SHOULD WE BE AFRAID OF AI-BASED MANIPULATION? CONSUMER PROTECTION IN THE SHADOW OF ARTIFICIAL INTELLIGENCE

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Abstract: Artificial intelligence (hereinafter referred to as AI) tools by no means share uniform characteristics, yet their classification and grouping are not only important from a theoretical perspective. In the case of AI systems based on autonomous decision-making, the significance of potential risks, data protection and ethical issues increases exponentially.
It can be taken as evidence that, due to the informational asymmetry between consumers and businesses, consumers require protection. The *caveat emptor* principle, derived from Roman law and placing the focus on consumer responsibility, has not been applicable for a long time. The Hungarian consumer protection authorities – in line with the practice of the Court of Justice of the European Union – place focus on rational, reasonably-acting consumers. However, consumers with these attributes are not tasked with uncovering or investigating the truthfulness of the information conveyed to them – in advertisements. The aim of the study is to examine how the use of AI may transform businesses' commercial practices and whether its application may pose a potentially greater risk to consumers. Moreover, must consumers of the modern era simultaneously acquire new knowledge in order to meet the requirements imposed on average consumers?

Keywords: artificial intelligence, advertisements, consumer protection, average consumer, digital skills

Introduction

Artificial intelligence is gradually permeating our everyday lives, and discourse about AI has more or less become an everyday topic. As with every (technical) novelty, a dual approach can be observed here as well: on the one hand heightened expectations, and on the other heightened fears. As researchers, it is important that we distinguish between (often unrealistic) expectations and reality, so that we may arrive at a true assessment.
The study analyses the Hungarian situation regarding the use of artificial intelligence by businesses, primarily by taking stock of the findings of a market analysis issued by

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the Hungarian Competition Authority (hereinafter referred to as HCA) in October 2024.[2] By definition3, market analysis is an appropriate tool for exploring the characteristic processes of a market segment. This is complemented by research into relevant findings in the fields of law and economics. Although the Hungarian Competition Authority was almost the first in our region to undertake a market analysis examining the effects of artificial intelligence on market competition and consumers, the situation may undoubtedly change from day to day. The study therefore represents a snapshot in time.

The next step is to examine the impact of the results on consumers and to assess the soundness of the previously[4] postulated consumer model. When drawing the boundaries of responsibility, it is important to see what requirements the authorities with consumer protection powers impose on consumers.[5] What "should" today's consumers know? Digital skills are indispensable; lacking these makes the enforcement of consumer rights impossible, or the business side using AI-based tools may be held responsible if consumer deception occurs through the use of an artificial

[2] Examination of the effects of artificial intelligence on market competition and consumers. A study prepared as a result of the Hungarian Competition Authority's market analysis No. AL/234/2024. https://www.gvh.hu/pfile/file?path=/dontesek/agazati_vizsgalatok_piacelemzesek/piacelemzesek/mesterseges-intelligencia_piacelemzes_tanulmany_2024_10_21&inline=true. (accessed Sept. 26,2025).

[3] Pursuant to the provisions of Section 43/C of Act LVII of 1996 on the Prohibition of Unfair and Restrictive Market Practices (hereinafter: Competition Act), in order to perform its statutory tasks more efficiently and effectively, the HCA may carry out market analysis, within the framework of which, through public information and data collection based on voluntary responses, it surveys and analyses the functioning of individual markets, market processes and the development of market trends, as well as certain market practices, and their effects on competition and on business partners, in particular on end business partners.

[4] For the historical changes of the postulated consumer model in detail, see: FEKETE, Orsolya: A felügyeleti szervek tevékenysége Magyarországon a fogyasztóvédelem egyes területein – kitekintéssel a rendszerszintű problémák megoldási lehetőségeire. (The activities of supervisory bodies in Hungary in some areas of consumer protection – with an outlook on the possibilities solving the systemic level problems.) PhD dissertation. University of Szeged (SZTE), Doctoral School of Law, 300 p.
https://doktori.bibl.u-szeged.hu/id/eprint/733/1/ÉRTEKEZÉS_Fekete_Orsolya.pdf (accessed Sept. 26,2025).

[5] It is important to note that there are numerous authorities in Hungary with consumer protection powers (Hungarian Competition Authority, National Authority for Trade and Consumer Protection, National Media and Infocommunications Authority, etc.), yet taking into account only the results of the competition authority does not amount to a marginal outcome, because the competition authority examines commercial practices capable of materially influencing economic competition. In assessing whether an unfair commercial practice is capable of materially influencing competition, under Section 11 of Act XLVII of 2008 on the Prohibition of Unfair Commercial Practices against Consumers, factors such as the extent of the commercial practice applied or the size (net turnover) of the undertaking responsible for the infringement may be relevant.

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intelligence tool. In this regard, the starting point is the mature practices of the Court of Justice of the European Union and the Hungarian consumer protection authorities, which are optimized for the offline world, but we must compare these to the challenges we currently face (the difficulties of acquiring digital skills, the effects of the nudge phenomenon, and the consequences of the AI black box effect). In the conclusion of the study, we evaluate the consequences of the approach chosen by the authorities in relation to the Hungarian context.

