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Office of Competition and Consumer Protection

White Paper

Advancing Consumer Law Enforcement with Artificial Intelligence

Insights from the Polish Office of Competition and Consumer Protection (UOKiK)

Warsaw, 8th May 2024

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I. Introduction.

In today's rapidly evolving technological world, artificial intelligence (AI) is gaining importance in many sectors, from medicine and finance to retail. In this dynamic context, consumer protection faces new challenges and opportunities. Consumer protection authorities not only need to keep up with changing commercial practices but also **embrace new tools** and systems, such as those powered by AI, to more effectively detect, analyse, and counteract breaches of the law.

Artificial intelligence, defined as systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals[1], offers **new perspectives** for consumer protection bodies. Thanks to their ability to process and analyse vast amounts of data quickly, AI systems can assist in identifying dark patterns, unfair marketing, and other practices harmful to consumers, thereby increasing the effectiveness and efficiency of agency interventions.

However, the application of AI within the area of consumer protection brings **challenges**, such as concerns about privacy, ethics, and accountability for decisions made by algorithms.

The White Paper aims to present **how AI can be used by consumer protection authorities** to assist in their actions. The document outlines how a system that supports the authority's work can be implemented and what potential difficulties may arise in such a process. Prospective applications of AI for consumer protection in the public interest are also discussed.

The issues described in the White Paper are based, in particular, on the experiences of the **Polish Office of Competition and Consumer Protection (UOKiK)** in creating and implementing an AI-based tool for controlling standard contract terms. Case handlers in the consumer protection departments share their insights from analysing UOKiK's needs to improve work processes, select areas for potential AI applications, and design and implement a specific tool.

The document covers the key issues of **integrating AI into the consumer protection authority's daily operations.** It can serve as a valuable guide for UOKiK's counterparts interested in adopting new technologies to enhance law enforcement.

Given that the debate on the technological, organisational, legal, and ethical aspects of using AI systems by public authorities is ongoing, this White Paper may be regarded as a contribution to the discussion and an **invitation to collaborate** with UOKiK to explore these issues further.

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1   Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, Artificial Intelligence for Europe, COM(2018) 237 final.

II. The challenges facing modern consumer protection authorities and the corresponding role of AI.

The primary role and mission of national consumer protection authorities is to **safeguard consumer interests**, particularly against harmful commercial practices. This entails identifying deceptive commercial practices that could harm a broader group of non-professional purchasers of goods and services. Addressing such practices typically involves ordering businesses to cease these practices and is typically accompanied by significant fines.

The current approach of enforcement bodies largely focuses on monitoring the market and responding to emerging threats. **A reactive approach** is frequently observed among public agencies as they wait for signals from affected parties or other sources to take action. The reason behind this approach mainly lies in the **limited human and financial resources** of the authorities, forcing them to prioritise cases that need investigation. These resource limitations significantly affect the overall effectiveness of agencies, particularily their planning and targeting actions. Although authorities also explore specific market problems regardless of consumer complaints, additional resources devoted to these tasks would certainly be welcome. As the experience shows, significant resources can be tied up in **time-consuming tasks** such as in-depth analyses of lengthy legal texts (e.g. terms and conditions) or monitoring recurring practices.

These challenges can be exploited by dishonest traders whose practices might not be discernible to consumers or reported swiftly enough to alert authorities. Consequently, solutions allowing consumer protection agencies to show greater initiative are very much called for. A more effective monitoring of market trends and **risks**, particularly through automated means, would empower authorities to prevent emerging threats and respond faster .

