

EMOTIONAL AI AND ITS CHALLENGES IN THE VIEWPOINT OF ONLINE MARKETING*

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ABSTRACT: *The technological development of the affective and intelligent artificial agents capable to communicate with emotional expressions is a blessing and a curse. Affective systems, i.e. the emotionally designed and programmed artificial agents and new types of nudging technics empowered by artificial intelligence (AI) have taken focus in the international literature. The main human expectation of a human-like robot is to show empathy; therefore, the development of the emotional AI is essential for the new technology in order to gain trust. However, the affective AI can be applied in an abusive way or for an illegal purpose, which is also prohibited by ethical guidelines worldwide. The artificial emotions could create a false impression of human connection or interaction or could generate false sense of bonding. The emotional AI may affect vulnerable and susceptible persons, so that it may have unethical and harmful influence upon their minds and the freedom of their decision-making process and choices. Counterbalancing these threats, new generation of human rights is emerging. In the following, only one relevant field of protective law measures against harmful affective AI will be touched upon: misleading or manipulative advertising as unfair commercial practices within the broad context of the consumer protection law.*

KEYWORDS: *affective computing; emotional AI; online marketing; ethics guidelines; human rights; manipulative or deceptive advertising*

JEL CODE: *K00, K10, K20, K38*

1. INTRODUCTION

The technological development of the affective artificial agents capable to communicate with emotional expressions is a blessing and a curse. Successful uses were recorded in the field of care for elderly people or in helping to make contact with autistic children. The artificial intelligence¹ fulfils its tasks better and more effectively provided

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¹ For the concept of AI, the definition of European Commission from year 2018 was applied: “Artificial Intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and

that it is equipped special sensors and "taught" to detect and to assess human emotional expressions, gestures, and, it is able to imitate human emotions, furthermore, it has a human-centric design and it is developed to personalized communication. Almost a decade ago, the affective systems, i.e. the emotionally designed and programmed artificial agents and a new generation of the so-called nudging technics empowered by AI took focus in the international literature (Consoli, 2010).

The main human expectation of a human-like robot is to show empathy; therefore, the development of the emotional AI is essential for the new technology in order to gain trust (Scheutz, 2012). However, the affective AI can be applied in an abusive way or for an illegal purpose, that is also prohibited by ethical guidelines worldwide.² The artificial emotions could create a false impression of human connection or interaction, or could generate false sense of bonding. This is especially very dangerous in the case when the emotional AI may affect vulnerable and susceptible persons, so that it may have unethical or harmful influence upon their minds and the freedom of their decision-making process and choices. The influence upon decision-making is discussed here as a complete palette of varying types of nudges, i.e. the transparent or non-transparent methods to steer people to a particular direction and to slightly affect their decisions. The non-transparency is stemmed not only from the nudge itself, but also from the unawareness of the human agent not knowing that he communicates with an artificial agent (Szűts, Z. & Jinil, Y., 2018, pp. 41-44.). When these techniques result in the cessation of the human agency and of the end of free decision-making, it is necessary to protect the individuals against them. In the following, only one relevant field of protective public law measures will be touched upon: the misleading or manipulative advertising and other unfair commercial practices within the broad context of the consumer protection law.

The emotional influence empowered by artificial intelligence creates two main types of the problematic issues. The one is the manipulation of the human decisions and choices (Committee of Ministers, 2019), the other is the imitation of human contact (Council of Europe, Parliamentary Assembly, 2017). It may infringe the human right to mental health, as well.³ In order to counterbalance the negative effects of the use of artificial intelligence, particularly the emotional ones, recognition of new human rights was recommended by the Rathenau Instituut, namely the right to meaningful human contact and the right to not be measured, analysed or coached (van Est & Gerritsen, 2017, p. 43.).

In the following, in the first chapter the human-centric approach of development and use of artificial intelligence, based on the fundamental rights will be in focus in order to define which human rights may be infringed by emotional AI and for the purpose to connect the fundamental rights with the consumer rights. The starting point in this paper is the premiss that in online and digital society, the use of AI or other new emerging digital technologies affect negatively (and positively) the individuals being humans, citizens, and consumers at the same time. The second chapter concerns the affective

face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)."

² For instance, EU HLEG Ethics Guidelines for Trustworthy AI, 2019; or: Ethically Aligned Design or EAD

³ Fundamental Law of Hungary, Article XX

computing, its features, its advantages, and disadvantages and deals also with the "nudging" techniques, and the new phenomenon called as hypernudge. (Yeung, 2017) The paper connects here the possible ways of exploitation of the emotional AI with the (manipulative) marketing techniques (Banerjee, 2011) (Davenport, T., et al., 2020) where not only the mining the Big Data and the operation of an artificial intelligence system but also its affective computing enhances the unfair and illegal practices. The last chapter before the conclusions deals with a special field of protection against individual decision manipulation, that is the unfair commercial practices with the special view to the misleading, deceptive and data-driven personalized advertising.