Possibilities of the classification of artificial intelligence

As a starting point, I would like to discuss approaches to the concept of artificial intelligence. Although the relationship between machine and human, and the possibility of a "human-like" machine, has been a topic of discussion and research since the now well-known Turing test in the 1950s[6], the rich literature on the subject makes it clear that authors still apply differing approaches today. Scherer's 2016 observation – namely that there does not appear to be any widely accepted definition of AI even among experts in the field – has not changed in substance. In connection with the problem of defining AI, Scherer points out that within the concept of artificial intelligence, it is "intelligence" that is problematic, because we regard it as a human factor and tie it to human characteristics.[7] McCarthy, who coined the term, points out in his 2007 publication at Stanford University that relating artificial intelligence to human intelligence is necessary until we can determine which computational procedures we wish to call intelligent.[8]

The basis for classification may include, among other things, the strength of artificial intelligence, the degree of autonomy, the training mechanism, its form of appearance (physical, virtual), the mode of content creation (generative, non-generative), and its function (data processing, automation, communication, image recognition, content generation).[9]

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[6] TURING, Alan Mathison: Computing Machinery and Intelligence. In: Mind, New Series, vol. 59, no. 236, Oct (1950), p. 433–460.

[7] "*The difficulty in defining artificial intelligence lies not in the concept of artificiality but rather in the conceptual ambiguity of intelligence. Because humans are the only entities that are universally recognized (at least among humans) as possessing intelligence, it is hardly surprising that definitions of intelligence tend to be tied to human characteristics*." SCHERER, Matthew U.: Regulating artificial intelligence systems: risks, challenges, competencies, and strategies. In: Harvard Journal of Law &Technology, vol. 29, no. 2 Spring (2016), p. 359.

[8] MCCARTHY, John: What is artificial intelligence? 12 November 2007, p. 2-3. https://www-formal.stanford.edu/jmc/whatisai.pdf (accessed Sept. 26,2025).

[9] Examination of the effects of artificial intelligence on market competition and consumers. A study prepared as a result of the Hungarian Competition Authority's market analysis No. AL/234/2024. https://www.gvh.hu/pfile/file?path=/dontesek/agazati_vizsgalatok_piacelemzesek/piacelemzesek/m

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One of the most important aspects is the strength of AI. The so-called weak AI operates in a way similar to humans, to the human brain; however, due to its greater processing capacity and speed, it performs work more efficiently than humans. In this case, therefore, it is "only" a matter of increased efficiency, as opposed to strong AI, which, by virtue of its cognitive abilities, is capable of independently solving previously unknown problems. Based on the method of application and implementation, we distinguish machine learning systems or expert systems. The large language models that are dominant today form one subfield of machine learning systems.

In agreement with the Competition Authority's finding[10], it should be emphasised that the classification and grouping of AI is significant not only from the perspective of theoretical scholars and theory, but also has important practical relevance. The lower the degree of human intervention and, in parallel, the higher the degree of autonomy of the AI system, the more the significance of potential risks – including those affecting the user-consumer side – as well as data protection and ethical issues increases exponentially.[11]

Some elements of the regulation of artificial intelligence in the European Union and Hungary

It seems to me that, in relation to the regulation of artificial intelligence, two main lines of argument are at odds with each other: economic considerations, including competitiveness, on the one hand, and, on the other, the consideration of and focus on ethical aspects. This can be clearly traced by exploring the historical elements of European Union regulation.[12]

esterseges-intelligencia_piacelemzes_tanulmany_2024_10_21&inline=true. p. 19-24. (accessed Sept. 26,2025).

[10] Examination of the effects of artificial intelligence on market competition and consumers. A study prepared as a result of the Hungarian Competition Authority's market analysis No. AL/234/2024. https://www.gvh.hu/pfile/file?path=/dontesek/agazati_vizsgalatok_piacelemzesek/piacelemzesek/mesterseges-intelligencia_piacelemzes_tanulmany_2024_10_21&inline=true. p.25. (accessed Sept. 26,2025).

[11] For the exploration of potential data protection risks and issues arising in connection with the use of AI, see: PATYI András – POLLÁK, Kitti – FEKETE, Orsolya: A mesterséges intelligencia alkalmazásának egyes adatvédelmi kihívásai a közigazgatási hatósági eljárásokban. (Certain data protection challenges of applying artificial intelligence in administrative procedures.) In: Jog-Állam-Politika, no.2. (2025), p. 7-20. https://doi.org/10.58528/JAP.2025.17-2.7 (accessed Sept. 26,2025).

[12] See: PATYI, András – POLLÁK, Kitti – FEKETE, Orsolya: The application of artificial intelligence: basic questions and dilemmas with a particular regard to administrative procedures. https://dspace.uniba.sk/bitstream/handle/123456789/225/BPF_2024_pdv.pdf?sequence=3&isAllowed=y#page=68 (accessed Sept. 26,2025).