In the **globalised and digitalised markets**, a significant increase in fraudulent practices, deceptive marketing techniques, and scams during online shopping has been observed in recent years.
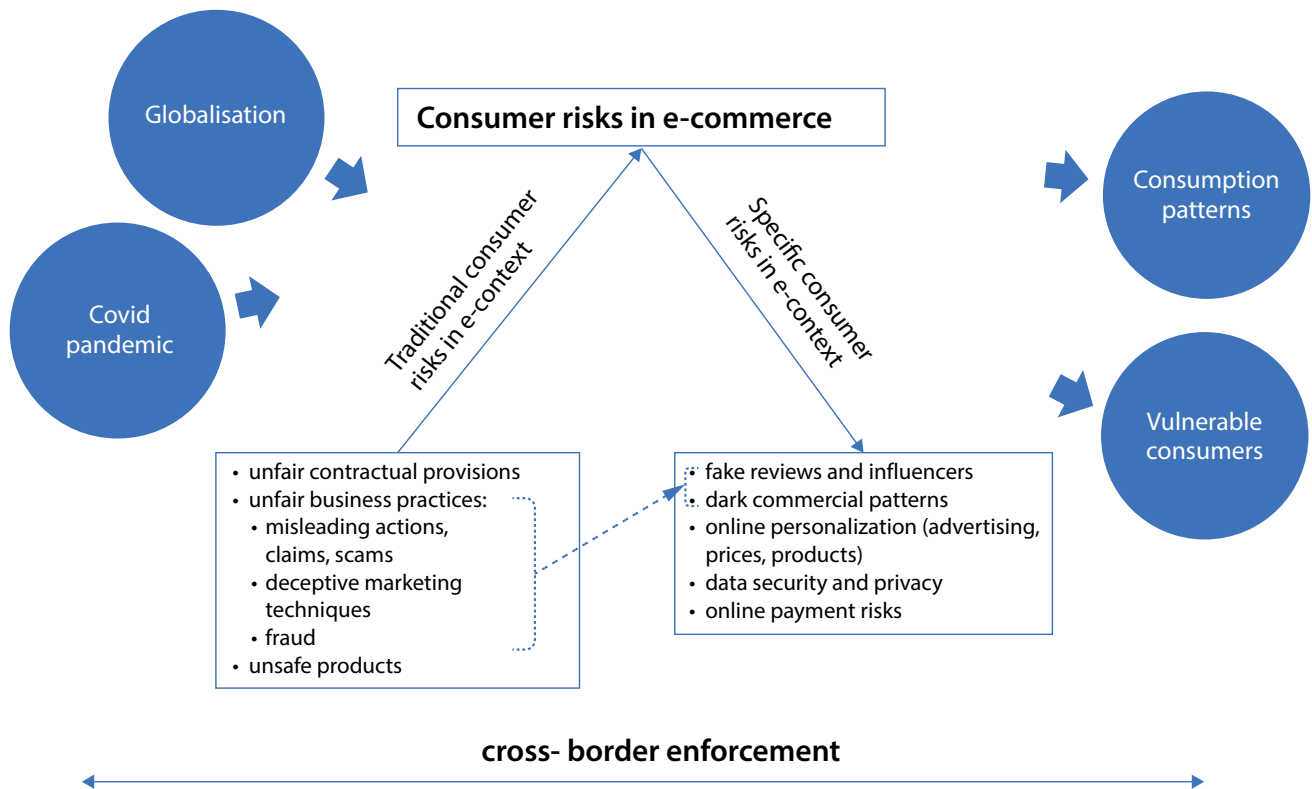
Own work, UOKiK

In this context, the European Commission proposes using **innovative electronic tools** to strengthen public authorities' ability to enforce consumer law. The New Consumer Agenda presented the vision of the European Union's consumer policy for 2020-2025, focusing on five priority areas: ecological transformation, digital transformation, effective enforcement of consumer rights, specific needs of certain consumer groups, and international cooperation[2]. A similar direction has been advocated in academia.[3]

Introducing solutions based on **AI** could be transformative in these areas, potentially leading to a shift towards a more proactive approach by administrative bodies. **Repetitive or bulk tasks**, which are time-consuming and tedious for humans, can increasingly be taken over by AI systems to increase the efficiency of agencies' work. Examples of such tasks in consumer protection agencies include:

- aggregation of **consumer complaints**, their classification by topic, importance, and urgency,

- preparation and sending of **preliminary responses** with standardised informational content,

- organisation of **incoming correspondence** and its registration,

- **allocation of complaints** to a department or an employee in charge,

- preparation of **draft responses** to consumer complaints.

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2   Communication from the Commission to the European Parliament and the Council, New Consumer Agenda. Strengthening consumer resilience for sustainable recovery, COM(2020) 696 final.

3   Marco Lippi et al., 'The Force Awakens: Artificial Intelligence for Consumer Law' (2020) 67 Journal of Artificial Intelligence Research 169.

