

Industrial relations and sustainable development goals

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Abstract. Objective: This study investigates how industrial relations contribute to achieving the Sustainable Development Goals (SDGs), with a specific focus on SDG 8 - Decent Work and Economic Growth. It examines the interaction between traditional industrial relations mechanisms and the growing influence of artificial intelligence (AI) on labor markets, assessing how these elements jointly shape decent work, institutional performance, and sustainable economic development. **Methods:** The research employs a qualitative, analytically oriented approach based on a review of academic literature, international policy documents, and global regulatory frameworks. It analyzes key components of industrial relations - social dialogue, collective bargaining, and participatory decision-making - and evaluates their relevance in the context of technological transformation driven by AI. **Results:** Findings indicate that strong industrial relations systems significantly support fair labor conditions, inclusive growth, and institutional resilience. Social dialogue emerges as a central mechanism for balancing economic pressures, ensuring worker participation, and promoting sustainable labor practices. At the same time, AI introduces both opportunities and challenges: it enhances productivity and innovation but also raises concerns regarding job displacement, skills mismatches, and weakened labor protections. The study shows that integrating AI into industrial relations frameworks through coordinated action among employers, workers, and policymakers - can mitigate risks and reinforce progress toward SDG 8 and the broader 2030 Agenda. **Originality:** This paper provides a novel interdisciplinary perspective by linking industrial relations with the SDG framework, an area underexplored in existing literature. It bridges labor studies, sustainability research, and technological transformation, proposing a multi-level framework that connects AI adoption, labor policy, and social dialogue. The study contributes to understanding how future labor systems can align with global sustainability goals by emphasizing the strategic role of industrial relations in shaping equitable and sustainable economic development.

Keywords: industrial relations, artificial intelligence, social dialogue, quality employment, sustainable economic expansion

JEL Classification: J50, O15, Q01, J24, O33

1. Introduction

Economics, as a science, fundamentally rests on principles of rationality and systematic analysis. Within this framework, labor is universally recognized - alongside capital and natural resources - as a critical factor of production essential for driving economic performance and growth. The increasing complexity of labor relations in modern economies has given rise to the concept of *labor diplomacy*, an evolving domain encompassed within industrial relations, which acts as a crucial factor in shaping workplace dynamics along with institutional outcomes.

Within today's global landscape, the sustainability objectives articulated by the United Nations (UN) through the Global Agenda 2030 (GA30) have assumed a prominent level of importance. These

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goals represent a comprehensive blueprint for fostering social inclusion, ecological sustainability and economic prosperity worldwide. Romania's gradual incorporation within the EU framework further underscores the relevance of the SDGs, as the country aligns its policies with EU standards and adapts to emerging challenges such as the widespread adoption of artificial intelligence (AI) in the workplace.

The study seeks to examine the complex ways in which industrial relations intersect with a number of the 17 Sustainable Development Goals, highlighting their reciprocal connections and the ways in which they strengthen one another. The most pertinent goals addressed in this study include:

- SDG 3 - Health and well-being (W3), highlighting the importance of safe and healthy work environments;
- SDG 4 - Quality Education (W4), focusing on ongoing education and competency development as essential components of decent work;
- SDG 8 - Decent work and growth (W8), which forms the core nexus between labor policies and sustainable economic progress;
- SDG 12 - Responsible consumption and production (W12), connecting labor practices with sustainability in production systems;
- SDG 16 - Peace, Justice and Strong Institutions (W16), underlining the role of effective governance and rule of law in industrial relations; and
- SDG 17 - Partnerships for the SDGs (W17), emphasizing the importance of collaborative frameworks among social partners.

Central to this discussion analysis stays *social dialogue*, an important mechanism through which workers, employers, and policymakers negotiate and shape labor conditions, industrial policies, and social justice. This dialogue transcends traditional employer-employee relations to encompass a broader institutional and policy-oriented perspective that fosters social cohesion and sustainable development.