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It should be emphasised that the initial stated objective for the European Union was to preserve and improve the EU's competitiveness, as is evident from the communication entitled *Artificial intelligence for Europe*.[13] At the same time as the document published in 2018, a high-level expert group (*AI HLEG, High Level Expert Group*) was also established, among whose multifaceted activities (in addition to specific policy recommendations, the examination of issues of trustworthiness and ethics), the ethical guidelines should be highlighted for the purposes of the topic now under examination. The triple requirement set for artificial intelligence – lawfulness, ethicality, and stability from technical and societal perspectives – has to this day formed a solid foundation for EU developments.[14]

2024 can be regarded as a milestone and also as time of the strengthening of the economic perspective, since the European Parliament – as first in the world – adopted a comprehensive artificial intelligence regulation on 13 March 2024, which has largely also entered into force[15]. However, after laying down the already clarified foundations (among which the technology-neutral approach, the differentiation of risk levels and the system of requirements applicable to them should be highlighted), further material issues, including the topic of liability, still await elaboration[16].

Among the documents shaping our present, the European Commission's innovation package from January 2025 can be highlighted, which specifically focuses on supporting enterprises engaged with artificial intelligence and, within that, small and medium-sized enterprises, an area in which – as we shall see later – Hungary also has significant disadvantages to make up.[17] By April 2025, an AI Continent Action Plan had taken shape, whose stated objective is to preserve and enhance

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[13] 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*. Brussels, 26.06.2018 COM(2018) 237 final/2. https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:52018DC0237R(01)&qid=1582188600707&from=EN (accessed Sept. 26,2025).

[14] Independent High-Level Expert Group on artificial Intelligence set up by the European Commission. Ethics guidelines for trustworthy AI. Brussely, on 8 April 2019 (1), (41)-(53) https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai (accessed Sept. 26,2025).

[15] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng (accessed Sept. 26,2025).

[16] Proposal for a Directive of the European Parliament end of the Council on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive) COM/2022/496 final https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022PC0496 (accessed Sept. 26,2025).

[17] https://digital-strategy.ec.europa.eu/en/news/commission-launches-ai-innovation-package-support-artificial-intelligence-startups-and-smes (accessed Sept. 26,2025).

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competitiveness, to achieve global leadership, while developing trustworthy artificial intelligence tools while preserving democratic values. The document reflecting ambitious objectives emphasises that, in the field of artificial intelligence (developments), global leadership is not a foregone conclusion. For the EU, the uniform regulation in force on its single market, including the AI Act itself, the significant scientific and research potential, the thriving startup and scaleup environment, and world-class computational power with data spaces accessible to all represent the factors that allow it to participate in this competition as a contender with real prospects. The plan seeks to make progress in five fundamental areas: computing infrastructure, ensuring access to high-quality data for AI innovators, developing and deploying AI algorithms particularly in strategic sectors, ensuring the central role of the AI talent base by strengthening existing segments of education and even attracting experts from outside the EU (for whom free academic research may be an appealing objective), and ensuring compliance with the AI Act.[18]
In Hungary, as a Member State of the European Union, our steps are harmonised with EU efforts, while, in the spirit of digital catch-up, numerous governmental measures have been taken to disseminate AI. Alongside the AI Coalition established in 2018 – which seeks to create opportunities for participation and a platform for co-thinking and action for the governmental, research, university and business sectors – concrete action plans have also been formulated. The AI Strategy currently underway provides for specific actions for the 2025–2030 period, in each case designating the governmental actor responsible for implementation.[19]

The use of artificial intelligence-based tools on the business side

The pervasive presence of artificial intelligence in our lives makes it necessary to examine whether, and if so how, the application of artificial intelligence could transform the commercial practices of businesses.
It can be recorded that an elevated level of expectation has developed that, through the application of artificial intelligence, certain workflows will be completely transformed, fundamentally reshaping the activities of legal entities operating on the business side. Another prediction is that the use of AI tools has a fundamental impact on productivity and competitiveness. The hype surrounding generative AI models

[18] Communication from the Commission to the European Parliament, the Council, The European Economic and Social Comittee and the Comittee of the Regions. AI Continent Action Plan. COM(2025) 165 final https://digital-strategy.ec.europa.eu/en/library/ai-continent-action-plan (accessed Sept. 26,2025).
[19] However, the document omits the allocation of government resources to individual action items and the deadline for implementation. Hungarian AI Strategy 2025-2030. p. 94-119. https://cdn.kormany.hu/uploads/document/c/co/cod/codfdbd37cfa520ae37361a168d244c85e7295af.pdf (accessed Sept. 26,2025).

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suggests that the use of AI-based tools is extremely widespread, which is why encounters with them are practically unavoidable for consumers.

To verify or refute the above assumptions, the basic foundation of my analysis was essentially the market analysis published by the Hungarian Competition Authority in October 2024. The Competition Authority conducted the first comprehensive market analysis in the region and, in this framework, examined the impact of AI-based technology on market competition. In this context, following an inventory of domestic and European Union regulation and strategies, the authority sought to uncover practice; to this end, in addition to approaching international technology companies and developers of Hungarian language models, companies likely to be using the technology were also surveyed. In preparing the analysis, the HCA also cooperated with the university-research sphere and non-profit organisations, which is in line with the objectives of the Hungarian AI Coalition already referred to above.

