



Multilayer Information Obligation, and Why We Need It

Maksymilian M. Kuźmicz

Stockholm University

maksymilian.kuzmicz@juridicum.su.se

Abstract

Information obligation is a key element of consumer protection, particularly in the context of innovative products. This is especially important when it comes to assistive technologies (AT) for senior citizens and people with disabilities. Being informed about the functioning of the system, potential risks, but also one's rights is crucial for building trust in technologies. Information obligation in its current form is often criticised as ineffective. An introduction of multilayer information obligation (MIO) may be an innovative and promising improvement.

This paper aims to present the concept of MIO and identify the benefits of that solution. Firstly, three main problems with information obligation in its current form are acknowledged. Secondly, MIO is presented as a solution to all these problems. The key idea of a proposed mechanism is to introduce three layers of information obligations, each more detailed than the previous one. The content, form, and extension of the obligation of each layer are discussed. Thirdly, the paper examines the main benefits and risks of MIO. Finally, the possible implementation, either through legal requirements or voluntary standards adopted by the industry, is discussed.

Keywords

Information obligation, consumer protection, technological acceptance, data protection.

Introduction

Information obligation is a key element of consumer protection, particularly in the context of innovative products. It helps to mitigate the negative effects of an informational imbalance between sellers and consumers and contributes to the increased social acceptance of products (Kuźmicz, 261-262). This is especially important when it comes to assistive technologies (AT) for senior citizens and people with disabilities. AT help users deal with everyday activities, and often process their data. Being informed about the functioning of the system, potential risks, but also one's rights is crucial for building trust in technologies (Guner and Acaturk, 311. Davis, 320). Information obligation in its current form is often criticised as ineffective. An introduction of multilayer information obligation (MIO) may be an innovative and promising improvement.

This paper aims to present the concept of MIO and identify the benefits of that solution. Firstly, three main problems with information obligation in its current form will be acknowledged. Secondly, MIO will be presented as a solution to all these problems. The key idea of a proposed solution is to introduce three layers of information obligations, each more detailed than the previous one. The content, form, and extension of the obligation of each layer will be discussed. Thirdly, the paper examines the main benefits and risks of the proposed solution. Finally, I will address the question of implementation: either through legal requirements or through voluntary standards adopted by the industry. It is important to notice that this paper is written primarily from the legal perspective, arguing for regulatory measures, evaluating their effectiveness and highlighting potential consequences for all stakeholders, with a special focus on the protection of the fundamental rights of users. Social and technical aspects are identified

and acknowledged as vital, but discussing them in detail will not be feasible, and goes beyond my scientific competencies.

This research does not deal with any particular AT but is more general. There is a plethora of AT systems that differ from each other significantly. These differences may be addressed in further, more detailed studies. In this paper, I follow the definition of AT and assistive products by WHO's Global Cooperation on Assistive Technology (GATE). More advanced AT that employ AI, video or audio are more challenging, also in the context of information obligation (Smith). Therefore, this study is mostly focused on them.

Discussion

Critique of Information Obligation in its Current Shape

Information obligation is a valuable tool for consumer protection, but its existing form is not effective enough (Kuźmicz 266-267). Multiple authors acknowledge various shortcomings of how information obligation is shaped now (Apan and Miff. Sharma. Wikström. Janssen). There are three most recurring and impactful problems that lower the efficiency of information obligation:

1. Users' rational ignorance.
2. Ineffective form of informational documents.
3. The tension between simplicity and comprehensiveness of information.

Rational ignorance means that people tend to ignore information when the expected cost of reading them (time and effort) is too high when compared with the potential benefit (Paredes). It happens often with informational documents. They are rich in diverse types of information and detailed, provide more data than consumer expects and can read. As a result, users are overwhelmed by the amount of delivered information (Bowler and Nicholson, 381). Potential

users of AT, especially people with disabilities and senior citizens, may feel overwhelmed with information which can negatively impact their acceptance of AT (Ziefle et al, 590).

The forms of information documents are not effective. Studies show that informational documents are often too lengthy, use professional jargon that is not clear to most people, and lack clear structure and layout (London Economics and Ipsos. OECD. Klepper et al.). For senior citizens and people with disabilities, the size and font of letters, spacing, and colour of the background may create an additional challenge. Moreover, because of differences in the form of informational documents of similar products, consumers struggle to compare products. In other words, because of that specific form, information obligation does not achieve its purpose.

There is a tension between simplicity and comprehensiveness that are both expected from informational documents (London Economics and Ipsos. Van Dyck, 78. Colaert, 231). On the one hand, the theory of economics and the law require that consumers receive comprehensive information, which is a wish of many consumers too (Grundman et al. Beales et al). On the other hand, people want simple information that does not require professional knowledge to be understood (Guner and Acaturk). In that spirit, many European documents relevant to AT require providing information in an accessible way (GDPR, Article 12(1), 31(2). AI Act, Article 13 (2)).

All three presented problems can be potentially solved by introducing a more effective form of informational documents. It directly answers the second problem but can contribute also to lowering the tension between simplicity and comprehensiveness, and limiting the overflow of information for users.