The paper echoes the insightful words of Romanian mathematician Octav Onicescu: "You will create, you will have. You will not create, you will not be." This aphorism aptly captures the essence of creation - not only as an engine of economic prosperity but as a defining characteristic of scientific progress and human existence. Without the imperative to create and innovate, the very purpose of economic science, and indeed of society itself, risks being diminished.

2. Literature review

The theoretical foundation of industrial relations has progressively transformed significantly gradually, from early system-based theories such as those proposed by John Dunlop (1993), to multidisciplinary frameworks that integrate sociology, labor law, economics, and management. Dunlop's system theory emphasized the triadic structure of actors (employers, employees, and government), context (technology, market, and power distribution), and ideology (Dunlop, 1993). Later developments introduced pluralist, unitarist, and Marxist perspectives, each offering a distinct view of workplace dynamics (Hyman, 1975). Recent literature has increasingly acknowledged the relevance of industrial relations in achieving broader socio-economic objectives, particularly those aligned with sustainable development. However, the explicit link between industrial relations and Sustainable Development Goals (SDGs) (W0), especially W8, remains underexplored. Organizations such as International Labour Organization (ILO) and Organisation for Economic Co-operation and Development (OECD) have emphasized the transformative role of social dialogue, collective bargaining, and labor representation in shaping inclusive economic policies. Moreover, the integration of artificial intelligence into labor systems introduces complex dynamics, offering mutual opportunities for productivity alongside the difficulties connected to job quality, fairness, ethics etc. Studies by Eurofound, the UN Global Compact, and various academic sources argue for the modernization of industrial relations to support fair transitions in the digital age (Eurofund, 2014). Certain characteristics of industrial relations within short labour-market cycles can be identified by examining the available statistical evidence on both overt and latent labour disputes, as well as their outcomes (Pavelescu, 2023).

Recent academic contributions have progressively begun to explore the intersection between industrial relations and broader socio-economic objectives, notably those aligned with the UN W0. However, the direct academic engagement with the link between industrial relations and W8 continues

to be comparatively scarce, as confirmed by recent scholarship. Notable contributions in this emerging field include Azzellini, Brandl, and Matuschek (2025), who examine sustainable work and industrial relations in Europe, and Chigbu and Nekhwevha (2023), who critically analyze the idea of fair and dignified work within the framework of W8, highlighting persistent challenges and structural inadequacies. Martins and Moreira (2025) position human capital at the intersection of sustainability and HRM trends, providing a conceptual bridge between labor practices and SDG implementation.

The role of international organizations is also significant in shaping sustainable industrial relations. Novitz (2020) discusses how the International Labour Organization's engagement with sustainability has implications for collective worker voice, while Bratton et al. (2025) emphasize the integration of sustainable human resource management into organizational performance frameworks. These perspectives align with earlier positions taken by the ILO, OECD, and Eurofound, which stress the importance of social dialogue, collective bargaining, and worker representation in fostering inclusive and equitable labor markets.

Moreover, the adoption of AI technologies in labor systems introduces the two respective opportunities or challenges for industrial relations. While AI may significantly improve efficiency and innovation, it likewise raises questions of job displacement, skill mismatches, and the erosion of traditional labor protections. Contemporary research argues for the modernization of industrial relations to support fair transitions in the digital era, ensuring that technological change aligns with sustainable development imperatives.

In summary, although the body of literature explicitly connecting industrial relations and the SDGs - particularly SDG 8 - is still developing, recent contributions provide a foundation for a deeper understanding of how labor governance mechanisms can act as drivers of sustainable economic growth and decent work. This paper builds on that emerging scholarship to explore the conceptual and practical synergies between industrial relations, sustainability, and technological transformation.