AI-based tools can moreover participate in tasks that, on the one hand, are **crucial for consumer protection bodies** and, on the other hand, are challenging to execute effectively with human labour alone. Particularly in the context of the business models and practices that are novel for agencies, the use of new technologies may be of significant assistance. UOKiK has identified the following areas where AI can be effectively used to protect consumers:

- detecting **prohibited clauses**: analysing contracts to identify prohibited clauses, effectively using databases of clauses and court decisions,

- identifying **financial pyramid schemes**,

- recognising **dark patterns**: detecting dark patterns on websites using AI, utilising AI tools to monitor and analyse online consumer interfaces,

- using AI to detect and counteract **deceptive practices rooted in new technologies** that mislead or discriminate consumers.

Furthermore, where the law mandates the disclosure of specific information (such as the business's name, address, and contact details; instructions on the right to withdraw from the contract within the statutory period; and details of credit costs, loan amounts, payment deadlines, and service prices), an AI system can **identify the missing data**. In addition, innovative solutions could be used to prepare a draft official decision on the matter (for example, an order to disclose relevant information). Systems capable of generating administrative decisions in straightforward cases could be integrated with software that manages the electronic dispatch of the correspondence in jurisdictions that currently permit or will permit this approach in the future.

In summary, it is the task of a modern consumer authority to look for the areas in which work automation could improve law enforcement. The benefits of implementing modern solutions are clear: relieving case handlers from the most burdensome, repetitive tasks and allowing them to focus on matters that need human input and give more satisfaction. Moreover, automating analyses or data management can not only streamline these processes but also contribute to a faster reaction to infrigements. However, the development and implementation of novel solutions require ample expertise and careful analysis of related hazards. The relevant experiences of the Polish consumer protection agency are discussed hereafter.

III. UOKiK's AI-based tool ARBUZ: characteristics and development.

The White Paper was inspired by the experiences of UOKiK - the Polish consumer protection agency. In particular, the authority takes action against violations of or threats to the interests of a broader group of non-professional market participants (the **collective interest of consumers**).

This section outlines the project in which UOKiK developed an **AI-powered tool for unfair terms control**. The case study may be helpful for public authorities considering introducing similar modern solutions.

The entire process was carried out in 2020-2022 as part of a project co-financed by the EU[4].

The conceptual and preparatory phase

In the first phase, a project team was formed. The goal of this stage was to study AI technologies and they possible use, and **examine** UOKiK's **needs**.

Subsequently, the analyses' results were **confronted with existing data resources** and those that could be created with specific human and technological inputs.

After considering UOKiK's needs, the available databases and other resources, as well as the available technologies, a decision was reached to create an AI-powered tool that could be implemented in the area of standard contract terms control and serve as an **intelligent assistant** for employees verifying the legality of contractual provisions. The task of the AI-based system was to perform a preliminary analysis of documents and to **identify provisions in standard contract terms that might be prohibited** (abusive), meaning they defined the rights and obligations of consumers in a manner contrary to good morals and grossly violating their interests. The **recommendations** generated by the algorithm would then be **verified by a case handler**, who would make the final decision on deeming a clause abusive. The feasibility of developing a similar system has been confirmed in the previous research.[5]

Procurement and development of an AI-powered system

Following the conceptual phase, the project moved to the **design and implementation stages**. Due to the lack of highly specialised knowledge in machine learning within UOKiK, **the implementation of the AI system was outsourced**, while the entire **training database for the tool was prepared by UOKiK employees**. This approach prevented the high costs of acquir-

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4   Project No 899954 — AIFCP — CONS-CPC-2019/CONS-CPC-2019 ('Artificial Intelligence for Consumer Protection Empowerment') https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/org-details/949814883/project/899954/program/31061273/details

5   Marco Lippi et al., 'CLAUDETTE: An Automated Detector of Potentially Unfair Clauses in Online Terms of Service' (2019) 27 Artificial Intelligence and Law 117. See also: Daniel Braun and Florian Matthes, 'NLP for Consumer Protection: Battling Illegal Clauses in German Terms and Conditions in Online Shopping' (2021) Proceedings of the 1st Workshop on NLP for Positive Impact.

ing and employing qualified AI engineers permanently while ensuring the task's execution at the highest level.