Multilayer Information Obligation

A General Idea

MIO aims to solve the aforementioned problems by introducing three layers of information obligations, each more detailed than the previous one:

1. Layer 1 (L1) – key features of the product, i.e. privacy intrusiveness, use of AI.
2. Layer 2 (L2) – performance information, i.e., where data is processed, use of profiling.
3. Layer 3 (L3) – detailed description of the product, i.e., applied AI techniques, applied Privacy Enhancing Technologies (PET).

Providers of AT are obliged to provide various information. Some of them are common for all products, but some are specific for medical devices, products employing AI, or solutions processing personal data. This information differs in its specificity and level of detail. Some of them are very general, i.e., that AT process data related to the health condition of the user. Delivered information may have a different value for users. This value may depend on personal preferences. Some information is perceived as key ones in the context of similar systems. MIO proposed in this paper is focused on advanced AT that applies various sensors, including cameras, and technologies which may be classified as AI.

The first layer of MIO would provide consumers with the most general information about the key features of the product. For AT, these key features may be the level of privacy intrusiveness, use of AI, or transfer of personal data to a third party or abroad. Such general information may be presented in the form of a graphic or numeric label, i.e., privacy intrusiveness could be expressed in a form of an open, half-open, or closed eye, or an eye in various colours, from green (non-intrusive) to red (strongly-intrusive), or by privacy intrusiveness index on the scale 1-10. That would allow consumers to pre-screen products, and

reject options that have some unacceptable features, e.g., high privacy intrusion. A graphic form may be a challenge for visually impaired people, therefore numeric labels shall be favoured. However, the number of AT allowing visually impaired people to read graphics is constantly increasing (Ramôa, 185-186).

Information on L2 should be system performance information. This means information about what data is used (location, health-related, biometric, performance etc.), if profiling is employed, where data is processed (locally, on the provider's servers, in the cloud) etc. This information is more detailed and should allow consumers to understand how the product works. L2 information should be presented in a simple form: tables or "yes" or "no" questions, e.g., "Profiling – yes/no. Data processed on the device – yes/no).

The last level of information obligation would contain a detailed description of the product. L3 information describes the applied technologies (AI techniques, security mechanisms, PET) and logic of the system, and should allow consumers to understand the workings of the system. Layer 3 may be further divided into two subgroups: regular, and professional. The regular informational document would be targeted at non-professionals, people with average knowledge. Such a document shall be written in narrative form, including examples (brief scenarios), and avoid jargon. The professional informational document should be more detailed, and inform users about the applied technical solutions, but without details that could put at risk the know-how of the provider.

Content and Form

The exact content and form of information of each layer should be determined based on studies. There is a lack of behavioural research on the perception of information in the context of AT, but also processing personal data or AI solutions. Regarding what information should be

delivered on which level, it is crucial to find what are the expectations of users. Presumably, privacy-intrusiveness and application of AI may be L1 information for most users (Mittelstadt, 163). Measurement of the key features of AT is another challenge. Over eighty different privacy metrics have been proposed by scholars, and the discussion on how to evaluate or merge them is ongoing (Wang et al. Wagner and Eckhoff,). This paper does not aim to solve that problem. The proper measurement, taking into account fundamental rights law, cultural and social context, and philosophical reflections, should be prepared in the course of interdisciplinary research, and tested empirically (Martin and Nissenbaum).

Similarly, the form of presentation of information at each layer should be determined in detail following behavioural research. Some preliminary ideas may be taken from the research on information obligation in the financial sector. Wild-scale research conducted for EU institutions after the financial crisis of 2008 reveals people's preference for graphical forms, numerical scales, tables, and narrative language (Lusardi et al, 301). Therefore, these forms are suggested for information obligation for L1 and L2. Consumers point out the aforementioned forms as the easiest to comprehend and stated that they skip many parts of the text but almost always "read" graphic or numeric labels (London Economics and Ipsos). An informational document of L3 may have a form of a text. It should not be too long, at least in its regular version, as users tend to lose focus after a few lines if they know that the document is long (OECD). Crucially, the forms of informational documents on each layer should be harmonised to enhance the comparability of products. A clear structure, similar to various products, makes information easier to be processed and used by consumers (Klapper et al).

Delivery of Information

Providers of AT should be obliged to provide consumers with L1 and L2 information, while L3 information should be delivered at the consumer's request. Otherwise, consumers could be overwhelmed with information even more than they are now, as they would receive information in three various forms (Parades. London Economics and Ipsos). On a practical level, for products with a physical component, L1 and L2 information may be presented on the box of the device, and for L3 on the website of the provider. For software solutions, L1 and L2 information can be provided in a form of a pop-up window or a bar on the website, while level 3 information upon clicking a link.

