

PRIVACY LITERACY: WHAT IS AND HOW IT CAN BE MEASURED?

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ABSTRACT: The increasing processing of the consumers' personal data in order to be later employed in a direct, personalized and interactive marketing approaches has intensified the discussion on how to address the consumer's private space without affecting his or her privacy. The paper proposes a new concept – the privacy literacy, meant to explain the consumers' attitude toward the processing of their personal data and to differentiate the direct marketing campaigns in terms of their success. An index of privacy literacy is determined based on the results of a survey conducted at the level of sample of Romanian consumers.

Keywords: privacy literacy, personal data, consumer's private space, direct marketing, Romania

JEL codes: M31

Introduction

Seen from a marketing perspective, the definition of privacy focuses on the personal data regarding the individual consumers and is strongly associated with them. Grant (2009) has concluded that the content of this personal data was still under debate, the need for identification and definition of this data remaining strong. Privacy has been defined as a claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others (Westin, 1968), or a claim, entitlement or right of an individual to determine what information may be communicated to others; the measure of control an individual has over information about himself, intimacies of personal identity, or who has sensory access to him; and a state or condition of limited access to a person, information about him, intimacies of personal identity (Jóri, 2007).

The privacy should be considered in connection with its particular area of application – the consumer's private space – described by the amount of demographics, psychographics, and behavioral information about the individuals, and the rights they have to disclose or not their personal data, and to have this data protected through the appropriate laws and means (Vegheș, 2009). Most of the consumers have realized that participating in direct marketing is a necessary part of being in a consumer society and are concerned about the unauthorized use or the misuse of their personal information, having a feeling that businesses know too much about their personal information (Pope and Lowen, 2009). The information age has made even more difficult not only the definition of privacy, but its defense in front of the many invading ways, based mainly on the

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internet employment (Pan and Zinkhan, 2006). Frauds, identity thefts and deceptive consumer surveys made consumers more discrete and sensitive to the need of protecting their privacy (Pitta, Franzak, and Laric, 2003).

The privacy literacy is a new concept proposed in order to assess and explain the consumers' attitude regarding the collection, processing and employment of their personal data. Based on these assessments, not only the ways consumers receive and respond to the marketing efforts of the organizations targeting consumers in a direct, personalized and interactive manner, but also the effectiveness of the direct marketing campaigns could be measured.

Methodological notes

The **scope** of the research approach, one of an exploratory nature, has been to define the privacy literacy and to obtain an empirical measure based on the primary information collected at the level of sample of Romanian consumers.

The overall **objective** of the research has been to assess whether the privacy literacy can be defined and measured taking into consideration a set of criteria regarding the ways consumers perceive the matters related to their personal data and privacy – the dimension of the personal data protection problem, the content of the personal data, acknowledgement of the rights associated to the personal data protection, the major risks associated to an inappropriate protection of the personal data, and the public institutions meant to provide the proper protection of this data – and using a set of primary data collected through a consumer survey.

In a rather general formulation, the corresponding research **hypothesis** stated that a measure of the privacy literacy may be determined through the quantification of each of the aspects mentioned above. No differences in terms of importance between the considered aspects have been considered in this exploratory approach: it has been supposed that each of them contributes to the same extent to the privacy literacy level of the investigated consumers.

Five **research variables** have been considered in the assessment of the privacy literacy:

- *the dimension of the personal data protection problem* (PL1), expressed by the weight of the respondents considering the protection of their personal data as being “very important”;
- *the content of the personal data* (PL2), expressed by the specific weights of the respondents considering their protection as necessary, for each of the 27 demographic, psychographic, identity, and relational data;
- *acknowledgement of the rights* associated to personal data protection (PL3), expressed by the right to be informed regarding all aspects of the data processing, to object to a processing of personal data, to refer to a court of law in defense of any rights guaranteed by law, to access the data processed by data controllers, to intervene upon data, and not to be subject of an individual decision adopted exclusively on a personal data processing;
- *the major risks* associated to an inappropriate protection of the personal data (PL4), expressed by the abuses of the private entities, abuses of the public entities, exposure of the private life, consumer frauds, and limitation of the private space;
- *the public institutions meant to provide the proper protection of this data* (PL5; nominated from a list including ten entities – the Association for Consumers' Protection, the Romanian Direct Marketing Association, the National Supervisory Authority for Personal Data Processing, the National Authority for Consumer's Protection, the Ombudsman, the Directorate for Persons Record and Database Management, the Open Society Foundation, the Group for Social Dialogue, the Government of Romania, and the Ministry of Administration and Interior).