To design the envisaged AI-based tool, UOKiK collaborated with the government unit Gov-Tech Poland, which coordinated key digitalisation projects in Poland. Using the GovTech platform[6], an **open competition** was organised for entities in the machine learning industry to find innovative and effective solutions in consumer protection. A sample of the potential contractors' work (**proof of concept**) was evaluated, not just their documented experience or resources, allowing the participation of SMEs, start-ups, and research centres. The competition consisted of two stages, in which **anonymised work samples** were assessed by a judging panel composed of UOKiK experts and external data science specialists. The authors of the five best solutions presented in the first stage received financial awards and an invitation to the next stage when the winner was selected. In collaboration with UOKiK experts, **the winner developed an AI-based tool** that was tested and implemented in the Office's daily operations.

The **development** of the AI system took about **12 months** (from February 2020 to January 2023) and was conducted using the **Scrum methodology**[7]. Unlike the traditional (waterfall) approach, which involves an extended pre-implementation analysis and the development of extensive project documentation, the agile approach is based on flexibility and adapting solutions to needs. Applying agile project management allowed for ongoing analysis of the progress of tasks planned for execution in two-week cycles, thus minimising the risk of not achieving the project goals.

The AI system developed in this process was named **ARBUZ**, due to its phonetic similarity in Polish to the English 'abuse'.

In addition to external data science and machine learning experts, **over 50 UOKiK employees** actively participated in the project. The UOKiK project **team received training in** essential **machine learning** and Natural Language Processing (**NLP**) techniques, as well as **agile project management** methods to implement the AI initiative effectively. Preparing the entire organisation for implementing an AI-based system also required a series of meetings and training sessions for **case handlers** and future local system **administrators**.

The system has been operating in UOKiK as a formal tool supporting experts' work **since 1 January 2023**.

Overview of the ARBUZ system

The system's fundamental principle is to assess the **semantic similarity** between fragments
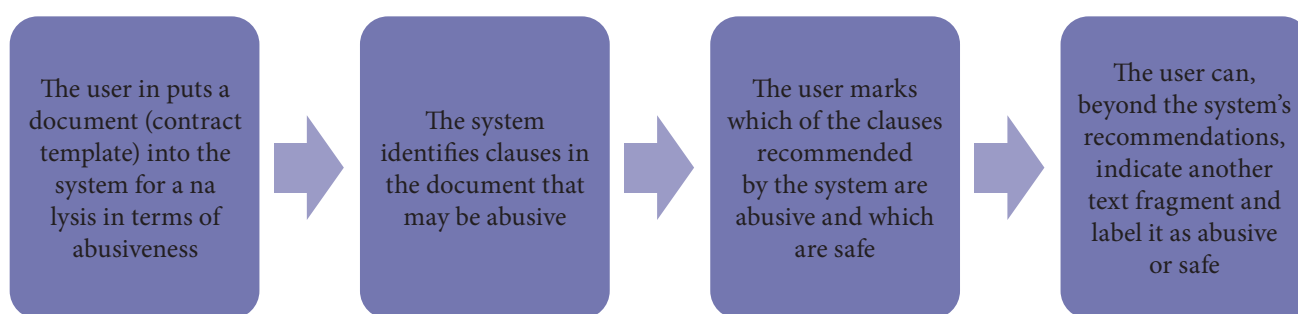
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6   https://konkursy.govtech.gov.pl/

7   Scrum is an iterative and incremental framework for managing the production process in accordance with the Scrum Guide. It can be applied in the execution of production processes based on agile methodologies consistent with the Agile Manifesto. (source: Wikipedia)

of the contract under examination and clauses previously identified by UOKiK as abusive or safe (non-abusive). The designated system underwent training utilising a structured database, which was meticulously compiled by UOKiK employees. The training database contained **annotated (tagged) excerpts** from court rulings, decisions by the President of UOKiK, and so-called 'soft calls' that the latter issued to entrepreneurs, urging them to stop using prohibited contract terms voluntarily.

The ARBUZ system continuously analyses standard contract terms and identifies sections as potentially abusive using verified clauses from the database. As the tool is based on **supervised machine learning**, the analysed standard contract terms also automatically **update the original database**.

The basic workflow in the system is as follows:

| The user in puts a document (contract template) into the system for a na lysis in terms of abusiveness | → | The system identifies clauses in the document that may be abusive | → | The user marks which of the clauses recommended by the system are abusive and which are safe | → | The user can, beyond the system's recommendations, indicate another text fragment and label it as abusive or safe |

Based on the *Technical Instructions for Users of the ARBUZ System, National Information Processing Institute - National Research Institute, 2022*

ARBUZ is equipped with a **web crawler**, which allows users to search any specified website and download standard contract terms for analysis. This requires the application of AI since the system must recognise whether a document on a website qualifies as a pre-formulated contract (e.g. terms of service, general contract conditions).