2. THE HUMAN-CENTRIC APPROACH TO AI, BASED ON FUNDAMENTAL RIGHTS

According to the Ethics Guidelines for Trustworthy AI, elaborated by the EU HLEG, the use of AI should be deeply rooted in the recognition and the protection of the fundamental human rights, especially the human dignity, the freedom, the equality and solidarity, citizens' rights and justice. (EU HLEG, 2019, p. 9.) Having legally binding nature, the EU Charter on Fundamental Rights supports both the pillar of the lawful AI and the pillar of ethical AI, because of the inherent moral status of every human beings.

Numerous ethical guidelines are built upon the human rights worldwide. The Ethically Aligned Design (hereinafter: EAD), the ethics guidelines of the international professional organization IEEE (Institute of Electrical and Electronics Engineers), has defined the universal human values as the first pillar of three of the EAD conceptual framework. It articulates generally that the autonomous and intelligent systems (A/IS) shall be created and operated to respect, promote, and protect internationally recognized human rights. (IEEE, 2019, p. 13.) The EAD is based on the international convention relating to human rights such as the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the Convention on the Rights of the Child, the Convention on the Elimination of all forms of Discrimination against Women, the Convention on the Rights of Persons with Disabilities, and the Geneva Conventions.

In the following the interaction of the emotional AI technology and the innovative marketing methods will be in focus. Therefore, the next question is whether the consumer rights, especially the right to information, and the right to safety will be deemed in the future as human rights. Benöhr and Micklitz state that there has been a gradual convergence between the consumer protection and the fundamental rights in the last decade. They identify this tendency as a consequence of the globalisation. They show that the consumer rights have almost all characteristics making them eligible to gain protection at fundamental rights level, because they are universally recognized, they improve the human well-being and they provide protection against powerful government (here against powerful multinational business organizations). These rights are in close connection with existing human rights e.g. right to physical and mental health. (Benöhr, I. & Micklitz, H-W. , 2018) ^The consumer rights may be built into the future list of the fundamental rights of the digital society.

In our opinion this new approach of the consumer right is demonstrated by the Charter of Fundamental Rights of the European Union, in the Article 38. Although the provision was worded not such as a right, but as a policy objective – Union policies shall

ensure a high level of consumer protection, this succinct wording shows to us that the consumers are to be protected not only as market participants, but also as humans. The Communication "A New Deal for Consumers" contains proposals to improve the existing consumer acquis and create more efficient and clear means to protect consumers against unfair practices, in mass harm situations, as well. At a later chapter, this paper will return to this communication and the new Directives of 2019 amending the existing consumer law.

The next document to be examined is "*Artificial Intelligence: challenges for EU citizens and consumers*" (Policy Department for Economic, Scientific and Quality of Life Policies, 2019) from year 2019 which highlighted the following key issues:

1. The extent to which algorithmic price discrimination is acceptable in online markets should be clarified.
2. Inacceptable practices in targeted advertising and nudging directed to consumers should be defined and addressed.
3. Discrimination in ads delivery should be countered.
4. Citizens and consumers should be provided with effective ways to turn off personalisation.
5. The development and deployment of AI tools that empower citizens and consumers and civil society organisations should be incentivise.

That means the harmful cases of targeted or personalized advertising and other manipulative techniques should be concretely regulated in the near future.

It should be here also mentioned that the marketing modernized by new technologies and artificial intelligent systems provides innovative methods to reach effectively interested consumers, therefore, brings lots of positive effects and experiences for consumers, as well. Going further on this path, it is worth to mention that the report of the Consumers International about the consumers' experiences worldwide emphasised the distraction effect and the huge mass of small irritating or irrelevant ads which, assessing their negative effects one-by-one, fall generally below of threshold of infringement of a right.

Minor but persistent inconveniences, simple nuisances⁴ come from the combining the online environment, the Big Data and the AI. Here, the use of artificial intelligent systems serves as a catalyst to the profit-seeking market manipulations, for altering the information and for influencing illegally consumer decision-making processes. These techniques may be not regulated by the consumer protection and they can hardly be qualified as unfair commercial practice according to the existing rules. Several authors in the world literature are warning us to that.

"A specific set of emerging technologies and techniques will empower corporations to discover and exploit the limits of each individual consumer's ability to pursue his or her own self-interest. Firms will increasingly be able to trigger irrationality or vulnerability in consumers—leading to actual and perceived harms that challenge the limits of consumer protection law, but which regulators can scarcely ignore." (Calo, 2014, p. 999.)

⁴ According to EU Commission, over a third of European consumers (37%) used software to block online ads in 2016. European Commission (2016), *Flash Eurobarometer 443: e-Privacy*, <https://ec.europa.eu/digital-single-market/en/news/eurobarometer-eprivacy> (30.03.2020.)

The market manipulation did exist before the AI have been used; however, the AI technologies boosts it. The online marketing, especially the personalization (i.e. personalized persuasion) differs in kind from previous marketing practices, and furthermore, it is yet unclear which specific digital market manipulation practices the law should constrain. (Calo, 2014, p. 1022.)

The AI-enhanced manipulation of human decision-making is an issue not only in the field of consumer protection, but also in the field of public law, in political decision-making of the citizens. The Study of the Expert Committee MSI-AUT for the Council of Europe, *„Responsibility and AI. A study of the implications of advanced digital technologies (including AI systems) for the concept of responsibility within a human rights framework”* has found also:

“The capacity to engage in manipulative practices has been exacerbated by the recent emergence of powerful AI applications that can simulate human traits (including voice simulation, visual representations of human behaviour and robots capable of interacting with humans with apparent emotional sensitivity), with such accuracy and precision that it can be extremely difficult for humans to detect that those traits are artificially generated. These technologies are likely to be attractive tools for malign actors to deceive and manipulate others.” (MSI-AUT, 2019, p. 35.)