It was established that the development of AI technology is extremely resource-intensive, which resources at present typically only a few companies possess. It follows from this that the practical utilisation of AI may become the privilege of a narrow segment of businesses. In view of its potential competition-distorting effect, an investigation by the Competition Authority is justified.

The result of the market analysis was that, as regards the conduct expected from the business side, expectations and reality are not aligned, and a false presumption can be detected on the part of market participants. Contrary to the above predictions, there are currently significant inhibiting factors to the spread of AI-based tools, which are particularly significant in the SME sector. What are these?

One is the substantial resource requirement necessary for developing artificial intelligence. Larger enterprises – with more favourable parameters in terms of capital and workforce – enjoy an advantage in this area, while in the SME sector this potential has clearly diminished. The availability of the technology and the ability to exploit it are therefore distinct factors. The HCA records that more productive, more profitable, larger companies have a greater ability to utilise AI technology.[20] The analysis by the Institute for Economic and Enterprise Research operated of the Hungarian Chamber of Commerce and Industry confirms the above, stating that, regarding the distribution of artificial intelligence use by key corporate characteristics, company size (how many employees they have) is the most influential factor, while the presence/absence of export activity and ownership structure do not affect the use of AI tools. In terms of distribution by economic sector

[20] Examination of the effects of artificial intelligence on market competition and consumers. A study prepared as a result of the Hungarian Competition Authority's market analysis No. AL/234/2024. https://www.gvh.hu/pfile/file?path=/dontesek/agazati_vizsgalatok_piacelemzesek/piacelemzesek/mesterseges-intelligencia_piacelemzes_tanulmany_2024_10_21&inline=true. p. 9. (accessed Sept. 26,2025).

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– unsurprisingly – companies providing economic services led in the use of AI tools, ahead of those operating in the commercial sector, manufacturing and construction.[21]

For the above reasons, active intervention by state actors is necessary to overcome the potential competitive disadvantages arising on the side of small and medium-sized enterprises and to promote competition on the developer side. However, (economic) literature also contains views that take a more measured stance, by drawing attention to the differences between the macro and microeconomic effects of using AI tools. Daron Acemoglu, dedicating a separate study to the matter, records that while at the microeconomic level, the use of AI tools demonstrates productivity improvements and cost savings at the level of specific tasks, the positive macroeconomic effects are not so clear; at most he considers them moderate.[22]

Reports submitted to the Hungarian Competition Authority have not described practices fundamentally transforming corporate operations, even from companies using AI tools; rather, more modest advances can be observed.[23]

Another factor hindering dissemination is the shortage of expert labour, which is connected to the novelty factor of artificial intelligence as a technology. Although, as we saw when listing AI definitions, engagement with artificial intelligence appeared in literature as early as the second half of the last century, it has become a factor shaping our everyday lives for less than a decade. In line with the novel nature of the process, the existence of a workforce that handles artificial intelligence applications with ease is not yet self-evident. The process is likely to be similar to the "spread" of employees possessing the knowledge needed to use certain word processing and spreadsheet applications. Readers who already had active work experience in the early 2000s may still recall that knowledge of how to use a computer – now regarded as a basic skill – was, for example, worth emphasising separately when applying for a job. A similar process can be expected with the ability to use artificial intelligence-based tools.

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[21] Mesterséges intelligencia a versenyszférában.: vállalati attitűdök és akadályozó tényezők, MKIK Gazdasági és Vállakozáskutató Intézet (Artificial intelligence in the private sector: Corporate attitudes and hindering factors, HCCI Institute for Economic and Enterprise Research), https://gvi.hu/files/researches/742/nkonj_243_mesterseges-intelligencia_240808.pdf. p. 6-8. (accessed Sept. 26,2025).

[22] ACEMOGLU, Daron: The simple macroeconomics of AI. In: Economic Policy, vol. 40, issue 121 (2025), p. 13–58., https://doi.org/10.1093/epolic/eiae042 (accessed Sept. 26,2025).

[23] Examination of the effects of artificial intelligence on market competition and consumers. A study prepared as a result of the Hungarian Competition Authority's market analysis No. AL/234/2024. https://www.gvh.hu/pfile/file?path=/dontesek/agazati_vizsgalatok_piacelemzesek/piacelemzesek/mesterseges-intelligencia_piacelemzes_tanulmany_2024_10_21&inline=true. p. 10. (accessed Sept. 26,2025).

