

## EDITORIAL: The challenging opportunities of artificial intelligence in the fight against poverty

*Dear readers!*

Change comes online. In recent years several non-human entities, a virus called COVID-19 detected in December 2018, the new mobile technology commonly known as 5G launched in the same year, a data economy and artificial intelligence (AI), have profoundly transformed individual behaviour of humans and the power relations inside the business community. The change came online at high speed and velocity. COVID-19 appeared as a global crisis, and the availability of 5G as a solution, as commented on this trend by the analysts of the IHS Markit (2020). Digital experts agree that the global pandemic has led to the acceleration of the deployment of 5G and put a wind behind the processes of digital transformations since it accelerated the behavioural acceptance of digital values, mindsets and ways of living and working.

AI, like a wind, spreads all over this small planet of ours. Its influence is instantaneous, all-pervasive, and increasingly widespread. Its effects are irreversible and life-changing. AI is here to stay. These radical technologies offer huge opportunities, but also open up serious questions, as James Hendler (as cited in IBM, n.d.) rightfully emphasizes: "AI can be used for social good. But it can also be used for other types of social impact in which one man's good is another man's evil. We must remain aware of that".

The pressing problem nowadays is that technological development takes place much faster than finding solutions to social problems. This is confirmed by the experience of world leaders in the development of AI such as the U.S.A. and China. The ghost of poverty lurks on all the meridians, in developing countries and in rich countries.

Although the United Nations declared October 17th as the International Day for the Eradication of Poverty back in 1992, and in 2015 highlighted poverty eradication as a priority goal of the 2030 Agenda for Sustainable Development, the data indicates very slow progress. The global pandemic of coronavirus certainly did not help, but further slowed down these movements, even in those countries, which were an example of successful overcoming poverty, such as China and India.

The government of China announced in early 2021 that rural poverty has been successfully eliminated, if the official poverty standard, equivalent to \$2.30 a day, is taken as the criterion. However, if \$6.85 a day is taken as the criterion, which corresponds to the criteria for upper-middle-income economies to which China belongs, then it is visible that 17% of the population lived in poverty, according to the World Bank Group (2024).

India achieved its best results in the period between 2011 and 2019 when the extreme poverty rate decreased from 22.5% to 10.2%. Unfortunately, in 2024, in India, 129 million people still lived on less than \$2.15 a day, which, although represents a downward trend compared to the 431 million extremely poor Indians in 1990, nevertheless points to deep divisions in the technologically interconnected global economy. According to the World Bank Group's (2019) global analysis, around 650 million people — one out of twelve — were living on less than \$2.15 a day.

The 2024 World Bank Global Poverty Report (World Bank Group, 2024) confirms that ending poverty remains a major global challenge: 712 million people — one out of eleven — still live in extreme poverty; most poor people are concentrated in Sub-Saharan Africa and South Asia. This report predicts that eradicating extreme poverty will not be possible in the Middle East and North Africa and Sub-Saharan Africa by 2030.

Almost 38 million people are living in poverty in the U.S.A. (The United States Census Bureau, 2024), and 94.6 million people are at risk of poverty or social exclusion in Europe (Eurostat, 2024). Research by Reisdorf et al. (2019) highlights that in the U.S.A., 3 million households with school-age children do not have Internet at home, and 18% do not have a broadband connection, which creates a "homework gap" between those who can access the Internet and those who cannot. The key message of this research is that technology alone cannot solve any of the digital divide's problems, but rather the outcomes will primarily depend on political will and social initiatives with financial and regulatory support.

The European Investment Bank Investment Survey (EIBIS) 2020-2021 (European Investment Bank, 2021) drew attention to three key areas of the digital divide: 1) between the EU and the U.S.A.; 2) between companies that have adopted digitalization and those that have not; and 3) between rural and urban areas. The EIBIS analysts commented on the differences in digital strategies between the EU and the U.S.A. as follows: "While the United States clearly has a higher share of digital firms than the European Union, Europe is a leader for firms that are investing to address transition and physical risks of climate change (ICC) or embracing the combination of ICC and digital" (European Investment Bank, 2021, p. 25). The digital firms have higher investment intensity, higher productivity rate, higher export rate, higher wages and faster growth. They tend to invest more in intangible assets, i.e., research and development (R&D), software and data as well as innovation. As obstacles to digital transformations, the EIBIS analysts specify management practice, digital infrastructure access and finance (European Investment Bank, 2021).