The MSI-AUT Study identifies the special characteristics of the effects of the use of AI systems relating to infringement of human rights. (MSI-AUT, 2019, p. 7.) In the following some of them are emphasised which are especially relevant in the viewpoint of the emotional AI and commercial techniques.

- reliance on large datasets
- capacity to generate insight from merging datasets
- capacity to imitate human traits
- capacity to ‘personalise’ and configure individual choice environments
- the capacity to generate problems of collective action

According to the MSI-AUT Study,

“[t]he manipulative practices which so-called ‘persuasive’ digital technologies enable can be understood as interfering with rights protected under Articles 8 and 10 because they can be configured automatically (and continually reconfigured) to tailor the informational choice environment and architecture of individuals through the use of data-driven profiling to predict (often with great accuracy) the behaviours, interests, preferences, and vulnerabilities of individuals at scale. These applications can be used to manipulate and deceive individuals thus interfering with both informational and decisional privacy.” (MSI-AUT, 2019, p. 35.)

And further, the MSI-AUT Study warns us:

„The capacity to engage in manipulative practices has been exacerbated by the recent emergence of powerful AI applications that can simulate human traits (including voice simulation, visual representations of human behaviour and robots capable of interacting with humans with apparent emotional sensitivity), with such accuracy and precision that it can be extremely difficult for humans to detect that those traits are artificially generated. These technologies are likely to be attractive tools for malign actors to deceive and manipulate others. For example, some researchers already predict that advanced human-like synthesised voices will be used

to gather information over the phone for deceptive and fraudulent purposes.” (MSI-AUT, 2019, p. 35.)

To sum up, showing emotions is a real human quality. The exploitation of the imitation of this human trait can result in serious manipulations, and one of the endangered fields here is the online marketing.

3. EMOTIONAL AI: REAL BENEFITS AND ETHICAL CONCERNS

In the following the notion of affecting computing or emotional AI will be examined. The expression of affective artificial systems covers two main groups of special features. First, there are special pieces of equipment (of an embedded AI) and programs which make the AI able to recognise the human emotions by tracking behaviour, facial expressions (McStay, 2016) (Kim & Provost, 2019), eye gaze (Roy, et al., 2020), voice tone and/or other biometric data (Stefán, 2020), or could be able to handle a so complex expression like a laughter. (Mancini, et al., 2017). As there are word corporuses for dictionaries and translator programs, so there are enormous quantities of video and photo materials uploaded to the internet, as a speech corpus to be analysed, to be processed and to be “fed” by AI during machine-learning. (Lotfian & Busso, 2019) Furthermore, the AI is capable to self-development and identify more and more accurately the human feelings in the course of its operation.

The other side of the affective computing is developing AI systems which are capable to imitate human emotions and therefore, it could interact and serve humans in a more effective way. The emotional programming of AI helps the robot in gaining trust of humans, so it improves the safety and strengthens the bonds between human and robot. It is true that people think about their robots like a social being, like a friend. After a long period, a not-so-human-like robot also generates an emotional response, because of anthropomorphization. (Darling, 2012) This human tendency to form emotional bonds with robots, this human ‘bias’ is exploited by affective AI. It was also published that a special and tight bond can be forged between them from the part of the AI, as well; similarly to young animals (see “imprinting” by Lorenz), that is, the bonding could be programmed into a machine. (LaGrandeur, 2015, p. 101.)

Listing the commercial, professional and civil or public sectors where the affective AI could be useful, the commercial exploitation will become significant. Although the economic forecasts are controversial,⁵ the growth of the emotional AI technologies in the following years is undeniable.

— All marketing activities including survey of the reaction to campaigns, the market research relating to new products or services, making a market research about in-

⁵ „A 2018 study by Market Research Future (MRFR) predicted that the “emotional analytics” market, which includes video, speech, and facial analytics technologies among others, will be worth a whopping \$25 billion globally by 2025. Tractica has made a more conservative estimate in its own analysis, but still predicted the “emotion recognition and sentiment analysis” market to reach \$3.8 billion by 2025. Researchers at Gartner have predicted that by 2022 10 percent of all personal electronic devices will have emotion AI capabilities, either on the device itself or via cloud-based services.” <https://www.designnews.com/electronics-test/whats-state-emotional-ai/203153414061482> (02.03.2020.)

store experiences, advertising indoor or outdoor⁶, in online and traditional environment, customer supports (chat robots, emotional analyses of calls), for the purpose to gain direct feedback about satisfaction of digital content (e.g. computer games) or media etc. (McStay, 2016)

— Workplace and employment: emotional analyses of recruitment and interviews, measuring the stress and fatigue upon employees, drivers, pilots. (Carneiro, et al., 2019) (Mélypataki, 2019)

— Surveillance of passengers in public places or transport systems to avoid safety incidents.⁷

— Education by creating teaching robots with emotions. (Pereira, et al., 2008)

— Healthcare robots for caretaking or making connection with autistic people.