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Education and training play an outstanding role in managing this natural process, through which, partly by integrating the necessary body of knowledge into public and higher education, various artificial intelligence tools become applicable at a skills level for the growing generation, while also ensuring the possibility of personalised education and reducing the administrative burdens on the teaching side.[24] At the same time, the socialisation of knowledge related to AI technology (making it widely known across society) was also formulated as an objective in the action plan adopted at government level that fundamentally defines domestic AI developments, entitled Hungary's Artificial Intelligence Strategy 2020–2030[25]. The dynamism of the field is well illustrated by the fact that in 2025, the strategy was revised and fine-tuned within the framework of the Hungary's Artificial Intelligence Strategy 2025–2030 document. In this action programme, which is also much larger in scope, the field of education and skills development has become more prominent. In public and higher education, beyond knowledge transfer, the use of innovative tools enabling individual development is also planned (e.g. AI tutor, support for student life paths), alongside adult education, retraining programmes and business development training. Programmes providing information on the proper use of the technology and its potential dangers will prepare both children and parents under a separate programme.[26] For both the knowledge-transmitting and the knowledge-receiving sides, the real usefulness of elements that are (in principle) beneficial is ultimately revealed – as authors Chaudry and Kazim point out – through better learning outcomes.[27]

The third factor is related to the fact that Hungarian is a language spoken by relatively few people worldwide. For the development of artificial intelligence tools, the availability of training data is indispensable. It is a mathematical axiom that the more people speak a given language, the greater the amount of data available for training artificial intelligence. On the other hand – and this may be even more important – for economic reasons a larger market induces more intensive developer work investment. The recovery of the significant costs of development is obviously an

[24] SZABÓ, Dániel: Mi és MI - A mesterséges intelligencia szerepe az iskolákban. (We and AI – The role of artificial intelligence in schools.) In: Új köznevelés, no. 9-10 (2024) p. 42-43. https://folyoiratok.oh.gov.hu/uj-kozneveles/mi-es-mi-a-mesterseges-intelligencia-szerepe-az-iskolakban (accessed Sept. 26,2025).

[25] https://digitalisjoletprogram.hu/files/2f/32/2f32f239878a4559b6541e46277d6e88.pdf (accessed Sept. 26,2025).

[26] Hungarian AI Strategy 2025-2030. p. 51-57. and p. 101-104. https://cdn.kormany.hu/uploads/document/c/co/cod/codfdbd37cfa520ae37361a168d244c85e7295af.pdf (accessed Sept. 26,2025).

[27] CHAUDHRY, Muhammad Ali – KAZIM, Emre: Artificial Intelligence in Education (AIEd): a high-level academic and industry note 2021. AI Ethics, vol 2. (2022), p. 157–165. https://doi.org/10.1007/s43681-021-00074-z (accessed Sept. 26,2025).

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important consideration. For the above reasons, the lack of Hungarian language models constitutes an obstacle to the spread of AI tools. This is a disadvantageous factor that every "small country" must reckon with, and strengthening state involvement is also justified to counterbalance the profitable/non-profitable market logic. The effort to develop and fine-tune Hungarian language models also appears in the Hungarian AI strategy as a priority direction of research and development.[28]
One more circumstance should be mentioned, which our Competition Authority also highlighted in its analysis as a self-generating process; namely the lack of foreign-language proficiency among the Hungarian population and its consequences. Given that materials teaching the use of AI tools are currently available predominantly in English, the lack of language skills also makes acquiring the knowledge more difficult or impossible, which is therefore a factor acting against the spread of the use of AI tools.
To balance the inhibiting factors detailed above, the HCA has also made recommendations: it recommends strengthening state involvement, increasing coordination among actors involved in development, and it also emphasises the importance of developing Hungarian language models.[29]

The role of consumer models

On the other side of the business transaction – expressly in a B2C relationship[30] – an important question regarding consumers is whether the application of AI may poses a potentially greater risk to consumers.

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[28] Hungarian AI Strategy 2025-2030. p. 107. https://cdn.kormany.hu/uploads/document/c/co/cod/codfdbd37cfa520ae37361a168d244c85e7295af.pdf. (accessed Sept. 26,2025).
[29] Examination of the effects of artificial intelligence on market competition and consumers. A study prepared as a result of the Hungarian Competition Authority's market analysis No. AL/234/2024. https://www.gvh.hu/pfile/file?path=/dontesek/agazati_vizsgalatok_piacelemzesek/piacelemzesek/mesterseges-intelligencia_piacelemzes_tanulmany_2024_10_21&inline=true. p. 9-12. (accessed Sept. 26,2025).
[30] Judit Fazekas, in connection with her assessment of the Omnibus Directive optimising earlier Union consumer protection rules for online relations (Directive (EU) 2019/2161 of the European Parliament and of the Council of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council as regards the better enforcement and modernisation of Union consumer protection rules), draws attention to the fact that the EU consumer protection regime and protection apply in B2C relations, but not in the increasingly frequent C2C relations. See: FAZEKAS, Judit: A fogyasztóvédelmi jog digitális transzformációjának újabb eredményei - avagy az áruk, a digitális tartalmak és a digitális szolgáltatások hibás teljesítéséről szóló irányelvek és transzpozíciójuk. (Further results of the digital transformation of consumer protection law – that is, the directives on defective performance of goods, digital content and digital services and their transposition.) In Jog-Állam-Politika, no.2. (2022), Kukorelli special issue, p. 123

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Caveat emptor, a principle derived from Roman law, which placed consumer responsibility at the forefront. "Let the buyer beware!" The principle refers to the buyer having to act with due care when concluding a transaction; their inattentiveness could not be attributed to the seller. If, indeed, the subject of the transaction was defective but, due to a lack of due attentiveness, the buyer failed to notice it, though they could have, they could not complain afterwards.[31]The principle, however, has long been untenable; the protection of consumers undoubtedly requires stronger instruments and, by now, indisputably state intervention. On a market left without control, the concentration of power that emerges and the unavoidable lack of information on the consumer side make the protection of the consumer as the weaker party self-evident.[32] These facts gave rise to a wide range of state bodies vested with consumer protection powers. By way of example, we can mention the Hungarian Competition Authority, the National Authority for Trade and Consumer Protection, the National Media and Infocommunications Authority, the National Food Chain Safety Office, etc.