3. Methodology and data

The study adopts a qualitative and analytical approach grounded in the examination and synthesis of pertinent scholarly publications, institutional analyses, and policy-oriented documents. The study integrates secondary data from international organizations (e.g., ILO, UN, Eurofound), national policy frameworks, and academic sources addressing the interface between industrial relations and sustainable development. The conceptual framework is grounded in comparative institutional analysis and document-based case observation, particularly focusing on the Romanian labor market and its alignment with EU regulations. The study also assesses the implications of digital transformation, especially the effects generated by AI within the labour market structures and social dialogue mechanisms.

4. Research results and comments

The findings underline the critical importance of industrial relations mechanisms - social dialogue, collective bargaining, labor conflict resolution - in fostering inclusive and sustainable economic growth. Well-functioning industrial relations systems contribute to fair employment practices, workforce resilience, and institutional transparency. Specifically, W8 's targets (e.g., 8.3 on job creation, 8.5 on equal pay, 8.8 on labor rights and safe environments) resonate strongly with the goals of industrial relations. The study demonstrates that AI integration, while beneficial to productivity and efficiency, may increase labor segmentation and reduce traditional protections unless balanced by proactive institutional frameworks. In the Romanian context, industrial relations face structural challenges, such as limited bargaining coverage in the private sector, underrepresentation of youth in social dialogue forums, and discrepancies between policy and implementation. However, EU integration and digitalization pressures have opened new avenues for reform. Furthermore, the relationship between industrial relations and other SDGs, such as W3, W4 and W12, reflects the multi-dimensional function concerning the governance of labour in the context of sustainable development. W3 extends beyond wage considerations to include access to education, mental and physical well-being, and lifelong learning opportunities.

Sustainable development goals and industrial relations

Romania, along with 192 other UN member states, has committed to eliminating poverty and hunger by 2030, ensuring the fight against illegalities and injustices and resorting to the adoption of active measures in relation to environmental protection. The 17 W0 were assumed in September 2015 and encompass a broad spectrum of themes that encourage and will further encourage global action. The 17 SDGs are relevant to all social and economic areas, their applicability being valid regardless of the developmental stage reached by the state or region.

The range of 17 SDGs allows the correlation of the policies promoted through them, through specific actions, with most economic areas and subfields. These include industrial relations which, by their essence of arbitrator-mediator between employees and employers, respectively trade union organizations and employers' consortia, represent a nodal point in terms of work, labor use, its efficiency and economic performance.

The 17 SDGs, as global goals, can be framed in three main directions of study and action, as follows:

- They replace the 8 Millennium Development Goals (MDGs), being an evolved, conceptualized and diversified form, which was based on the very MDGs they replace;
- The SDGs advance a balanced approach to the three core pillars of sustainable development - economic, social, and environmental - conceptualized as the interconnected sides of a sustainability triangle;
- The SDG agenda is designed to apply universally, addressing both states that have already achieved higher stages of development and those still in the process of developing, irrespective of their current developmental standing.

These statements affirm the universality of the SDGs, as well as their broad applicability. These elements enable the SDGs to connect with a broad spectrum of economic and social domains and activities. The very diversity of the SDGs, which also proposes a diversity of actions, can give free rein to the imagination of researchers and practitioners to find common denominators between the SDGs and their fields of study and interest. All seventeen SDGs maintain at least an indirect connection to the theoretical and practical dimensions of industrial relations. Their distinctive focus areas are concisely outlined in Table 1.

Table 1. Short outline of the SDGs

Crt. No.	SDG	Outline
1	SDG 1 - No poverty (W1)	Eliminating poverty in all its manifestations, irrespective of context
2	SDG 2 - Zero hunger (W2)	Eliminate hunger, secure stable food supplies, enhance nutritional standards, and advance sustainable agricultural practices.
3	W3	Promoting healthy lives and ensuring well-being for individuals of all ages represents a core objective. This goal emphasizes extending life expectancy, lowering infant mortality, and combating major diseases, with particular attention to the challenges faced by developing countries.
4	W4	Ensuring access to quality education and fostering lifelong learning opportunities for all individuals.
5	SDG 5 - Gender equality (W5)	Promoting gender parity and enhancing the agency of women and girls across all contexts.
6	SDG 6 - Clean water and sanitation (W6)	Guaranteeing universal access to water resources and ensuring their sustainable management, including sanitation services.
7	SDG 7 - Affordable and clean energy (W7)	Guaranteeing universal access to affordable, safe, sustainable and modern energy services.
8	W8	Advancing sustained, inclusive and sustainable economic growth, together with full and productive employment and decent work opportunities for all individuals.