— Automotive: some devices track the eyes and gaze how fatigue or stressed the driver is (Juhász, 2019), others are controlled by gestures.

— In social networks: manipulating the posts with a massive-scale emotional contagion (Kramer, et al., 2015)⁸ or with bots, creating a huge number of fake followers and friends to enhance someone's social media ego.

The affective computing has a great potential for usage but generates lots of effects being questionable either ethically or legally. Quite wide range implications have not yet been recognised or assessed, for example as consequences of artificial human-robot connections. The emotional AI nudge people in decision-making, its human-like behaviour may deceive humans in the interaction. Therefore, the transparency of its operation and the awareness of the humans about the artificial agent in interactions is generally required. The EAD states the requirements of *transparency and human consent* relating to exploitation of affective computing. (IEEE, 2019, pp. 90-109.)

Without any manipulative intent, for example a healthcare robot may danger the mental health of the cared person, too. Because of that it deprives him or her of most forms of meaningful and sympathetic social interaction, as well as physical contact. Also, with respect to health care for the elderly, it is claimed that the absence of human contact affects the physical and psychological well-being of the elderly. (van Est & Gerritsen, 2017, p. 44.)

The above mentioned study of Rathenau Instituut, Human rights in the robot age addresses these issues and the impact of emotional AI upon human values and rights. It stated that the negative impact on social interactions infringes the right to privacy and family life. Furthermore, the Instituut recommends to create new humans rights in order to balance the negative effects of the new technologies on the society as a whole and upon the individuals: *the right to not be measured, analysed or coached* and *the right to meaningful human contact*.

⁶ Just one example for an innovative exploitation of AI in outdoor advertising See. <https://adage.com/creativity/work/artificial-intelligence-poster-ad-video/42818> (20.03.2020.)

⁷ In public transport systems: alert service teams of safety incidents, crowding and passenger confusion in and around transport hubs, stations and airports; alert control rooms to signs of driver/pilot physical and mental fatigue and sleep deprivation. <https://sensingfeeling.io/safety/> (20.03.2020.)

⁸ „*Emotions expressed by others on Facebook influence our own emotions, constituting experimental evidence for massive-scale contagion via social networks.*” Facebook did not notify the users that they were being manipulated in the experiment.

In our opinion, these new human rights, exactly the scope of these rights have a great important in the field of affective AI, because without analysing the human emotions in the given situations, the emotional AI has got any chance to react properly and interact effectively with humans. The development of the new marketing strategies based on affective computing and technologies depends on how strict rules will be elaborated against the harmful, deceptive and manipulative marketing techniques. Therefore, the businesses also have a common goal to outline the limits, probably, in professional or business codes of ethics.

A recently published study, namely “*The ethics of artificial intelligence: Issues and initiatives*” stresses expressly on the emotional harms which may be caused by affective intelligent systems. (European Parliamentary Research Service, 2020) The emerging affective AI technologies and devices have a great impact on the human psychology, as they may affect both the human–robot and the human–human relationships. The intimate relationship between human and robot is highlighted as the most sensitive field, where the threat of deception and manipulation is the highest. (European Parliamentary Research Service, 2020, p. 18.) The study emphasises this emotional harm as one of the main ethical concerns emerging from AI applications. It states that the affective AI is also open to the possibility of deceiving and coercing its users and it also identified the act of AI subtly modifying behaviour as nudging. According to the arguments articulated in IEEE Ethically Aligned Design, this study keeps repeating the following requirements against the emotional harm:

- systematic analyses must examine the ethics of affective design prior to deployment;
- users must be educated on how to recognise and distinguish between nudges;
- users must have an opt-in system for autonomous nudging systems;
- and vulnerable populations that cannot give informed consent, such as children, must be subject to additional protection. (European Parliamentary Research Service, 2020, pp. 46-47.)

Besides the requirements of transparency and human agency, it is also essential on the one hand to provide an opt-out system for those who are unwilling to communicate an artificial system using artificial emotions. On the other hand, it is also important to provide humans the possibility of communications and interactions with real humans. Therefore, *the right to choose between human contact and assistance by a robot* is laid down the Council of Europe and it prevents the real human-human interactions to vanish. (Council of Europe, Parliamentary Assembly, 2017)

4. AFFECTIVE ARTIFICIAL INTELLIGENT SYSTEMS MANIPULATING AND NUDGING HUMANS

Human individuals think and make decisions wholly or partially based on emotions. (Hartzog, 2015) They can perceive emotional expressions without their awareness. It is said that all meaningful decisions made at the subconscious level of the mind.⁹ The new marketing strategies are built upon this human feature with the help of the behavioural

⁹ <https://www.wordstream.com/blog/ws/2017/10/24/subliminal-advertising> (20.02.2020.)

insights¹⁰ research. The emerge of affective marketing is obvious, as the enterprises keep searching new opportunities to influence the decision-making process of consumers in the particularly challenging online market. In a saturated market, the products are quite the same, the consumer's preference for a brand is mainly created by emotional brand experiences. (Banerjee, 2011, p. 22.) The fierce competition makes businesses to nudge the consumers in every second and to exploit without any delay every new technology, so the emotional AI, to maximize their profit. We agree with McStay: "... *individual companies cannot be relied upon to behave ethically because competition for attention and customers will eventually mean that they will be at a disadvantage if they do not use more invasive tracking techniques. Given this, there is a need for greater regulation to ensure dignity.*" (McStay, 2018, p. 215.)