The system not only detects clauses potentially classified as abusive but also **evaluates the probability** (on a scale of 0 to 100 percent) that a particular clause is prohibited. Additionally, it supplies a **rationale** for the potential abusiveness by referencing similar abusive clauses archived in the database.

After a user identifies a clause as abusive, the system can **automatically generate a request** for the business to cease using the prohibited provision voluntarily. This request is accompanied by a comprehensive **statement of reasons**, drawing on rationales from court rulings and UOKiK decisions in similar cases.

A **manual** on using the AI tool and **internal guidelines** on using the ARBUZ system in UOKiK was prepared.

The AI tool is being developed and **trained on new data** that is continuously introduced into the system. This will allow the system to further increase the **efficiency** of contract pattern analysis and achieve higher effectiveness in detecting abusive clauses in the future. An essential aspect of applying modern **deep learning solutions** (transformative neural networks) to detect prohibited provisions is the model's adaptability to other languages.

To fully adapt ARBUZ for **multilingual use**, several steps are neccessary:

a.) localising the user interface, which is currently oriented only toward Polish,

b.) developing new crawling mechanisms to accommodate languages beyond Polish,

c.) creating classifiers for recognising standard contract terms in additional languages (a crucial element for crawler functionality) and

d.) constructing and assembling databases of clauses in a broader range of languages.

IV. Recommendations for enforcement authorities developing and deploying AI.

Ensuring the effectiveness of the implementation process for developing and deploying an AI-based tool necessitates fulfilling a series of prerequisites. The execution of this task is influenced by **organisational factors**, such as the characteristics and structure of the organisation, along with the availability of **internal and external resources**. Furthermore, **legal and ethical considerations** must also be addressed. Before deploying AI-based tools within an organisation, it is essential to assess the available human and material resources - encompassing financial assets and infrastructure - as well as data access. The **quality, quantity, and structure of** this **data** are critical factors.

Costs

Initiatives related to the use of new technologies, although they can provide long-term benefits, including cost reduction and more efficient resource utilisation, are **relatively costly** during the development and implementation phase. Costs should not be understood solely as prices associated with **new technologies**. It should also encompass all other accompanying costs, e.g. of integrating the new tool with existing systems, **training employees**, and **operating** such a tool after implementation, e.g. bearing potential consequences if **irregularities** occur. Therefore, in the pre-project analysis, it is worthwhile to explore available **funding sources**, such as national and European funds, and the possibilities for **partnership** with other institutions and stakeholders for knowledge exchange and potential sharing of results. Particularly important from the perspective of know-how exchange are European-level ini-

tiatives, such as **eLab**, which provide a platform for digital tool development available to all EU Member States[8]. Collaboration and co-funding the AI project with external funds can be a significant factor in driving innovation in the public sector.

Human resources

A critical phase in the deployment of a new AI tool is the formation of a project team. This team should be composed of employees who possess the necessary **skills**, primarily in **computer science and data analysis**, as well as in managing the organisation's **substantive matters** (especially lawyers). Additionally, expertise in human resources and financial matters is essential.

To this end, building a team based on a **matrix structure is recommended**, where members of specialised departments work together as part of a project team. Such a solution offers flexibility and efficient allocation of resources. It also supports **open communication** within the organisation and increases the responsiveness of the team. UOKiK's experience validates its effectiveness.

The team must have the proper environment to genuinely implement the tool in the organisation. This involves ensuring **funding**, delegating employees to allocate part of their **work time** to project-related tasks, and providing other necessary **resources**, e.g. premises, computer equipment, authorisation for external contacts.

Creating an innovative, advanced IT tool is only possible with an adequately developed team of **IT and data science specialists**. This may call for building a team with external stakeholders, as was the case with the UOKiK. **Cooperation with external partners**, in turn, entails the implementation of procedures related to public funds' spending.

Proper training selection will enhance the project team's competencies in areas the organisation has not previously dealt with. Training should cover the **management** of the organisation and employees who will use the new tools in the future. It would be beneficial to familiarise employees with **general issues related to AI and machine learning** and, during the tool's implementation phase, with the details of its application, development possibilities, and limitations, such as the possibility of errors, the need for supervision, and efficiency improvement as the tool is actively used.