In the market analysis referred to above, the HCA assessed how the use of the technology affects consumer behaviour and what constitutes the practice applied and the practice to be expected regarding the provision of information to consumers. As regards commercial practices that use artificial intelligence tools, the Competition Authority's current approach can be placed between the two extremes of the absolutisation of consumer responsibility and full protection. The Authority – in line with the practice of the Court of Justice of the European Union[33] – places the focus on rational, reasonably-acting consumers. However, it must be emphasised that consumers with these attributes are not tasked with uncovering or investigating the truthfulness of the information conveyed to them – in advertisements.

By way of a brief digression, we also mention a few approaches that criticise or indeed call into question the theories that place rational action at the centre, but in any case nuance what has been set out so far. The Competition Authority's approach is based on the assumption that, when in possession of appropriate information, the consumer makes a rational, reasonable decision. Rationality was an undisputed

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[31] D.21.1.1.6. *Ulpianus 1 ad edictum aedilium curulium*. See: JAKAB, Éva: Forum Romanum. Jogesetek és szerződési minták római jogból. (Forum Romanum. Case law and contract templates from Roman law.) Generál Print Nyomda Kft., Szeged, 2003 p. 145. ISBN 9630093472.

[32] See: FEKETE Orsolya PhD dissertation. p. 60. https://doktori.bibl.u-szeged.hu/id/eprint/733/1/ÉRTEKEZÉS_Fekete_Orsolya.pdf (accessed Sept. 26,2025).

[33] In the absence of a specific legal definition, the practice of the *European Court of Justice* (following the entry into force of the Treaty of Lisbon in December 2009 *Court of Justice of the European Union*) has increased significance and has been shaped by landmark judgments such as GB-Inno (C-362/88.), Clinique (C-220/98), Gut Springenheide (C-210/96.). One recurring requirement is to have "*an average consumer, who is reasonably well-informed, and reasonably observant and circumspect.*" C-210/96. 31.

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axiom and not a problem to be analysed in economics, Hámori notes, referring to the tenet of neoclassical economics that long seemed unshakable.[34] This tenet was called into question when Daniel Kahnemann, who passed away last year, researching the peculiarities of the human psyche, concluded – and this, in a particular way, earned him the Nobel Prize in Economic Sciences in 2002 – that even when an individual possesses a sufficient quantity of information clearly known to them, they do not always decide rationally; in situations with uncertain outcomes, their decisions are made along certain heuristics and rules of thumb.[35] Naturally, Kahnemann does not exclude the possibility of a rational decision either, but denies its predominance.
Lívia Szabó reflects on the necessity of introducing a new definition of consumer when she proposes introducing the concept of a type-centred (natural person versus legal person) and a position-centred (characteristic property as the basis for grouping) consumer, and at the level of thought – not as a *de lege ferenda* proposal – she also toys with the idea of introducing a test-based set of criteria.[36] From time to time, the idea of introducing definitions that assess the position and level of vulnerability of the individual, in this case the consumer, resurfaces, because we consider it fairer and more just, as it also makes it possible to assess deviations from the mainstream. Although expanding the circle of consumers limited in practice to natural persons is not without precedent even at the level of legislation[37], in my view

[34] HÁMORI, Balázs: Kísérletek és kilátások. Daniel Kahneman. (Experiments and prospects. Daniel Kahneman.) In: Közgazdasági Szemle. year 50, no.9 (2003) p. 782.
[35] *„Kahneman's research (based on surveys and experiments) showed that his subjects were incapable of analyzing complex decision situations when the future consequences were uncertain. Instead, they relied on heuristic shortcuts, or rules of thumb, and few people evaluated the underlying probability*." https://www.britannica.com/biography/Daniel-Kahneman (accessed Sept. 26,2025).
[36] SZABÓ, Lívia: A fogyasztói szerződések szerződésszerűsége a digitális transzformáció tükrében - I. rész. (The conformity of consumer contracts in the light of digital transformation - Part I) In: Jog-Állam-Politika, no.2. (2025), p. 190-192., https://doi.org/10.58528/JAP.2025.17-2.185 (accessed Sept. 26,2025).
[37] In Hungary, Act CLV of 1997 on Consumer Protection contains an extended definition of the consumer in the conciliation board procedure belonging to a segment of alternative dispute resolution. Pursuant to Section 2(10) of the Act, a consumer is a natural person acting for purposes outside their professional or economic activity, who purchases, orders, receives or uses goods or is the recipient of commercial communication or of offers related to goods. For the purposes of rules on conciliation boards, with the exception of the application of Regulation (EU) No 524/2013 of the European Parliament and of the Council of 21 May 2013 on online dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC, in addition to the above, non-governmental organisations, ecclesiastical legal persons, condominiums, housing cooperatives, micro, small and medium-sized undertakings subject to separate Acts, acting for purposes outside their independent activities or economic activities, which purchase, order, receive or use goods or are the recipient of commercial communication or of an offer related to goods also qualify as consumers. For the purposes of Regulation (EU) 2018/302 of the European Parliament and

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a test-based concept of the consumer would, in practice, make the assessment of cases excessively complex and protracted. All these approaches departing from the main rule do not form the subject of detailed analysis in this study, but mentioning them is essential, because it points out that the consumer model posited in administrative and judicial practice means positing and centring on an (theoretically existing) medium measure.