In the following, the effects upon human decision-making made by artificial assistants, the nudge techniques, the phenomenon of hypernudge, and the influencing human/consumer decisions at the level of emotions will be examined.

Setting out only paradigmatical and non-exclusive categories, Michael S. Gal differentiates between four types of algorithmic assistants. At first, the so-called *stated preference algorithm* is based on a sets of decision parameters made by the user in advance. In this case, the level of choice remains in the hands of the user. (Gal, 2018, pp. 65-69.) The second is the *menu of preferences algorithm* where the human user only chooses among parameters which are set by the developer in advance. The third type is the *predicted preferences algorithm*, applies decisional parameters which are not (wholly) based on the consumer's stated or chosen preferences, but predict the consumer's preferences. The last one (*paternalistic algorithm*) is a sub-type of the third where the assistant makes choices for the user which are assumed to be best for him overall, even against his actual will (i.e. contrary to his short-term preferences).¹¹

Generally speaking, the decision-making process is subjected to the cognitive limits of humans, and to their capacity for processing information for the decision. „*Humans, bounded by the cognitive limitations of the human brain, are unable to analyse all or even most of the information at their disposal when faced with time constraints. They therefore often settle for a satisfactory solution rather than an optimal one, ...*” (Scherer, 2016, p. 364.) Mostly, the manipulative marketing techniques take advantage of these limitations.

After the work of Thaler and Sunstein (Thaler & Sunstein, 2008), the nudge means the liberty-preserving approach that steer people in particular directions, but that also allow them to go their own way (Sunstein, 2014), it is a tactic of subtly modifying behaviour. Nudging mainly operates through the affective elements of a human rational system. (IEEE, 2019, p. 97.) So, the emotional AI is the one that nudges humans and it affects their decisions. The nudge techniques are categorised differently and within a quite wide meaning scope. According to Sunstein, for example the default rules, the simplifications, the uses of social norms are also deemed as nudges. The nudging can

¹⁰ Behavioural Insights (noun): An inductive approach to policy making that combines insights from psychology, cognitive science, and social science with empirically tested results to discover how humans actually make choices. See: <https://www.oecd.org/gov/regulatory-policy/behavioural-insights.htm> (20.03.2020.)

¹¹ However, it could be benefit and accepted in case e.g. teaching, healthcare or treating drug dependency. (IEEE, 2019, p. 97.)

also be transparent or non-transparent. Transparency means that the reflective system has not engaged in the behaviour change per se, but the nudge is transparent in the way that it allows the influenced person to recognize the means. The nudge is non-transparent if it triggers change in automatic behaviour, but it does not give away the intention behind the nudge. (lindalindstroms, 2014)

The nudges are very popular in the public administration, because these means are often more effective as the direct ones. However, it is highly recommended that a nudge should be transparent, the targeted individuals may be aware of the slight influence upon their decision.

Another differentiation should also be mentioned. Contrary to Thaler's and Sunstein's static nudge, the online nudge is dynamic, continuously upgraded and personalized, based on Big Data analysis and empowered by artificial intelligence. Being pervasive and mostly non-transparent, it is a 'hypernudge' (Yeung, 2017). According to Yeung, the critiques against online nudges can be listed into three groups. The first group concerns the illegitimate motives, when the nudges, especially the emotional ones) may be used for illegitimate purposes (active manipulation). Concerns in the second group are connected to the problem that nudges created by legitimate purposes may be also used for illegitimate ones, in an abusive way (passive manipulation). In the third groups of critiques, the non-transparency of nudge technique becomes the most significant feature which may hide its immense influence on the decision-making, and may impede the implementation of the principle of 'algorithmic accountability' as a black-box (Yeung, 2017, p. 122.), and therefore, Thaler and Sunstein draw an analogy with the subliminal advertising. (Thaler & Sunstein, 2008, p. 288.)

In the field of unfair commercial practices, the 'subliminal advertising' means advertising which, when published, due to time constraints or any other reason, influences the consumer in a psychological sense with stimuli from images, sounds or other effects of an intensity below the threshold required for conscious perception.¹² The usage of emotional AI in advertising has a huge potential, because it may also influence consumer decisions in a subliminally way, without being aware of it. The artificial intelligent systems can exploit not only the emotional-mental states perceived via direct communication or mined from Big Data (using personal data to target advertising in real time), but with the help of personalisation, it can adjust the emotional content of the given advertisement to eliminate the differences between the targeted individuals.

It should also be mentioned here that the power of subliminal advertising is widely discredited. Their typical forms are written messages of two or three words whose meaning is not understandable by the unconscious language processing of the human brain. „The widely held view among academics ... that the subliminal advertising is ineffective has recently gained empirical support ...” (Taylor, 2008, pp. 20-21.). However, other types of subliminal stimuli are even effective. Other authors proved that the subliminal messages exert long-term effects on decision-making (Ruch, et al., 2016).