Ensuring that users understand the principles of the tool helps to make it more accessible to them and to implement the change in the institution more efficiently.

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8   EU eLab is a digital toolbox to conduct on-line investigations for national consumer authorities addressing or preventing mass-scale breaches to EU consumer law by traders marketing and selling on the Internet, as well as safety concerns of the products using advanced or emerging technologies.

Material resources

Essential internal resources also comprise material resources, understood as the equipment used to operate the new tool during the design phase and after implementation. Examining the current state and assessing existing resources' potential usefulness and innovative application possibilities will help determine the need to acquire external resources at later stages, such as **data storage devices, servers, and network devices**, to name a few.

Data

Another aspect to consider is the **availability and correctness of training and input data**. An authority planning to implement AI-based systems should ensure that it would yield the most tangible results relevant to the organisation's needs and check whether it has the appropriate data to achieve the intended goal.

The next step is the proper preparation of the available data to ensure the best results, mainly to minimise the number of errors. The first essential condition is to provide the AI model with **adequate data**. No specified minimum quantity would ensure the tool's effective operation. More advanced models are emerging over time, and some can function with only a clear understanding of the principles and minimal input data. Specialists must determine the data requirements depending on the specific project needs.

Equally important, the data provided should be of **high quality and correct**, i.e. free of errors and inconsistencies. It should be **checked** by designated staff or another AI tool (if the agency has one) to minimise the risk of false or incorrect results. The data should be **complete**, as **comprehensive** as possible and appropriately **structured** to provide the tool with the fullest picture of the problem. Ensuring high-quality data will help eliminate potential issues arising from data shortages at stages (e.g. dividing data into phrases - keywords, descriptive data). Such data should also be **diverse**, providing the broadest and most comprehensive information base possible.

The **data structure** should be meticulously organised, with clear explanations of how individual elements reference other input data. This approach enhances the AI tool's ability to ‚understand' complex contexts, such as the legal environment. A practical method to facilitate this organisation could involve using a **designed form that simplifies data entry** into the tool's database.

A crucial aspect of developing an AI system is its reliance on current data. Given the dynamic nature of the legal environment, the system must be designed to allow for **continuous updates**, especially modifications to data input at earlier stages. The use of input data for AI tools **stored in the cloud** must be considered. It is necessary to evaluate whether such data are adequately secured, reliable, and resistant to external manipulation.

From UOKiK's experience, **consolidating all data** within a specific field ensures that the authority's expertise is accurately reflected in the tool. For the development of the ARBUZ system, a database was employed that defines prohibited contractual clauses, along with a list of clauses that could be considered abusive under certain conditions.

Subsequently, the data was complemented by a collection of **example clauses deemed prohibited**, with concise justifications based on the jurisprudence. Additionally, the tool was furnished with **examples of correct clauses** free from prohibited elements, facilitating proper model training. Such examples can serve as training patterns for consumer protection authorities addressing irregularities. Thus, the learning process of the AI system can be grounded in databases documenting both established improper behaviours and unproblematic practices.

Securing a sufficient quantity of high-quality data represents one of the significant challenges faced by consumer protection authorities.

Proper functioning of an AI-powered system (security of infrastructure and data, consistency, compatibility)

Consumer protection authorities face technological challenges in providing **hardware** infrastructure, managing the **security** of the created systems, and **ensuring integrity** between newly implemented solutions and those previously used. An essential element of the implementation process is ensuring the security of the new infrastructure against external factors, such as **cyberattacks**, and internal ones, such as **possible system failures and errors** in the presented results. Securing the technology of internally created systems, including AI tools, is an issue, as using such tools should entail supervising and controlling the delivered results to filter out emerging errors and functional or substantive irregularities. Employees working with the system should be able **to correct erroneous AI recommendations** continuously. At the same time, supervisors should **oversee employees' decisions,** at least during the initial learning phase of the model.

It is also crucial to ensure the technical **compatibility and interoperability** of newly implemented systems with existing ones. This enhances the functioning of the entire technological background, particularly in terms of database management and human operation of these systems.