Primary data regarding the consumers' perception of the privacy aspects have been collected in January 2012, at a level of a sample including 153 Romanian consumers living in Bucharest, aged 23 to 34, with higher education, and holding a professional status of full-time employees, freelancers, entrepreneurs, managers, and students.

For each of the **research variables**, an amount of points has been determined as it follows:

- in the case of the dimension of the personal data protection problem, the weight of the respondents considering the protection of their personal data “very important” has been transformed from percentages into points;
- in the case of the content of the personal data, the specific weights indicating, for each of the 27 demographic, psychographic, identity, and relational data, the necessity for protection have been aggregated (through a simple arithmetic mean) and transformed in an average amount of points;
- in the case of the acknowledgement of the rights associated to the personal data protection, the specific weights of each of the six rights have been aggregated (through a simple arithmetic mean) and transformed in an average amount of points;
- in the case of the major risks associated to an inappropriate protection of the personal data, the specific weights of each of the five risks have been aggregated (through a simple arithmetic mean) and transformed in an average amount of points, and, finally,
- in the case of the public institutions meant to provide the proper protection of this data, the weight of the respondents considering the National Supervisory Authority for Personal Data Processing as the most appropriate public entity to ensure the protection of the personal data has been transformed from percentages into points.

A total amount of points has been determined by adding the corresponding number of points determined for each of the research variables. The interpretation of this result has been done on a scale from a minimum value (that could tend to zero, but, definitely will not decline until reaching a null value) to the maximum one (of 500 points).

Main results

The results provided by the consumer survey conducted in January 2012 have allowed to obtained information on several aspects concerning the protection of the personal data and the consumers’ privacy. They portray an image of a market where the consumers are not so willing to disclose their personal, mostly the identity and relational, data and strive to maintain their anonymity and to restrict the access to the “relational ports”, in order to keep a safe distance from the different providers of goods and services and to defend their private space and privacy (Vegheş, Acatrinei and Dugulan, 2012).

Table no.1

The dimension of the personal data protection problem

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very important	112	73.2	73.2	73.2
Important	28	18.3	18.3	91.5
Average importance	10	6.5	6.5	98.0
Less important	1	0.7	0.7	98.7
Not important	2	1.3	1.3	100.0
Total	153	100.0	100.0	

The vast majority of the respondents (more than 90 %) consider the protection of their personal data an important or quite a very important issue, with a significant nucleus of almost three-quarters of them considering this problem as “very important”. The extremely low weight of the respondents assessing it as an issue of an average importance, less important or even not at all important suggest that consumers are seriously concerned about the ways their personal data is collected, processed, and later employed by the different organizations – companies and/or public

institutions – present on the market. The quantification of the dimension of the personal data protection problem leads to a score of PL1 = 73.2 points.

Table no.2.

Consumers' view on the content of the personal data requiring protection

Demographics	%	Psychographics	%	Identity	%	Relational	%
Gender	21.6	Political preferences	32.7	First and last name	63.4	Mailing address	71.2
Age	28.8	Religious options	30.7	Place of work	64.1	Phone number	66.0
Profession	45.8	Sexual orientations	34.0	Personal Id number	90.8	Cell phone number	85.0
Occupation	45.8	Visited websites	48.4	ID serial number	92.2	E-mail address	62.1
Education	20.9	Home access to goods	43.1	Electronic correspondence	62.1	Personal web address	32.7
Income	75.8	Home access to services	30.7	Health status	43.8		
Personal/ Family wealth	76.5	Hobbies & interests	15.7	Legal status	46.4		
				Biometrics data	65.4		

Not every personal data has a private character for the investigated consumers: the percentages of the respondents indicating what types of personal data should be protected vary significantly among the considered set of 27 variables, as seen in Table 2. The variables have been split in four types of data: demographic (7 variables), psychographic (7 variables), identity (8 variables), and relational data (5 variables). By far, the identity and relational data have obtained a higher average percentage of cases (66.03%, respectively 63.4%) than the demographic (45.03%) and psychographic ones (33.61%).

