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ARTIFICIAL INTELLIGENCE AND BIG DATA – POSSIBLE USES IN MARKETING COMMUNICATION

4.   The theses of this paper present synthetic reflections on the use of artificial intelligence and big data in marketing communication. Artificial intelligence (AI) and, in a broader sense, digital technologies pose new and increasingly difficult challenges for all social and business systems, which can be treated both as opportunities and threats. All these challenges are widely discussed in world literatures, and the number of papers in this field – to quote Moor's Law of 1965 – grows exponentially.

5.   AI and its implementation in the economy – the AI economy, integrates a number of tools, structures, information technologies and components of an IT ecosystem: AI, Big Data, IoT, Business Intelligence, M2M, and others. AI is present in all areas of social life, economy, businesses and marketing, and at all levels: global levels, macro- and micro-levels, institutional levels as well as at the level of people's personal lives. The digital transformation is *signum temporis* of the contemporary world. Digitalization, including AI and Big Data, is an irreversible process. It relates to all types of marketing activities [Ph. Kotler et al., 2018], which implies the reliance of market strategies on IT foundations, the combination of the vectors of the revolution of digital technologies and the market behaviour of consumers fascinated by opportunities offered by digitalization and "digital lifestyle" (S. Jobs), but also those who fear the AI world.

6. The digital revolution is characterised by three main elements [Castells, 2009, Skinner, 2018, Schwab, 2016]: 1) the pace of changes of the digital transformation of the world, 2) the depth of technological links and changes in the entire social and business paradigm, and 3) the impact of digitalization on all spheres of life and the economy. The digital transformation is characterised by four vectors: exponential development of the ICT sector, 2) the use of increasingly effective and productive machines (allowing for Big Data processing), a global increase in the number of devices and a relatively decreased cost of their application, and 4) an increasing number of Internet users [Gregor, Kaczorowska-Spychalska (ed.), 2020, Mayer-Schönberger, Cukier, 2014, Mazurek, Tkaczyk (ed.), 2016].

7. Each characteristic of AI and of all the elements of the IT foundations of the AI economy is relevant to the description of marketing activities and e-consumers' behaviour. It is fully justified to stress the significance of AI and Big Data in the area of marketing communication, which is very sensitive to digitalization, the use of new technologies, AI, Big Data, Business Intelligence, direct communication and sender-receiver feedback [Hofacker, Malthouse, Sultan, 2016, Maráková, 2016, Oklander, Romanenko, 2015, Ромат, Сендероов, 2018].

8. AI and the collection, processing and use of Big Data – related to consumer market behaviour, the forms of consumers' presence on the Internet, ways of finding purchase information, and the impact of other internet users – constitute a great value for a company. It allows for an accurate identification of customer personality profiles, based on an analysis of web traffic, visited websites and dedicated time, and an analysis of the history of online purchases [Маркетинг, 2020, Raport, 2018, Śledziewska, Włoch, 2020, Woźniczka, 2018]. It plays a significant role in developing advertising messages and selecting appropriate creation strategies based on an individual internet user's system of values (micro-segment and market niche values), and it is a basis for the personalization of advertising content on an unprecedented scale. The use of AI, Big Data and digital technologies in their creation, and the selection of media and organizations in media space are common practices in the world of advertising. AI facilitates an artificial creation of advertising content. The first such case was *Clorets Mint Tabs* by Mondelez, created in 2017 by McCann Japan, and its creation was based on two paths: a traditional one designed by a creative team, and an AI path [Homewood, 2020]. The evaluation of the two forms of creation in the same target group gave a slight preference to the team of humans over the machine and AI: 54-46. In 2018, however, Lexus ran an advertising spot exclusively designed by artificial intelligence algorithms. The future of the world of online advertising is now open to AI solutions AI.

9. AI algorithms have the ability to learn, process unlimited information resources in real time, make clear cut judgements based on data, develop creation strategies and elaborate the ways of content organization in media: *instead of buying the whole banner for one day* on a given portal, *you may rent it for a while for a specific user indicated by artificial intelligence* [Sztuczna inteligencja, 2020]. This way of communicating in the digital world turns out to be very effective in social media, and the impact of social media on the way of communicating and brand value is considerable [Sanak-Kosmowska, 2018].

10. The personalization of advertising relates to three issues: 1) voluntary disclosure of personal data by an internet user (data protected by the EU Directive – GDPR), 2) leaving a mark of an internet user's presence in the web (cookies, IP address), and 3) acquisition by an advertiser of data concerning a user's profile from third parties (research firms, advertising and marketing communication agencies etc.). AI algorithms facilitate the accurate adaptation of advertising content to users' needs, affected by socioeconomic characteristics, systems of values, individual interests, place of residence (through IoT, chatbots and beacons), the forms of using the web, and the character and strength of social relations. The personalization of advertising content constitutes a value for internet users on the one hand, but on the other hand it can pose a threat to their free choice of brands. Obviously, the mechanism of this impact is very complex, being the subject of research in the field of psychology and neuromarketing. It involves the possible occurrence of the phenomenon of profiling and information asymmetry in communicated messages, which may impose a certain trend in evaluating other market offerings and, consequently, result in manipulating internet users' buying decisions referred to as adverse selection (G.A. Akerlof) – a negative selection of shopping variants or passive selection. AI, Big Data algorithms and other ICT tools enable advertisers to create micro-advertising – a source of information for customers as well as a tool for affecting their behaviour and market decisions. Apart from the visible benefits of the use of AI and Big Data in marketing, attention should also be given to its drawbacks. The two aspects can be the subject of in-depth research undertaken by international teams including Polish-Ukrainian groups of researchers.

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КВІЗ-МАРКЕТИНГ ЯК ТРЕНД ІНТЕРНЕТ ПРОСУВАННЯ

Великий обсяг інформації, що отримує кожен користувач мережі Інтернет щодня, викликає певне звикання та ігнорування навіть