Legal and ethical considerations

The implementation and functioning of an AI-based system must proceed in a manner that considers legal and ethical standards, including compliance with the law, principles, and ethical values, as well as robustness from a technical and social perspective[9].

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9   See: High-Level Expert Group on Artificial Intelligence, 'Ethics guidelines for trustworthy artificial intelligence', April 8, 2019.

Legal compliance should be considered not only during the AI-based tool's development phase but also during its operation and use.

An important consideration concerns the limitations of AI in terms of its **reliability to impact the decision-making process**[10]. Adhering to respecting human autonomy, preventing harm, as well as ensuring justice and accountability (the ability to explain) is necessary. Therefore, the **leading and supervisory roles of humans** are crucial. At this stage of development, an **AI tool should have limited autonomy** in the decision-making process related to third-party rights and should always be under human control. The outcomes of its actions should be verified by a person with the appropriate professional knowledge in the respective field. Although it is possible that with the progress of AI systems, models that involve lower legal and ethical risks will be developed, such considerations should always be central, particularly for public agencies.

However, in every case, it is necessary to consider issues such as:

- proper **aggregation of datasets**,

- **responsibility for handling** personal **data**, trade secrets and other confidential information,

- **oversight and accountability** for AI results,

- **consequences of accepting AI results as reliable** and forming the basis for market intervention,

- active **observation** and **correction** of the results of AI models' analyses.

Correct and reliable results will help consumer protection authorities ensure **consistency** in administrative judgments while maintaining **flexibility to adapt tools** to changing factual, legal and ethical standards (e.g. by being able to modify its parameters or database). However, **the influence of individuals** on the tool's operation must be **transparent** and **accountable**.

Furthermore, the "White Paper on Artificial Intelligence - A European Approach to Excellence and Trust"[11] emphasises the need to ensure that results are **reproducible**. Artificial intelligence systems can adequately deal with errors or inconsistencies throughout their entire lifecycle. Still, they must **resist overt attacks** and more subtle data or algorithm **manipulation**. These conditions can be incorporated, for example, by defining a **procedure for systematic conflict resolution**, i.e., when two or more system users make different decisions about the system's recommendations - one rejects them, and the other accepts them.

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10   Michael J. Ahn and Yu Che Chen, 'Digital Transformation Toward AI-Augmented Public Administration: The Perception of Government Employees and the Willingness to Use AI in Government' (2022) 39 Government Information Quarterly 101664.

11   White Paper on Artificial Intelligence - A European Approach to Excellence and Trust, COM(2020) 65 final.

Important issues to consider cover **ownership, copyright, rights trading**, the possibility of further **sharing a tool, disclosing its operating principles (code), protecting trade secrets, and making modifications**. The potential application of **open-source software** can also help achieve long-term operational security and usability of the program. Such considerations, encompassing risks such as the **unknown origin** of the open-source code and **lack of full control** over its creation and development, should be accounted for early in the process.

In the context of legal challenges that may arise while constructing and acquiring a new AI-backed tool, it is necessary to consider the **public procurement system**. Public administration entities seek to avoid procurement risks and are less flexible in the procurement processes than in the private sector. Risk minimisation is achievable to a certain degree by specifying **requirements for external entities**. These prerequisites should pertain to the size of the team and to the appropriate **competencies that can be verified**. It must be borne in mind that adhering to the public procurement law typically prolongs both the decision-making process and the project's overall completion.

V. Further directions in AI development and deployment: an outlook.

From a long-term perspective, implementing an AI system in the consumer protection area will pose **challenges and opportunities** that are unknown today. Consumer protection organisations must prepare for continuous technological progress and changes in commercial practices. This necessitates a lasting investment in training and IT infrastructure, as well as developing **internal specialised knowledge** or creating **long-term partnerships** with technology providers.

UOKiK actively collaborates with the National Information Processing Institute - National Research Institute to enhance its technological support for ongoing projects. This partnership facilitates the integration of advanced technologies and expert knowledge, ensuring that UOKiK remains at the forefront of regulatory compliance and consumer protection. The goal is to build flexible frameworks in the organisation that can adapt and evolve with advances in AI, ensuring that consumer protection remains effective and responsive to new challenges.