A combination of identity, relational data, and demographics (mentioned by at least three-quarters of the respondents), such as the serial number of the identification documents, the personal identification number, the cell phone number, the personal and/or family wealth, the personal income, and the mailing address form the *primary area of the respondents' private space*. 35.22% of the responses have considered that these variables are the most wanted ones to be protected, so it could be considered that this area contains *highly important information* about and for the consumers (Figure 1).

A set of identity and relational data (mentioned by at least a half and up to three-quarters of the respondents) – biometrics, the place of work, first and last names, the content of the electronic correspondence, the phone number, and the e-mail address represent a *second area of the consumer's private space*. There were 27.45% of responses that confirmed the need to protect the above information, reason for which this area is considered to comprehend *important information* for the consumers.

As the results of the research show, a *third area of the respondents' private space* is formed by a combination of demographic, psychographic and identity data - the profession and occupation, the websites they visit the most, the home access to goods, their legal and health status (mentioned by almost half of the respondents).

Other psychographic data, such as the sexual orientation, the political preferences of the respondents, their religious options and their choice to have home access to services, together with the personal web address and the age, are not considered to be so private by most of the respondents. Only 13,58% of the responses included these variables, reason for which this area can be considered to encompass *not important information* about and for the consumers.

Hobbies and other interests, the education and the gender are information upon which the respondents would require the least protection - there were mentioned in 4.17% of the responses, which leads to the conclusion that these are the *least important information* for the consumers.

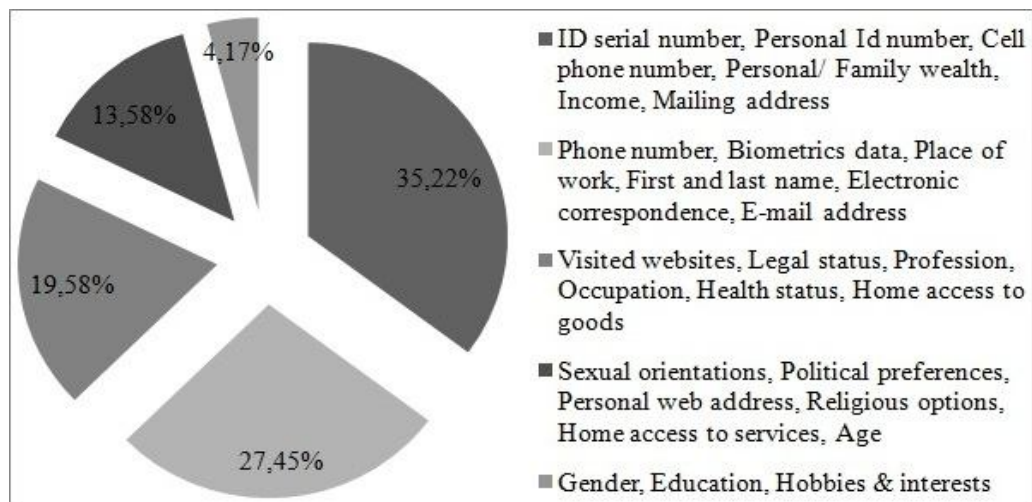


Figure no. 1 - The five areas of protection for the consumer's private information

The quantification of the consumers' views on their personal data that should be protected leads to the following average points: demographic data – 45.03; psychographic data – 33.61; identity data – 66.03; relational data – 63.40; the overall average amount of points is LP2 = 52.02.

Table no. 3:

Knowledge of the rights regarding the personal data protection

	Count	Percentage of responses	Percentage of cases
The right of access the data ...	118	17.3	77.1
The right to be informed...	145	21.2	94.8
The right of intervention upon data...	105	15.4	68.6
The right to not be subject...	62	9.1	40.5
The right to refer to a court of law...	125	18.3	81.7
The right to object...	129	18.9	84.3
Total responses	684	100.0	447.1

The right to be informed about the identity of the data controller, the purpose of the data processing, the recipients of the data, whether the requested information is compulsory (and the consequences of the refusal to provide it), the existence of the data subject's rights, or any aspect requested by the supervisory authority, and the intention to disclose the data to a third party is the most important right acknowledged by the respondents.