The digital divide is a major challenge for both developing and developed countries. Hence, the discourse on their existence and the work to overcome them are extremely important for the preservation of the heritage of civil society, but also for the moral profiling of the younger generations. The business sector, academia and the media agree that continuous improvement in education, including data literacy and the use of AI tools, are two powerful leverages in the fight against poverty and corruption with the help of which the democratic deficits of modern societies are being reduced, which paves the way to social cohesion, good corporate practices and economic stability (Correia & Águia, 2023; Gouiaa & Huang, 2024; Mraović, 2022; Ustahaliloğlu, 2025). Empirical studies, as well as business practices around the world, confirm that technological development alone cannot solve the problems of the world in trouble, nor is it sufficient to change the ownership structure. If the desired goal is to improve business results, then it should be concentrated on corporate governance, argues the 2001 Nobel Laureate in Economic Sciences, Robert Stiglitz (2015).

There are high expectations for the development of AI and its potential to eradicate poverty. Anticipating the fact that multiple factors determine these processes, the United Nations (UN) decided to create an Inter-Agency Working Group on AI (IAWG-AI), co-led by United Nations Educational, Scientific and Cultural Organization (UNESCO) and International Telecommunication Union (ITU), in October 2020 with the aim of systematic monitoring the implementation of AI in the realization of the Sustainable Development Goals (SDGs).

In March 2024, the UN General Assembly on Thursday adopted a landmark resolution on the promotion of "safe, secure and trustworthy" AI systems that will also benefit sustainable development for all. The initiatives have made a certain level of progress, but there is reason for moderate optimism when it comes to countries with higher poverty rates. The 2024 analysis of funding for AI projects to advance progress towards completion of the SDGs conducted by the UN High-Level Advisory Body on Artificial Intelligence found only 10 per cent of grants allocated had gone to organizations based in low- or middle-income countries (United Nations, 2024). This analysis points to governance as a key enabler for

the implementation of governmental and intergovernmental actions of global scope and identifies the private sector, academia and civil society as key actors in promoting a society in which AI will serve the common good. The EU Policy on AI was formulated in the 2021 Coordinated Plan on Artificial Intelligence Review (European Commission, 2021) as “human-centric AI” which will strengthen Europe’s potential to compete globally.

“The digital revolution seems to offer an opportunity to question and imagine what we cannot know rather than reassure us of what can be measured” (Arnaboldi et al., 2017, p. 769). The data-driven analytics is faced with numerous challenges arising from the characteristics of big data, and the extant literature identifies them as volume, variety, velocity, veracity and value. These 5 Vs represent dimensions of change that imply transformative potentials. A huge amount of data whose purpose is to improve decision-making is generated in real-time from the Internet of Things (IoT), machine learning, smartphones, GIS, GPS, social web and other Internet-connected devices (Ekbja et al., 2015). Advanced technologies have enabled data to be transmitted, shared, and monitored in nanoseconds, which allows companies the instant reactions and making proactive decisions.

The special usefulness of these algorithms stems from their ability to predict by recognizing patterns of meaning from vast amounts of heterogeneous data, thereby creating valuable intangible assets for companies. This new way of collecting data enables the generation of “actionable information” which helps governments, companies and organisations to get a picture of the needs and behaviour of individual users, rather than just whole populations, and to create user-centric solutions (World Economic Forum, 2011, 2012). However, the serious challenges of data analytics in the smart era arise from problems of data redundancy, source reliability, data quality and data safety. What represents useful information, and what indicates useless information? Data may be inconsistent and/or incomplete, which opens up the question of their veracity. The speed implies the risk of data change, and handling dynamic data leads to the problem of an uncertain environment. It has been shown that predictive knowledge cannot always be accurate and that it requires additional interventions by experts in the subject fields. Given that the fundamental purpose of data analytics is to reduce uncertainty and eliminate a deductive approach based on a pre-created mathematical model in favour of an inductive method based on data, it should come as no surprise that two opposing camps have crossed their swords on these epistemological dilemmas. On the one hand, there are proponents of data-intensive science who claim that “correlation supersedes causation”, whereby drawing from the post-World War II tradition of Big Science and its claim that data collection can be an end in itself independent of theories, models and mechanical interpretations, and on the other hand, the proponents of “theory-driven science” who hold that the rejection of the “sociological imagination” (Mills, 1959) results in a lack of vision.

Hence, it is not unfounded to ask: Isn’t the starting position  $n = \text{All in itself}$  a new, technologically mediated deduction? Can human life be reduced to statistical data?

This special issue features works by authors from South Asia, Africa, the Middle East, the U.S.A. and Eastern Europe who, from a variety of perspectives, shed light on the ways in which advanced technologies are changing social landscapes, transforming business practices and paving the way for new regulatory frameworks. The readers will find in it: 1) interesting and useful examples from the work of financial institutions, business sector, government bodies and education systems in emerging markets; 2) empirical research based on recent theoretical premises and solid quantitative methodology, which can be an incentive for their own research.

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