In the case of the use of artificial intelligence tools, rationality, as the guiding principle of operation, is necessarily nuanced by the so-called *black box* effect, often mentioned in connection with the technology. It is a peculiar paradox that, as above, we expect rationality from the consumer, and in the case of many AI tools – perhaps along rational steps – we expect adaptation to an unpredictable tool due to an effect that results in unpredictability.[38] Although the essence of the effect is explained by the impossibility for users to uncover the decision-making steps of the given AI tool, this effect can be mitigated by providing the possibility to test the tool in alternative decision-making situations, as we can see in the literature following the proposal of the data protection specialist Eszteri.[39]

Although algorithm-based AI tools perform the task assigned to them on the basis of prescriptive rules, along rule-based instructions, some authors argue that they very much take into account that the human being "opposite" them is a creature possessing morality, empathy and emotions. It would completely exceed the scope of this dissertation, but we must by way of indication refer to the fact that in the literature Pusztahelyi, analysing the features of "emotional" AI, draws attention to the emergence, in the use of AI tools, of the phenomenon called nudge in literature since the classic 2008 work of the author duo Thaler-Sunstein[40]. The endeavour to influence human decisions through an individual's emotions (nudging) is not

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of the Council of 28 February 2018 on addressing unjustified geo-blocking and other forms of discrimination based on customers' nationality, place of residence or place of establishment within the internal market and amending Regulations (EC) No 2006/2004 and (EU) 2017/2394 and Directive 2009/22/EC (hereinafter "Regulation (EU) 2018/302"), in addition to the above, undertakings qualifying as customers under Regulation (EU) 2018/302 also qualify as consumers.

[38] András Tóth speaks of artificial intelligence as a technology that is "conceptually distrust-inducing". TÓTH, András: A mesterséges intelligencia szabályozásának paradoxonja és egyes jogi vonatkozásainak alapvető kérdései. (The paradox of the regulation of artificial intelligence and the fundamental questions of some of its legal aspects.) In: Infokommunikáció és jog. no.2. (2019), p. 4.

[39] DÁNIEL, Eszteri: A gépek adatalapú tanításának megfeleltetése a GDPR egyes előírásainak. In: TÖRÖK, Bernát – ZŐDI, Zsolt (szerk.): *A mesterséges intelligencia szabályozási kihívásai. Tanulmányok a mesterséges intelligencia és a jog határterületeiről* (Aligning the data-driven training of machines with certain provisions of the GDPR. In: TÖRÖK, Bernát –ZŐDI, Zsolt (eds): *The regulatory challenges of artificial intelligence. Studies on the borderlands of artificial intelligence and law)* Ludovika Egyetemi Kiadó, Budapest, 2021 p. 207-208. ISBN 978-963-531-483-6.

[40] THALER, Richard H. – SUNSTEIN, Cass R.: Improving decisions about health, wealth and hapiness, New-Haven-London, Yale University Press, 2008. ISBN 978-0-300-12223-7.

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unequivocally to be condemned; it suffices to think, for example, of an AI tutor that supports a learning process. There is, however, a genuinely harmful manifestation that should be curbed – Yeung's hypernudge – which already entails all-pervasive and non-transparent nudge techniques[41]and is clearly considered prohibited in the literature.[42]

Returning to the rational, reasonable consumer foregrounded by current practice, it can be stated that they therefore do not have to research or, horribile dictu, investigate, but neither may they become a victim of deception. To this end, in its market analysis, the HCA drew up an itemised list of its expectations regarding the provision of information by undertakings applying AI-based tools. Within this framework, the fundamental expectations regarding information provision were laid down. The information must be provided during the presentation of the service, but before consumer use. The information on this must be short, concise, factual and prominent, and it must be delivered in a clearly understandable and perceptible manner.

