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Presentation

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Dossier: Public communication of scientific and technological information in the age of AI

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Synopsis

This dossier investigates Artificial Intelligence (AI) as a sociotechnical hybrid, attempting to reflect upon the view of exaltation or demonization and recognizing it as an omnipresent structural component in social life that shapes daily routines and restructures power relations, intensifying ethical, legal, and sociopolitical debates, especially after the popularization of generative AI. Adopting a critical and interdisciplinary approach, the dossier considers AI a phenomenon co-produced by cultural imaginaries, political forces, and institutional dynamics, rather than an inevitable technological evolution. The contributions analyze the implications of AI across various fields—such as public services (chatbots), corporate transparency, competencies in higher education, automation in research and inclusion in libraries, and the construction of digital citizenship on platforms—seeking to understand how AI systems reflect and reshape existing social structures and promote a critical culture of AI oriented towards equity, transparency, and sustainable human development.

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For decades now, Artificial Intelligence (AI) has become a stable and ubiquitous component of countless technologies used daily. From social media platforms to e-commerce sites, through to voice assistants and autonomous taxis, AI is now integrated into tools that shape the daily lives of millions of people. In recent years, however, its presence has assumed an unprecedented significance: AI has progressively transformed into a structural element of social life, contributing to the redefinition of how citizens work, enjoy leisure time, and access fundamental services, ranging from logistics and delivery to banking and healthcare.

This growing pervasiveness has fueled a wide public and scientific debate, stimulating reflections of an ethical, legal, economic, and sociopolitical nature. The intensification of this discussion was further accelerated starting in November 2022, when OpenAI's release of the free version of ChatGPT made generative AI systems accessible to a vast audience.

However, while the areas of AI application multiply, crucial questions regarding its sociopolitical implications remain largely unexplored. To address such complexity, it is necessary to interrogate the sociotechnical nature of AI, moving beyond polarized narratives that alternatively extol it as a solution to systemic problems or demonize it as an impending threat. These attitudes reflect a traditional approach in which society and technology are separated, whereas social studies of technology have shown us how "objects" like Artificial Intelligence cannot be understood without analyzing the social processes they contain (Woolgar, 1987). Traditional ideas refer to the gap between technical content and a context explainable by the social sciences. Denying this asymmetry and assuming a "sociotechnical hybrid" as the unit of analysis means, instead, finding theoretical tools that can explain context and content as phenomena of the same process (Law & Callon, 1992). Pinch and Bijker (1984) highlighted that technological artifacts do not have a "correct" use, form, or function; that is, they are not merely the more or less effective answer to an objective problem. One cannot understand the meaning of an artifact while disregarding the interests, culture, and actions of the social groups that use it or do not use it. Public discourses around technology often presuppose the inevitability of progress, neglecting the social relations, institutional contexts, and cultural imaginaries that participate in the affirmation of the technological artifact.

This dossier of RDBCI situates itself within this debate by inviting us to consider AI not as an inevitable technological evolution, but as a phenomenon co-produced by cultural imaginaries, institutional dynamics, political forces, and social conditions. The rapid development of so-called intelligent technologies is, in fact, changing the human-machine relationship, redefining forms of collaboration, creativity, and decision-making in both organizational contexts and public information spaces. If, on one hand, AI introduces new possibilities for analysis, accessibility, and automation, on the other, its broader implications remain under-explored: the capacity to reproduce or amplify inequalities, to restructure power balances, and to influence the quality of digital citizenship. In this sense, the collection proposes a critical and interdisciplinary approach that values perspectives offered by the social sciences to understand how AI systems are designed, implemented, and used in real contexts, and how they reflect and reshape existing social structures (Bourdieu, 1979, 1994). Within this framework, the contributions featured in this Special Issue address the intersections between AI, innovation, and knowledge management in different but interconnected realms.

The article *Verso un'amministrazione pubblica conversazionale?* [Towards a Conversational Public Administration?], by Giulia Banfi and Marco Luca Pedroni, examines the introduction of chatbots in public services, highlighting both the potential for automation and the organizational criticalities and socio-institutional tensions that accompany such implementation.

The contribution by María Jesús Guillén Palomino, Triana Arias Abelaira, and Lázaro Rodríguez Ariza, *Difusión pública de información sobre inteligencia artificial en las empresas* [Public Dissemination of Information on Artificial Intelligence in Companies], addresses the theme of AI responsibility and transparency in corporate communications, proposing an

articulated system of indicators to evaluate the informational quality and degree of accountability of companies.

In the educational realm, the study *Competências digitais discentes para o uso de inteligência artificial no ensino superior a distância* [Student Digital Competencies for the Use of Artificial Intelligence in Distance Higher Education], by Andrio dos Santos Pinto, Magalí Teresinha Longhi, and Patricia Alejandra Behar, offers a systematic review of international literature on the competencies necessary for university students for a critical use of AI, shedding light on the centrality of digital literacy in an educational context increasingly dominated by a data-driven approach.

The dossier also hosts three contributions that reflect on AI in relation to libraries, scientific research, and digital citizenship. Rodrigo Fernandes dos Santos and Elisângela Cristina Aganette, in their article *Inteligência artificial e automação na pesquisa científica* [Artificial Intelligence and Automation in Scientific Research], propose a computational agent to support literature review, showing how automation can accelerate scientific analysis but also introduce new epistemological risks. Meanwhile, Nuno Miguel Teixeira Sousa and Mariângela Spotti Lopes Fujita, in *Acessibilidade e inclusão digital em bibliotecas acadêmicas* [Accessibility and Digital Inclusion in Academic Libraries], investigate the role of AI in improving accessibility in library systems, highlighting the need to combine technical innovation, staff training, and the participation of people with disabilities.

Finally, Benedetto Bramante and Michele Bonazzi, in *Do acesso à ação* [From Access to Action], critically analyze the digital platforms of European public libraries as spaces for constructing models of citizenship. Their investigation shows how, even in the expansion phase of generative AI, institutional narratives tend to overlook inequalities, agency, and forms of active participation, inviting a rethinking of digital libraries as civic infrastructures oriented towards empowerment.

The contributions collected here offer valid analytical examples useful for understanding the multiple dimensions—technical, social, cultural, and political—through which AI adapts to the diverse needs of shifting social reference groups. The aim of this special issue was precisely to promote an interdisciplinary dialogue capable of overcoming simplistic or binary visions and contributing to the development of a critical culture of AI, oriented towards equity, transparency, and sustainable human development. We chose to present exemplary research to respond to the need to understand Artificial Intelligence in its essence as a social phenomenon. It is clear that these contributions are also necessarily reductive regarding the complexity and richness of the themes treated. However, our hope is to contribute to stimulating curiosity and translating it into a desire for further investigation.

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