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ROLE AND RESPONSIBILITY OF THE CHIEF IMPACT OFFICER IN INNOVATION POLICIES IN IT BRANCH

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Abstract: *This article discusses the role of the Chief Impact Officer (CIO), most often translated into Polish as the Chief Innovation Officer, in shaping and implementing an organization's innovation strategy. The emergence of this new role stems, on the one hand, from the need to incorporate ethical risks, equity, and long-term sustainability related to technological innovations into company strategies, and, on the other, from customer expectations that technology companies demonstrate social and environmental responsibility. As digital transformation accelerates, stakeholders have begun to demand clearer accountability for the social consequences of artificial intelligence (AI), cybersecurity, data management, and automation. Measures, tools, and benchmarks in this area have become necessary.*

Keywords: *Computer science, innovations, novel technologies, law, artificial intelligence, machine learning.*

ROLA I ODPOWIEDZIALNOŚĆ CHIEF IMPACT OFFICER W POLITYKACH INNOWACYJNYCH W BRANŻY IT

Streszczenie: *Artykuł omawia rolę Chief Impact Officer (CIO), najczęściej tłumaczonego na język polski jako dyrektor ds innowacji w kreowaniu i realizacji strategii innowacyjnej organizacji. Pojawienie się tej nowej roli wynika z jednej strony z konieczności uwzględnienia w strategiach firm ryzyka etycznego, równości i długoterminowego zrównoważonego rozwoju związanego z wdrażanymi innowacjami technologicznymi, a z drugiej strony z oczekiwań klientów, że firmy technologiczne wykażą się odpowiedzialnością społeczną i środowiskową. W miarę przyspieszania transformacji cyfrowej zainteresowane strony zaczęły domagać się wyraźniejszej odpowiedzialności za społeczne konsekwencje sztucznej inteligencji (AI), cyberbezpieczeństwa, zarządzania danymi i automatyzacji. Potrzbne okazały się miary, narzędzia i kryteria porównawcze w tym obszarze.*

Słowa kluczowe: *Informatyka, innowacje, nowe technologie, prawo, sztuczna inteligencja, uczenie maszynowe.*

1. Introduction

The emergence of the Chief Impact Officer (CIO) role in IT innovation policy arose from growing expectations that technology companies demonstrate measurable social and environmental responsibility [1]. As digital transformation accelerated, stakeholders began demanding clearer accountability for the societal consequences of artificial intelligence (AI), cybersecurity, data management, and automation [2]. Companies realized that traditional management roles did not fully address ethical risks, equity, and long-term sustainability related to technological innovation [3]. This led to the creation of a dedicated management position whose mission is to align innovation strategies with positive social outcomes. Initially found in mission-driven technology organizations and large digital platforms, this position soon became more widespread with the intensification of regulatory pressures and ESG frameworks [4]. The CIO's responsibilities expanded to include overseeing ethical AI development, impact measurement, and coordinating responsible innovation practices across departments. The role also gained

importance as IT companies confronted issues such as the digital divide, algorithmic bias, and the climate impact of data centers. Innovation policy increasingly required balancing rapid technological advances with transparency, inclusivity, and long-term public trust [5]. As a result, the CIO position began to serve as a strategic bridge between engineers, policymakers, and the communities affected by new technologies. Today, the position represents a broader shift toward integrating ethical considerations and societal impact at the highest levels of IT governance [6].

A Chief Impact Officer (CIO) is a senior executive responsible to the CEO for the company's social and environmental impact by strategically integrating its goals into its objectives, culture, and operations. This role involves developing an impact strategy, measuring and reporting performance using metrics such as ESG, and collaborating across departments to ensure the company's impact aligns with its overall goals [7]. Key responsibilities include engaging stakeholders, building a strong internal culture, and communicating progress both internally and externally.

A CIO is needed by mission-driven organizations/companies, including non-profits and foundations. They are also needed by organizations/companies that prioritize ESG (environmental, social, and corporate governance) principles and organizations/companies with a strong pro-future focus (e.g., those investing in long-term investments with a 50-year horizon) that want to align their profit goals with positive social and environmental change [8]. This is the perspective of global powers (China, the USA) and their strategic research and industrial centers.

The CIO's role becomes crucial as organizations face the need to delay the effects of political, social (including demographic), and environmental megatrends, especially those that are unpopular or controversial [9]. Properly preparing an organization for their intensification can, in the long run, determine market success and even its ability to thrive in complex global markets [10]. Stakeholders still find it difficult to believe that megatrends cannot be stopped, and certain techniques for delaying their effects, seemingly effective so far, are slowly losing their effectiveness, and only CIO metrics are revealing this [11].
The CIO's key responsibilities include:

- Strategic planning: developing and implementing a social and environmental impact strategy aligned with the organization's mission and financial goals;
- Innovation and advocacy: identifying and developing new initiatives that drive both business growth and positive social or environmental change;
- Impact measurement: creating, overseeing, and modernizing impact measurement, assessment, and reporting systems, often using frameworks such as ESG (Environmental, Social, and Governance) or SDG (Sustainable Development Goals);
- Cross-functional collaboration: Collaborating with various departments, such as Operations, Marketing, and HR, to integrate impact into all aspects of the business;
- Stakeholder engagement: Building and maintaining relationships with key stakeholders, including investors, partners, customers, and the public, to communicate impact goals and progress and shape public opinion on this topic;
- Leadership and culture: supporting the CEO in building a strong organizational culture and driving organization-wide initiatives that enhance the company's impact and growth [12,13].