Crt. No.	SDG	Outline
9	SDG 9 - Industry, Innovation and Infrastructure (W9)	Developing robust infrastructure systems, advancing sustainable industrial development and fostering innovation.
10	SDG 10 - Reduced inequalities (W10)	Diminishing disparities both within individual countries and between nations
11	SDG 11 - Sustainable Cities and Communities (W11)	Promoting urban and settlement development that is accessible to all and characterized by safety, resilience and sustainability.
12	W12	Ensuring that consumption and production practices follow sustainable, resource-efficient patterns.
13	SDG 13 - Climate action (W13)	Undertaking urgent measures to address climate change and mitigate its adverse effects.
14	SDG 14 - Life below water (W14)	Protecting and sustainably managing oceans, seas and marine resources to support long-term sustainable development.
15	SDG 15 - Life on Land (W15)	Safeguarding, restoring and advancing the sustainable use of terrestrial ecosystems, ensuring responsible forest management, combating desertification, reversing soil degradation and preventing further biodiversity loss.
16	W16	Advancing peaceful and inclusive societies that support sustainable development, ensuring universal access to justice and fostering effective, accountable and inclusive institutions at every level.
17	W17	Enhancing the mechanisms for implementation and reinvigorating the global partnership essential for sustainable development.

Source: Elaborated by the author after consulting the Ministry of Foreign Affairs official website, United Nations official website, www.undp.org, www.sustainabledevelopment.un.org.

As a general consideration, people's work involves achieving any of the 17 SDGs described in Table 1. The work performed by specialists, but also the provision of a high-performance framework for work, involves both sides of industrial relations, employees and employers, in the development and development of the SDGs.

Referring to the aspects described in the first section of this research, it can be seen that industrial relations represent a real keystone for what economic growth means, but also for contributing to the realization of the SDGs. Talking about 17 SDGs, the combination of specificity and activities in the field of industrial relations aligns more closely with certain goals. The selection of intersections between the SDGs and industrial relations is inherently subjective and is informed by the researcher's prior expertise and analytical perspective.

From this point of view, within the limits of this research, it is considered that the most obvious and easy to emphasize junction between industrial relations and sustainable development goals is with W8, mainly. In addition, W3 and W4 provide essential dimensions that complement and contextualize the relationship between industrial relations and W8. At the same time, but at a higher level of research, the study of industrial relations in the context of W8, has profound reverberations and is very useful in the perspective of a correlation with W12, W16 and W17.

Promoting decent work opportunities and fostering sustained economic growth are absolutely normal goals for the individual, organization or society. Everyone wants to work in a decent environment, in a decent way and to register economic growth. Achieving this objective requires strategies to increase labor productivity, reduce unemployment, and create decent jobs, highlighting the link between economic prosperity and social equity (Oprea & Duță, 2024). Before trying to develop the idea of the intersection between industrial relations and this SDG of the 2030 Agenda, it is necessary to clarify the conceptual differences between economic growth and economic development. Economic growth represents, according to the definitions in political economy treaties, a reflection of the Gross Domestic Product (GDP) and over time it has become the main indicator with which governments measure the financial well-being of a country (Moldovan 2018, Coșea 2020).