Building and maintaining AI capabilities is an ongoing process that entails long-term monitoring of the benefits of its application. In the foreseeable future, AI systems will replace some employees in certain tasks but will also **need constant supervision** to improve their effectiveness. The development of AI tools should be accompanied by regularly updated **training programs for employees**, covering the current operation of new systems and their development and supervision possibilities. Employees must be aware of the mechanisms driving the tools and, apart from using their advantages, maintain a critical view of the results of their work

to avoid adopting decisions based on biased and erroneous recommendations or overlooking significant new issues[12]. Authorities should invest in workshops, seminars, and joint learning opportunities to support responsible and sensible use of AI.

Future AI systems will have to deal with increasingly complex and varied datasets. This means developing **algorithms to understand subtle consumer behaviours and market trends** and predict potential market abuses. AI tools should evolve from reactive systems that detect anomalies based on past experiences to more **proactive systems** that can **anticipate and prevent unfair commercial practices**. This shift will neccessitate a more profound integration of AI with big data analysis, necessitating continuous improvements in data processing and algorithm sophistication.

Within a few years, numerous agencies will employ AI systems to meet the demand for a technological approach to enforcing consumer law. Since more and more processes, **such as** consumer profiling, individualised selection of offers and advertising content, creating texts and images, customer service chats, automated insurance and credit decision-making, are based on AI models, **effective oversight should also be based on the same mechanisms**.[13] As consumer markets continue to evolve, especially with the emergence of new digital platforms and online consumer behaviours, consumer protection authorities must be well-prepared to respond to these changes. This includes tracking emerging trends in digital markets, understanding new forms of digital fraud, and **proactively adjusting AI tools and policies** to these realities.

Consumer protection agencies will benefit from **collaboration, sharing best practices, and sharing information about failures** to avoid repeating costly and time-consuming steps that do not yield the expected results. In this aspect, various forums such as ICPEN, UNCTAD, and OECD are valuable platforms that enable dialogue, experimentation and learning between countries.[14] The long-term success of AI in consumer protection depends on global cooperation and pooling resources and knowledge that provide efficiency gains for agencies with limited resources. UOKiK and other agencies that have already engaged in the practical implementation of AI can play a crucial role in creating international networks to standardise AI applications in consumer protection.

Ensuring control and supervision of the AI tool will be of great importance for consumer protection authorities in terms of the legal accountability of user agencies. Agencies are responsible for errors in the AI's results that go undetected by administrative officials. This will be crucial from the perspective of building public trust, as the supervisory role is an integral

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12 See: Federal Trade Commission Report to Congress, Combatting Online Harms Through Innovation, p. 38 et seq, available at: www.ftc.gov/system/files/ftc_gov/pdf/Combatting Online Harms Through Innovation%3B Federal Trade Commission Report to Congress.pdf.

13 Lippi et al. (n 4).

14 Christine Riefa and Liz Coll, 'The Transformative Potential of Enforcement Technology (EnfTech) in Consumer Law', final report 2024, p. 74.

part of public administration. Because the autonomous decision-making activity of an AI-based system can result in legal liability for the consumer protection agency, its scope must comply with legal regulations, such as those related to administrative procedures, the right to defence, and non-discrimination. Implementing AI-based solutions might require a model of direct supervision and control where human approval is necessary for each significant activity AI performs. In the near future, agencies should continue viewing AI tools primarily as assistants, ensuring that all **critical decisions are vetted and endorsed by a human supervisor** before being finalised.

Nevertheless, consumer protection authorities must prepare for AI's **increasingly autonomous role** and define the scope of controlling each model's proper operation. Understanding AI can pose a significant challenge for humans; hence, caution is recommended in this regard.

As AI becomes increasingly integrated into consumer protection, the ethical implications of its use will become more complex. Public bodies must ensure that AI applications comply with legal norms, social values, and consumer rights. This includes developing and updating **guidelines on the use of AI** in regulatory contexts, promoting **transparency, fairness,** and **accountability** in AI implementation, and engaging in **public discussion** about the ethical aspects of AI in consumer protection.

In terms of legal challenges, attention should primarily be paid to the **insufficiency of current legal regulations** regarding civil and criminal liability for potential effects caused by the operation of AI, as well as problems occurring in the field of copyright or insufficient protection of personal data by AI. These issues are substantial for the proper operation of AI-based tools within a consumer agency. At every stage, compliance of the introduced solutions with the provisions of the applicable law concerning all aspects of implementation and use of such tools should be ensured. The principles of liability for its operation and the results achieved should also be determined.