There is a potential problem with the proposed difference in the delivery of information. Providers of AT may be legally required to provide some information. In the EU, in case of a dispute whether the information was delivered is on the provider of AT (*Orange România SA v ANSPDCP. Szpunar*). It is not clear whether a QR code on the box or link on the website would be considered by the Court of Justice of the European Union (CJEU) as sufficient measures to fulfil the information obligation. Van Calster notices, that “if click-wrapping makes it possible to print and save the text of those terms and conditions before the conclusion of the contract, then it can be considered a communication by electronic means which provides a durable record of the agreement” (122). In *El Majdoub v CarsOnTheWeb*, CJEU rejected the claim that a pop-up window is required to fulfil information obligation in the context of a normal sale contract. However, in the context of data protection or information on medical devices, which many AT are, CJEU may adopt a different position. If it does so in its future judgements, all mandatory information will have to be moved to L1 or L2.

Main Benefits and Risks

Multilayer information obligation would be beneficial in many ways. Firstly, consumers would receive more transparent and understandable information, due to the employed forms. That is especially essential for users of AT who are facing additional challenges. Secondly, consumers would be immediately informed about the key features of the product (L1 information), with a guarantee of access to more detailed information. Thirdly, harmonisation of the form in which information obligation is performed shall make it easier for consumers to compare products. As a result, senior citizens and people with disabilities may choose a technological solution that fits best their needs. Finally, the standardisation of information documents will allow companies to fulfil their information obligation more effectively (Kuźmicz, 265).

The proposed solution is not free of risk. Multiple layers of information obligation may increase compliance costs (Enriques and Gilotta, 539). However, harmonisation and simplification of forms should bring compliance costs down in the long run. The other risk is that providers will try to manipulate data about the features of their products to fit in a better category, especially when it comes to L1 and L2 information, and in consequence present AT as more attractive. That risk cannot be completely avoided but can be mitigated by careful design of the forms. The construction of the forms, and especially of graphic labels, is a big challenge. It requires carefully choosing the key features of AT, but also proposing scale and measurement criteria. For that reason, it is of utmost importance that the legislature works closely with interdisciplinary research teams, and with organisations of civil society.

Way of Implementation of the Multilayer Information Obligation

Implementation of the idea of MIO is a challenge on its own. One of the main questions is whether it should happen through new regulations or voluntarily adopted standards. The advantages and disadvantages of each in different contexts have been thoroughly discussed by scholars. (Lipson. Abbott and Snidal 2000, 2004. Koremenos et al. Trubek et al). It is worth noticing that the implementation of MIO should not need new legislation. A text form of the informational document is rather a custom of AT providers than a legal requirement. Many legal acts do not prohibit graphic or numeric labels but even explicitly allow them. For example, in the EU data protection law, recital 60 to GDPR explicitly states that the required by law information “may be provided in combination with standardised icons to give in an easily visible, intelligible and clearly legible manner, a meaningful overview”.

In the ideal scenario, MIO should be introduced primarily through the voluntarily adopted standards (soft law). Cooperation between providers of AT and scientists can produce effective solutions, introduced in the form of guidelines, codes of best practices, or technical standards. There are at least three potential benefits of this method of implementation that should be pointed out. First, research show that voluntarily adopted methods are more successful in achieving ambitious goals (Skjærseth et al, 118. de Hert and Papakonstantinoua, 10-11). Second, soft law mechanisms provide greater flexibility and tend to pay more attention to the recommendations of scientists (Skjærseth et al, 118-119. Schaffer and Pollack, 7-8). Third, if AT providers adopt MIO on their own, they can see it as their commitment, and not as an additional burden. The history of the Nutri-Score label can be an inspirational example of a science-based, non-mandatory graphic information system (Julia et al).

However, soft law instruments may be insufficient. AT providers may not be convinced to implement a system that in a brief time will generate additional costs. What is even more fundamental, MIO's goal is to provide people with disabilities and senior citizens with more accessible information, and by that support them in using AT. Legal regulations significantly enhance the capacity for enforcement (Abbott and Snidal 2000, 427). Shaffer and Pollack notice, that it increases the credibility of rules (6). This is crucial in the context of AT. Users must know that they are provided with adequate, sufficient information, allowing them to make an informed choice (Sitnik). Therefore, the legislature shall consider drafting a law introducing MIO.

Conclusions

Reflections on the concept of MIO show that this idea has the potential to help consumers, including users of AT, by providing them with information. This information would not differ much in terms of content from the current informational documents, but would be more understandable, easier to process, and will be harmonised within similar products. MIO can benefit both providers and users, and establish a new standard in information documents. Current information imbalance results in an imbalance of power and lower acceptance of technology, which stops many people from using AT. Multilayer information obligation may change it and allow more people to benefit from technological innovations.

However, there are still many issues that require further research:

1. There is a need for behavioural, sociological, and legal studies to decide what information should be delivered on each layer.
2. Multidisciplinary research should formulate appropriate measurements of key features of AT, propose new forms for the informational documents, and test them empirically.

3. Key concepts used in the discussion over AT must be operationalised so they can be used at L1 as features of systems. Terms like privacy, security, and data protection, should be defined synthetically, taking into consideration legal, social, philosophical, technological, and economic contributions. At the same time, these definitions should recognise some gradation or spectrum that would be used at L1 and L2.

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