To sum up, the nudging is a persuasive technique and it has a common conceptual core of the advertisement. Drawing line between legal nudge or advertisement and the

¹² Act XLVIII of 2008 of Hungary on the Basic Requirements of and Certain Restrictions on Commercial Advertising Activities Paragraph 3 point q)

manipulative ones is exceedingly difficult, it depends solely on the intent of the person promoting.

In EAD, the IEEE recommends the followings:

„The user should be empowered, through an explicit opt-in system and readily available, comprehensible information, to recognize different types of A/IS nudges, regardless of whether they seek to promote beneficial social manipulation or to enhance consumer acceptance of commercial goals. The user should be able to access and check facts behind the nudges and then make a conscious decision to accept or reject a nudge. Nudging systems must be transparent, with a clear chain of accountability that includes human agents: data logging is required so users can know how, why, and by whom they were nudged. [...] Additional protections against unwanted nudging must be put in place for vulnerable populations, such as children, or when informed consent cannot be obtained.” (EAD, 2019, p. 97–98.) *“Affective systems with nudging strategies should incorporate a design system of evaluation, monitoring, and control for unintended consequences.”* (IEEE, 2019, p. 100.)

The Committee of Ministers also called attention to the manipulative capabilities of algorithmic processes in its Declaration on 13rd February 2019. Although, the document focuses on the modifying the political decisions of individuals, but also reflects the negative effects of emotional AI:

„Contemporary machine learning tools have the growing capacity not only to predict choices but also to influence emotions and thoughts and alter an anticipated course of action, sometimes subliminally. The dangers for democratic societies that emanate from the possibility to employ such capacity to manipulate and control not only economic choices but also social and political behaviours, have only recently become apparent. In this context, particular attention should be paid to the significant power that technological advancement confers to those – be they public entities or private actors – who may use such algorithmic tools without adequate democratic oversight or control.” (Committee of Ministers, 2019)

„Fine grained, sub-conscious and personalised levels of algorithmic persuasion may have significant effects on the cognitive autonomy of individuals and their right to form opinions and take independent decisions. These effects remain underexplored but cannot be underestimated.” (Committee of Ministers, 2019)

5. EMOTIONAL AI IN THE LIGHT OF UNFAIR COMMERCIAL PRACTICES AND DECEPTIVE ADVERTISING

The emerging digital technologies and the expanding online markets have generated concerns relating to illegitimate business practices and advertising, long before sophisticated algorithms have been applied.

These digital techniques mostly exploit the cognitive limitations of humans, stemming from that the acquired information is inaccurate, that the consumer has limited means to collect and to process data and that he selects between them heuristically. The human individuals have no stable preferences, no stable expectations and have no stable decision-making process. Among them, there are groups whose members are particularly

exposed to forceful and pervasive marketing techniques because of their mental, physical, or psychological infirmity, age or credulity.¹³

We agree with Ryan Calo:

“The digitization of commerce dramatically alters the capacity of firms to influence consumers at a personal level. A specific set of emerging technologies and techniques will empower corporations to discover and exploit the limits of each individual consumer’s ability to pursue his or her own self-interest. Firms will increasingly be able to trigger irrationality or vulnerability in consumers—leading to actual and perceived harms that challenge the limits of consumer protection law, but which regulators can scarcely ignore.” (Calo, 2014, p. 999.)

The digital environment, on its own, demands the average consumer a particular care and awareness. Depending on what are the expectations from average consumers’ competence and knowledge in the online market, the assessment level of exposition of vulnerable consumers could change, however, the sector of online advertising uses more and more sophisticated and complex means to influence (or to distort) the consumers’ decisions. The above-mentioned hypertext techniques empowered by data mining, by personalizing features, and the so-called filter-bubble effect (alteration of and selection between pieces of information to be given to consumers) challenge every consumers’ consciousness and pose a great threat for vulnerable consumers.

In our opinion, the technique called as persuasion profiling (Kaptein & Eckles, 2010) with that companies can discover what motivates a given consumer and dynamically change the advertisement accordingly in real time will modify significantly the original thinking of ‘vulnerable consumers’. At online market, the notion of consumer also changes to the so-called “mediated consumer” who “participates” at the market with the help of a digital device and technology designed by someone else. (Calo, 2014, p. 999.) In the following, some recently published documents are listed concerning the threats generated by innovative online marketing techniques.

OECD published in 2016 the Recommendation of the Council on Consumer Protection in E-commerce. (OECD, 2016) This document emphasised again the due diligence of the businesses, especially in marketing: „Businesses engaged in e-commerce should pay due regard to the interests of consumers and act in accordance with fair business, advertising and marketing practices as well as the general principle of good faith.” The transparency of advertisements is required, too Advertising and marketing should be clearly identifiable as such. (OECD, 2016, p. 11.)

The almost untraceable online ads and subliminal nudging moved to the focus recently in the documents of International Chamber of Commerce and of the Federal Trade Commission in US, as well.

The tenth edition of the ICC “Advertising and Marketing Communication Code” of 2018 was expanded to the issues relating to direct marketing and digital marketing communications, emphasised the requirement of transparency and disclosure concerning commercial versus editorial and user-generated content and called for clearer application to all mediums and platforms virtual and marketing communications using artificial intelligence.