It is a requirement to disclose the fact that the given service uses artificial intelligence. The essential characteristics of the use, the sources of the service, and the information sources must also be disclosed. It is of paramount importance that the consumer be aware of the risks and of those uncertainty factors that determine the result, the answer, and the generated content. It is also important that the consumer's attention must be drawn to whether they need to carry out any verification and, if the answer is yes, to its type, as well as to whether the provider has any reservations regarding the given AI product.[43]

It can be seen that this assessment framework expands the assessment criteria introduced for judging the unfairness of commercial practices when implementing

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[41] PUSZTAHELYI, Réka: Az „érzelmes MI" felhasználása az online marketing világában. in: TÖRÖK, Bernát – ZŐDI, Zsolt (szerk.): A mesterséges intelligencia szabályozási kihívásai. Tanulmányok a mesterséges intelligencia és a jog határterületeiről (The use of "emotional AI" in the world of online marketing. in: TÖRÖK, Bernát – ZŐDI, Zsolt (eds): *The regulatory challenges of artificial intelligence. Studies on the borderlands of artificial intelligence and law*), Ludovika Egyetemi Kiadó, Budapest, 2021 p. 439-464. ISBN 978-963-531-483-6. and

YEUNG, Karen: Big data as a mode of regulation by design. In: Information, Communication &Society, The Social Power of Algorithms. Volume 20, issue 1 (2017) p. 118-136.

[42] Richards, for example, refers to it as a threat to moral autonomy. RICHARDS, Isabel: 'Hypernudging': a threat to moral autonomy? In: AI and Ethics, Volume 5, (2025), 1121–1131. https://doi.org/10.1007/s43681-024-00449-y (accessed Sept. 26,2025).

[43] Examination of the effects of artificial intelligence on market competition and consumers. A study prepared as a result of the Hungarian Competition Authority's market analysis No. AL/234/2024. https://www.gvh.hu/pfile/file?path=/dontesek/agazati_vizsgalatok_piacelemzesek/piacelemzesek/mesterseges-intelligencia_piacelemzes_tanulmany_2024_10_21&inline=true. p. 10. (accessed Sept. 26,2025).

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the Directive 2005/29/EC of the European Parliament and of the Council, the so-called UCP Directive[44], with considerations arising from the new technology. At the same time, a major question is how this information should be provided in practice, partly due to the differing message-transmission capacities of the various information channels, and partly – as I will return to in the last section – due to the lack of basic digital skills. Practice, mainly in relation to the enforcement of data protection requirements, points out that there is a risk of information provision sinking to the level of mere formality.
Although at the conclusion of the research I had not yet found any Competition Authority decision that had been adopted with reference to the system of requirements described, I am certain that these will soon be reflected in numerous decisions.

The significance of digital competences

In connection with the above, the question to be examined is whether the consumer of the modern age needs to acquire further knowledge due to the use of artificial intelligence tools in order to meet the requirements imposed on average consumers? From the business side, therefore, the Authority expects the provision of certain basic information, but to use the information received, "processing capacity" is required, namely the interpretation of basic information related to the application of AI-based tools. This presupposes the presence of basic digital competences on the user side.
It must be emphasised that a low level of digital competence on the user side is not only a loss for the individual (unable to use the given technology, or suffers harm due to its misinterpretation); the return on public efforts and the extent of successful AI adaptation also correlate with the level of basic digital skills.
DESI (*Digital Economy and Society Index*) is an index used by the European Commission since 2014, now incorporated into the State of the Digital Decade report, serving to measure the extent of the digitalisation of society and the economy.[45] The most recently published country report for Hungary recorded that the state objective prescribing an increase in the proportion of at least basic digital skills among the 16–74 age group should be supported. At the same time, to bridge

[44] Directive 2005/29/EC of the European Parlament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council ('Unfair Commercial Practices Directive')

[45] *„As of 2023, and in line with the Digital Decade Policy Programme 2030, DESI is now integrated into the State of the Digital Decade report and used to monitor progress towards the digital targets*."https://digital-strategy.ec.europa.eu/en/policies/desi (accessed Sept. 26,2025).

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the undoubtedly existing "digital divide", it recommends focusing on disadvantaged groups (those living in rural areas, those with low levels of formal education).

Summary

Following in the footsteps of McCarthy, we have long been researching what artificial intelligence actually is. As the starting point of my study, it was recorded that artificial intelligence can be conceived as an umbrella term to which different approaches may ascribe different content. Yet the classification and the identification of criteria are not purely theoretical, because the characteristics of the tool and the associated (legal) consequences may differ.

The macroeconomic significance of artificial intelligence is beyond question; in the European Union, following a path somewhat similar to data protection regulation, one can observe recurring clashes between economic and ethical lines of argument, and under the latest plan the EU, stepping into the global arena *and* preserving its achievements to date, seeks to deliver decisive changes.

As for the situation in Hungary, it can be stated that the Digital Decade report is fully in line with the findings of the Hungarian Competition Authority's market analysis regarding the use of advanced technologies by the corporate sector and the lack of digital skills, particularly in the SME sector. In the current state of affairs, therefore, there are significant hindering factors affecting the application of AI tools on the corporate side. As a specific conclusion, it can be said that the consequences arising from Hungary's geographical size and linguistic characteristics may, alongside disadvantages, also bring advantages. The lack of Hungarian language models not only causes us to fall behind, but also offers an opportunity to adopt the still-evolving practices and good solutions of other states.

However, the intensive development of the population's basic digital skills is indispensable, because in the current situation, the competition authority expects a reasonably-acting, rational consumer to interpret even the business information (mandatorily) disclosed in relation to the use of AI tools.

In my view, the issue under examination requires further monitoring, which is justified not only by the day-to-day changes in the use of artificial intelligence tools, but also by the evolving administrative practice.

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