.1% would ‘strongly agree’ (see table 1).

'felt' privacy protection	lower limit	estimate	upper limit
1 - strongly agree	4,4%	8,4%	14,1%
2 - rather agree	40,9%	49,3%	57,8%
3 - uncertain	5,9%	10,4%	16,6%
4 - rather disagree	18,2%	25%	32,9%
5 - strongly disagree	3,4%	6,9%	12,4%

Table 1: Confidence levels of 'felt' privacy protection

When asked for their knowledge due to data protection, it can be summarized that most of respondents appraise having ‘average’ (56%) or ‘superior’ knowledge about this matter (see table 2).

knowledge about data protection	frequency	cum. frequency	in %	cum. %
1 - none at all	0	0	0	0
2 - little knowledge	11	11	7,6	7,6
3 - average knowledge	56	67	38,9	46,5

4 - superior knowledge	61	128	42,4	88,9
5 - extensive knowledge	16	144	11,1	100
sum		144		100

Table 2: Estimated knowledge about data protection

We can assume with a probability of 95% that the population’s medians will be between 30.9% and 47.4% for the answer ‘average knowledge’ and between 34.2% and 50.9% for the answer ‘superior knowledge’ of data protection (see table 3).

knowledge about data protection	lower limit	estimate	upper limit
1 - none at all	0%	0%	0%
2 - little knowledge	3,9%	7,6%	13,3%
3 - average knowledge	30,9%	38,9%	47,4%
4 - superior knowledge	34,2%	42,4%	50,9%
5 - extensive knowledge	6,5%	11,1%	17,4%

Table 3: Confidence levels regarding knowledge about data protection

Questioning the importance of data protection in different domains (private, medical, job-related, financial, due to governmental organizations, related to ones political attitude) shows that data protection is a very important matter for the respondents in each of those domains: For 56% data protection in the private domain is ‘very important’, for 24% ‘rather important’. Concerning medical data for 66% of respondents data protection is ‘very important’ and for 22% ‘rather important’. Nearly the same results for financial data can be presented: 66% answer with ‘very important’ and 26% with ‘rather important’. Due to the job-related domain exists high importance of data protection for 54% of respondents and ‘rather importance’ for 35%. For the governmental domain (governmental institutions / public authorities) 54% of respondents estimate data protection as ‘very important’ and 30% as ‘rather important’. Merely concerning ones political attitude approximately 20% answered that data protection is rather unimportant - anyhow, for 43% data protection in this field is ‘very important’ and for 22% ‘important’. (see Fig. 3)

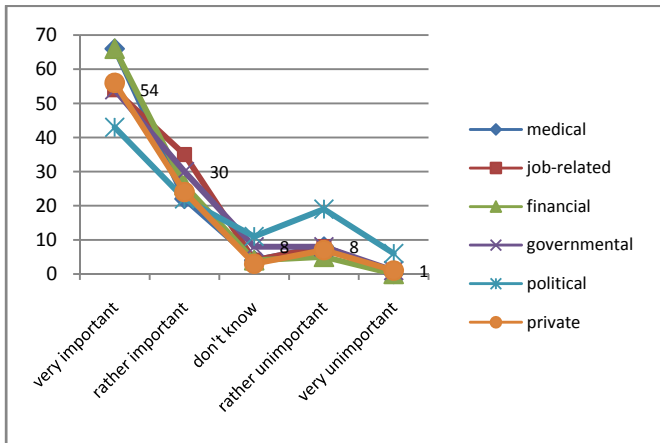


Fig. 3: Importance of Data protection at present

Comparing the attitude of the respondents due to the importance of data protection in the private domain now and in 10 years, there can be found a significant tendency: Data protection is already a very important matter at present - but in 10 years it is even more important for them (see figure 4).

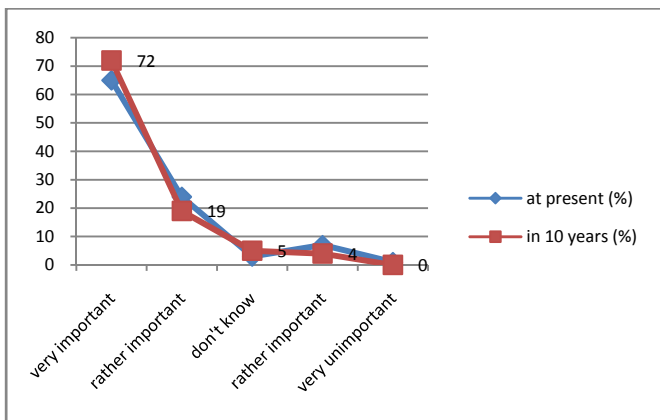


Fig. 4: Importance of data protection in private domain comparing attitudes at present and in 10 years

The results show the mentioned percentaged differences between the estimations of the importance of data protection in the private domain now and in 10 years with a positive correlation of $r=0.793$ within the sample (see table 4). At a significance level of $\alpha=0.01$ (Wilcoxon) we can assume with a high presumption (probability $p=2.117 \times 10^{-3}$) that these differences also exist in the sample's population.

Importance of data protection: private domain	at present	in 10 years
1 - very important	65%	72%
2 - rather important	24%	19%
3 - uncertain	3%	5%
4 - rather unimportant	7%	4%
5 - unimportant	1%	0%

Table 4: Importance of data protection at present and in 10 years

Comparable tendencies of the increasing importance of data protection within the next 10 years are visible in the context of medical activities (barely significant at a level of $\alpha=0.05$ and $p=0.046$), in relation to governmental organizations (significant at $\alpha=0.05$, $p=0.024$) and in the context of political attitudes (highly significant at $\alpha=0.01$, $p=2.932 \times 10^{-3}$).

In the financial data domain as well as the job-related data domain there are clear tendencies in the meaning of high importance of data protection for the respondents - but there are no expected significant increases of the importance within the next 10 years.

4 Conclusion

A primary objective of this article has been to give a general overview of privacy-related issues by presenting the legal background of privacy from a European point of view in a first step (with special relevance for German speaking countries) as well as to summarize a theoretical framework of privacy with relevant concepts and studies. Due to the background that there are currently no existing empirical studies in German speaking countries focusing on ones self estimations due to 'felt' privacy, the results of our study had been presented.

In addition to the above mentioned results, one interesting point is that especially those respondents whose jobs are related to data protection feel their privacy well enough protected and would agree to further surveillance (e.g. more cameras in public places) while they agree that the juridical situation cannot keep up with the actual state of affairs due to data protection and privacy. This and some other behavioural contradictions will be the topics of further testing.

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