¹³ Unfair Commercial Practices Directive, 2005/29/EC Article 5 Section 3

A Federal Trade Commission Staff report was published in December 2017, namely “*Blurred Lines: An Exploration of Consumers’ Advertising Recognition in the Contexts of Search Engines and Native Advertising*” which also revealed the deceptive nature of online advertising. It stated continuously that the ads should be identifiable as advertising, and summarized some of the recommended common-sense disclosure techniques which could greatly increase the likelihood that consumers will recognize an ad as an ad. (FTC, 2017, p. 22.)¹⁴

The next OECD document, “Online advertising. Trends, benefits and risks for consumers” of 2019 summarizes the risks¹⁵ from online advertising, and shows that online advertising may prey on consumer biases and vulnerabilities. (OECD, 2019, p. 24.)

These above-listed documents concern unfair advertisement from a broader viewpoint than the mere influence of emotional AI. However, in our opinion, the future abusive or deceptive advertising techniques will closely be connected to the targeted individuals’ feelings and, in a more personalized way.

Besides, there is a lot of ways how the artificial intelligence can support marketing, for example in measuring of the efficiency of advertisements, in finding the most relevant ads for the targeted persons. (Chow, 2017) It should be also mentioned that there is some sort of research results which show the limitations of the micro-targeting marketing practices based on Big Data and on the earlier preferences of consumer. André et al. draw the attention to the facts that 1) the individual have metapreferences above preferences which are not revealed by a mere online analysis of the consumer’s earlier choices; 2) the consumers want to held their autonomy and the opportunities to introspect about their preferences; 3) they do not bother if they have been said that their choices are predictable; and 4) they are effected by emotions and ethical values in decision-makings which cannot be assessed or analysed by advertising techniques enhanced by artificial intelligence. (André, et al., 2018)

According to André et al., at the micro-targeted level, in the case of personalised and very persuasive advertisements, the intent of the person who applies these techniques will be the only element to be assessed as a difference between simple nudge and manipulation. However, the notion of intent is very obsolete in the era of autonomous systems to assessing the action ethically or legally. Karen Young’s idea (hypernudge) appears promising, that is searching for the originally fixed preferences hiding behind the non-transparent operation of the artificial intelligence. Although, this assessing method to find artificial agents generating malevolent ads seems to be technically feasible, by developing artificial intelligent systems for this purpose, however, the legal environment should be adjusted to that.

¹⁴ The study showed that the consumers have earlier recognised the ads with the help of these disclosure techniques, the amount of time spent for ads was decreased by 21%.

¹⁵ 1) the potential for misleading advertising online, 2) consumers may not be able to identify some forms of online advertising, 3) online advertising could reduce consumer sentiment and trust online 4) online advertising may prey on consumer biases and vulnerabilities 5) threats from “malvertising” 6) threats associated with increased data collection.

6. EXISTING AND UPCOMING EU LEGISLATIVE ACTS CONCERNING UNFAIR COMMERCIAL PRACTICES

Not only the exploitation of emotional AI, but the online market, by itself, requires more exact and stringent rules, so in the field of unfair commercial practices. Within the framework of the European Union this new wave of legislating process has begun with the Communication „A New Deal for Consumers”. The consumer rights will become more and more important as the digital technologies provide more and more sophisticated techniques and means to the large businesses in the online environment. *The New Deal for Consumers emphasises the inefficiency of the existing means against unfair commercial practices, especially against misleading advertising.*

As a consequence, the Directive (EU) 2019/2161 of the European Parliament and of the Council (2019) amended the Unfair Commercial Practices Directive 2005/29/EC and introduced a new bundle of remedies for the consumers: compensation for damage, price reduction, termination of the contract (Directive (EU) 2019/2161 Article 3 Section 5)

Another amendment of the Directive determines and recommends the Member States to take into account the following criteria of the penalties imposed due to unfair commercial practice. (Directive (EU) 2019/2161 Article 3 Section 5) These criteria can also make the penalty proportionate to the infringements of the personalized (and emotionally persuasive) advertisements. However, this last amendment did not touch neither the basic conditions of the unfair commercial practice, nor the notion of „identifiable group of vulnerable consumers”. The following question is the possibility of broader interpretation of the existing and unchanged statutes of the Directive on Unfair Commercial Practices. The reason of leaving unchanged this Directive cannot be that the amendment is unnecessary.

According to the European Commission White Paper *“On Artificial Intelligence - A European approach to excellence and trust”*, it is important to assess whether it can be enforced adequately to address the risks that AI systems create, or whether adjustments are needed to specific legal instruments, while *the EU legislation remains in principle fully applicable irrespective of the involvement of AI*. (European Commission, 2020, pp. 13-14.) It is worth considering its highlighted example: *“... economic actors remain fully responsible for the compliance of AI to existing rules that protects consumers, any algorithmic exploitation of consumer behaviour in violation of existing rules shall be not permitted and violations shall be accordingly punished.”* That means the interpretation and the application of the existing rules to the emerging new cases of unfair commercial practices should be so broad to provide protection to the consumers at the same level as beforehand.