The right to object, based on justified and legitimate reasons (or even without any justification in the case of overt marketing purposes), to a processing of personal data, the right to refer to a court of law in defense of any rights guaranteed by the Law No. 677/2001 on the

Protection of Individuals with Regard to the Processing of Personal Data and the Free Movement of Such Data, and the right to access the data collected and/or processed by the data controller, represent other rights acknowledged by the respondents.

Less important have appeared the rights of intervention upon data (by rectification, updating, blocking or deletion, transforming into anonymous data, and notification to the third parties to whom data were disclosed) and to not be subject of an individual decision adopted exclusively on a personal data processing basis (carried out through automatic means and aiming to evaluate personality aspects, such as professional competence, credibility, behavior or any other similar aspects). The quantification of the acknowledged rights regarding the personal data protection has led to an average amount of points $LP3 = 74.5$.

Table no. 4.

Major risks associated with an inappropriate personal data protection

Major risks	Count	Percentage of responses	Percentage of cases
Abuses of the private entities	138	26.2	90.2
Abuses of the public entities	92	17.5	60.1
Exposure of the private life	100	19.0	65.4
Consumer frauds	127	24.1	83.0
Limitation of the private space	69	13.1	45.1
Total responses	526	100.0	343.8

Abuses of the private entities and the frauds to be suffered as consumers have been the major risks associated by the majority of respondents with an inappropriate personal data protection. An important part of the respondents have also identified the exposure of their private life, as well as the potential abuses of the public entities as significant risks of an inadequate protection of their personal data. The consumers tend to fear the consequences of the improper collection and processing of their personal data, particularly those including a financial component (consumer frauds or, presumably, the abuses of the private entities). The quantification of the major risks associated with an inappropriate protection of the personal data has led to an average amount of points $LP4 = 68.7$.

Table no. 5

Public institutions considered appropriate to manage all the aspects concerning the personal data protection

Public institutions	Count	Percentage of responses	Percentage of cases
The Association for Consumers' Protection	88	22.2	57.5
The Romanian Direct Marketing Association	24	6.0	15.7
The National Supervisory Authority for Personal Data Processing	112	28.2	73.2
The National Authority for Consumer's Protection	72	18.1	47.1
The Ombudsman	14	3.5	9.2
The Directorate for Persons Record and Database Management	33	8.3	21.6
The Open Society Foundation	4	1.0	2.6
The Group for Social Dialogue	2	0.5	1.3

The Government of Romania	15	3.8	9.8
The Ministry of Administration and Interior	32	8.1	20.9
None of the above	1	0.3	0.7
Total responses	526	100.0	343.8

The identification of the appropriate public institution in terms of the management of all the aspects concerning the personal data protection has aimed to determine the awareness of the dedicated public entity – The National Supervisory Authority for Personal Data Processing (NSAPDP) and to assess the consistency of this awareness by providing respondents a list of ten public institutions (including NSAPDP) potentially involved in activities related to the protection of the consumers’ personal data. The majority of the respondents have relatively easy identified the NSAPDP as the most appropriate public institution to manage all the aspects concerning the protection of the personal data. A potentially significant amount of the NSAPDP’s awareness could be the result of the way the specific data have been collected (consumers have recognized the most appropriate public institution from the provided list). As about the consistency of this result, only the Association for Consumers’ Protection and the National Authority for Consumer Protection have been indicated by around a half of the respondents as being appropriate institutions to conduct activities meant to protect the consumers’ personal data. An important part of these answers may be explained by the presence of the words “protection” and “consumer” in the names of the previously mentioned public entities. The quantification of the recognition of the appropriate public institution for the protection of the consumers’ personal data has lead to an amount of points $LP5 = 73.2$.

Conclusions

The total amount of points expressing the privacy literacy of the investigated consumers is 341.02 (while the average amount is 68.32) suggesting a relatively high level of literacy (a relatively high concern for personal data protection, a significant weight of the personal data that deserve to be protected, a good acknowledgement of the rights related to the personal data protection, as well as of the risks associated with an inappropriate protection, and a relatively good awareness of the public institution defending the consumers’ private space). Definitely, this result should be seen in the context of the extremely simple methodology employed to measure the literacy: increasing its degree of complexity (research variables, assessment of their importance, measurement tools) should be the main concern of the future research approach in this field.

Since in this research we have considered only 5 variables for the relational data, it would be important for the future researches to include here the accounts the respondents have in social networks, the blogs they might have and their IDs in instant messaging applications.

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