Chief Impact Officers (CIOs) in the IT sector use a diverse set of tools (especially AI tools) to guide their responsible innovation policies. AI-powered analytics platforms help them measure the social, environmental, and economic impact of new technologies in a measurable way. AI-powered ethics assessment tools allow CIOs to detect algorithmic biases, assess model transparency, and ensure compliance with integrity standards [14]. Natural language processing systems help analyze stakeholder feedback, public sentiment, and policy documents to align innovations with societal expectations. Predictive AI models support scenario planning, enabling CIOs to anticipate the long-term impact of new technologies before implementation [15]. AI-powered data management platforms support privacy audits, automated compliance checks, and secure data handling practices. ESG dashboards enhanced with machine learning consolidate sustainability metrics, helping CIOs report impact results to regulators and investors [16]. Collaborative tools with AI-powered knowledge management help coordinate responsible innovation efforts across engineering, legal, and operational teams. Simulation tools, including digital twins, enable a holistic assessment of the environmental or social impact of changes to IT infrastructure [17]. These AI-powered tools enable CIOs to incorporate ethics, accountability, and positive impact into the core of their IT innovation strategy.

2. Future development and implications

The future of the Chief Impact Officer (CIO) role in IT will be strongly shaped by Industry 6.0, which emphasizes human-machine symbiosis, hyperpersonalization, and sustainability. As 6G networks expand, CIOs will increasingly oversee policies related to ultra-low-latency data flows, energy-efficient connectivity, and equitable digital access. Artificial intelligence and machine learning will become fundamental tools for real-time impact monitoring, enabling CIOs to detect ethical risks and social impacts at unprecedented speed and scale [18]. This role will expand to include oversight of autonomous systems, whose behaviors are dynamically evolving, requiring continuous ethical calibration. In line with the Sustainable Development Goals (SDGs), CIOs will drive innovation programs that prioritize carbon neutrality, inclusive digital ecosystems, and responsible data management [19]. Megatrends such as demographic shifts, climate pressures, and global digitization will drive CIOs to adopt long-term strategies focused on resilience. Cross-sector collaboration will become essential as impact issues increasingly encompass supply chains, cloud infrastructures, and AI ecosystems. Chief Information Officers (CIOs) will also influence regulatory developments by providing evidence-based insights into the societal implications of emerging technologies [20]. Advanced impact simulation platforms, including AI-powered digital twins, will help predict the systemic consequences of technology decisions. Overall, the CIO role is evolving into a strategic leadership role, crucial for shaping ethical, sustainable, and human-centered innovation in the next era of digital transformation [21].

The emergence of the Chief Impact Officer (CIO) position in IT innovation policy has significant technological implications, as this role drives the adoption of trustworthy artificial intelligence (AI), privacy-preserving technologies, and sustainable digital infrastructure. CIOs promote the integration of ethical design practices (ethical-by-design) into product development, increasing the transparency and robustness of AI systems [21]. From an economic perspective, their work mitigates long-term risks by preventing regulatory violations, data mismanagement, and reputational damage associated with irresponsible innovation. By aligning technology decisions with sustainability and social value, CIOs can also help attract impact investors and strengthen competitiveness. From a social perspective, CIOs play a key role in combating digital inequality by promoting inclusive design and ensuring that technological innovations benefit diverse user groups [22]. This includes promoting accessibility standards, fair data practices, and reducing algorithmic bias. From an ethical perspective, the CIO ensures that innovations align with the organization's values and global norms, balancing the profit motive with considerations of equality, human rights, and environmental protection. Their oversight helps prevent harmful consequences, such as misuse of oversight, discriminatory impacts, and unclear decision-making [23]. From a legal perspective, CIOs support compliance with the growing number of regulations related to artificial intelligence, data protection, cybersecurity, and sustainability reporting. They collaborate with legal teams to create impact policies that anticipate future regulatory trends rather than merely reacting when issues arise. CIO involvement also strengthens internal accountability by establishing clear governance structures for assessing technological risks.

3. Conclusions

As IT systems become increasingly autonomous and decentralized, CIOs help define frameworks for accountability and responsibility for AI-based decisions. This role further influences policy discussions at the national and international levels, shaping new standards for responsible digital innovation. By bridging technology, governance, and societal expectations, the CIO becomes a central figure in driving ethical transformation in the IT sector.

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