The importance of the self-regulation concerning advertising should also be mentioned here which is an alternative of legislation, complementing, but not substituting it, i.e. co-regulation.¹⁶ The European Advertising Standards Alliance

¹⁶ “Self-regulation refers to processes whereby stakeholders (predominantly the industry) take the initiative to set standards for the benefit of consumers. The Government (or regulator) need not have any formal involvement.” „Co-regulation refers to the situation where the regulator and industry stakeholders work together with, typically, the regulator setting the framework to work within. It may be left to industry stakeholders to draft detailed rules within this framework and to take responsibility for implementation and

promotes high ethical standards in commercial communications since 1992, as a single authoritative voice on advertising self-regulation in the European Union (EASA, n.d.). The Ad Standards or ethical codes of advertising are a set of principle that the members of the local ad ecosystems (advertisers, agencies and media) voluntary comply with. The implementation of these standards is provided by the local self-regulatory organizations, for instance in Hungary, by Hungarian Advertising Self-Regulatory Board, i.e. Önszabályozó Reklám Testület (ÖRT).

The manipulative (deceptive, aggressive) or subliminal advertising is prohibited in legislations in worldwide, but at the level of general rules. The Act XLVII of 2008 of Hungary on the Prohibition of Unfair Business-to-Consumer Commercial Practices prohibits the unfair commercial practices, thus the ones which materially distort the economic behaviour of consumers being misleading or aggressive. Since the advertisements affect consumers emotionally, it is difficult to find cases relating to unfair emotional persuasion in the recent practice of the Hungarian Competition Authority. It can be recognised that the illegitimate emotional influence often occurs along with the misrepresentation of information about products or its marketing.¹⁷

According to the Hungarian Act XLVIII of 2008 on the Basic Requirements and Certain Restrictions of Commercial Advertising Activities, the dissemination of subliminal advertising is prohibited. Up to the present, this prohibition was challenged in the practice only in cases when the advertisement was exposed too shortly, for a period of few seconds.

7. CLOSING REMARKS

The online marketing communications and advertising made a great development in last decades, propelled by the artificial intelligence and affective computing among other factors. The emotional AI capable to recognise and imitate human emotions, well equipped with the up-to-date results of behavioural sciences, has an effective influence upon the rather irrational human decision-making, especially with means of profiling and personalizing and it could even target the most vulnerable consumers exposed emotionally in a particular case. The malevolent and abusive online commercial practice challenge both legislator and law enforcement authorities.

The civil law instruments which are some kinds of defences against consent defects in conclusion of contract, for the protection of the weaker party, the bases of invalidity (mistake or misrepresentation, usurious contracts, unfair contract terms) etc. cannot be triggered by the mass but small infringements caused by manipulative marketing techniques which target the consumers at micro-level. Against these small infringements the administrative law measures serve better the goal than the civil law.

enforcement. Incentives for cooperation are often in the form of string fallback powers for the regulator.” (UNCTAD, 2017, p. 41.)

¹⁷ For example, in the case of advertising a well-known milk-slice, the ingredients were incorrectly communicated and with a slogan: ‘The most what a mother can give her child’. The Authority stated that ‘Interpreting the advertisement as a whole communication, the statement, ‘The most what a mother can give her child’, is excessive in the light of the aforementioned facts and, building upon the emotions associated with the intimate relationship between mother and child, it poses the product into a great value position, undeservedly.’ Decision Hungarian Competition Authority no. Vj-108/2002/34

According to the Act on unfair business-to-consumer commercial practices in determining as to whether a commercial practice is considered unfair or otherwise, the process shall take as a benchmark the average consumer, who is reasonably well-informed and reasonably observant and circumspect, taking into account social, cultural and linguistic factors relating to the goods in question. In online environment the type of average consumer is changing, he or she is now a so-called mediated consumer. It means that the information is limited, pre-structured and mediated (and may be altered) that he is able to acquire. Meanwhile the interpretation of unfair practices affecting special groups of vulnerable consumers also requires rethinking. The common characteristics of the members of a particular group especially exposed by an unfair practice will be difficult to find in the world of pervasive, personalized and emotional micro-targeted online advertising.

It is also a problematic issue how the autonomy of decision-making can be defined. Which consumer behaviour can be distorted by unfair commercial practice? In the field of nudging, the regulation against advertising could be unnecessary or undesirable.

The duty to inform the consumers about the advertisements clearly is the first step to protect the freedom of consumer decision-making. The more detailed legal regulation seems to be unnecessary provided that the self- and co-regulation methods, i.e. the codes of conducts and their enforcement will be enough effective to retain "malvertisements" and to maintain the consumers' trust. However, there are pros and cons equally relating to self-regulations.

As it stated above, the emotional AI operates with recognised, assessed emotional, mainly biometric data of human individuals. These pieces of information can be collected by in-home and outdoor devices. It is important that involved persons give expressly the consent to processing data. According to the emerging novel human rights, especially the right to not be measured, analysed or coached, the online marketing techniques are subjected to a new legislation concerning rights protecting consumers, citizens and human individuals in the same time, granted at international level. Counterbalancing the negative effect of globalization, the consumer rights may evolve as fundamental rights.

Finally, taking a glance at the responsible consumer behaviour, the question arises: Should a consumer set up his devices to defend against personalized and more pervasive advertisements? These costs being aggregated at the level of society are also deemed as negative effects of manipulative and aggressive online marketing.

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