Theoretically, the efficiency of governance and the implementation of economic measures are directly linked to economic growth. Simon Kuznets, Nobel laureate in Economic Sciences in 1971 and

the economist who introduced the concept of GDP, highlighted that this indicator does not fully reflect the population's quality of life, but rather measures the volumetric activity of the market (Kuznets, 2008). Subsequent research by Amartya Sen, Nobel laureate in 1998, emphasized that economic growth alone is insufficient for human well-being, advocating for the incorporation of social and human development indicators alongside GDP (Sen, 1999). Similarly, Robert Solow, Nobel laureate in 1987, underlined the importance of technological progress and human capital in translating economic growth into broader development outcomes (Solow, 1956; 1994).

Florian Libocor expanded on this idea in the Romanian context, clearly distinguishing between economic growth and economic development. According to Libocor, "economic development should not be confused with economic growth." Economic growth refers to the overall expansion in the production of goods and services within a given timeframe, most commonly assessed through GDP. By comparison, economic development covers a much wider range of dimensions, incorporating improvements in quality of life, human well-being and broader social progress (Libocor, 2024).

While economic growth primarily addresses quantitative aspects, economic development integrates both quantitative and qualitative dimensions. Libocor emphasized that economic development also considers education, health, infrastructure, and environmental quality (Libocor, 2024). Within this framework, the Romanian translation of W8 should be interpreted not merely with regard to economic growth but as encompassing the broader concept of economic development. This broader interpretation aligns more closely with the overarching objectives of the 17 W0 set out in the GA30.

Development grounded in environmental, social and economic sustainability, therefore, implies societal support - mediated through mechanisms such as industrial relations - for a continuous and sustainable process of long-term economic growth. Medium- and short-term economic growth act as foundational stages that support this sustainable trajectory, ultimately translating into economic development and the wider objectives associated with sustainable development

It is therefore necessary to make a careful distinction between what economic growth means and what economic development actually represents, including with regard to the study that underlies the correlation between industrial relations and sustainable development. After all, W8 seeks to promote sustained economic growth that is inclusive and sustainable across both time and space. Ensuring decent jobs, which means balance in the labour market, full employment and maximising labour productivity, are clear realities in terms of the help that labour and industrial relations can provide for sustainable development, through W8.

These aims include facilitating firms of small and medium scale and helping them not to fall behind large consortia in terms of economic development. This is where the essential role of industrial relations comes in, in a double sense: on the one hand, as a shield for the providers of quality work, so that they have decent conditions and wages, on the other hand, for the beneficiaries of the work, who can be protected from possible imbalances produced by the providers and their exaggerated demands, which are economically and financially unsustainable.

The W8 targets were set through the GA30 and transmitted to the adhering countries. Obviously, these targets are conceptualized differently, depending on the reality in each country or region. The 10 targets of W8 are mentioned in Table 2. The diversity of the approach and the need for qualitative, strong industrial relations as a system implemented and accepted by society are observed. None of the 10 targets of W8, could be achieved without quality work and without a strong and coherent system of industrial relations, understood and accepted as such. From the perspective of industrial relations and W8, the importance of industrial relations in addressing at least two more SDGs also follows. Specifically, W3 and W4, emerge as complementary objectives, as they have a direct impact on the quality of the workforce and the long-term sustainability of labor markets. By fostering safe and healthy working environments, encouraging continuous lifelong learning, and ensuring equal universal availability of educational services and skills development, industrial relations contribute not only to enhanced productivity but also to strengthening social cohesion and enhancing resilience amid economic and technological transformations.

Table 2.W8 targets

Target	Observations
W8.1	Sustaining per capita economic growth aligned with national conditions, and particularly achieving annual GDP increases of at least 7 percent in the least developed countries
W8.2	Achieving higher productivity by promoting diversification, technological modernisation and innovation, with particular emphasis on high-value-added and labour-intensive sectors
W8.3	Encouraging development-focused policies that promote productive economic activities, quality job creation, entrepreneurial initiatives, creativity and innovation, and that facilitate the formalisation and expansion of micro, small and medium-sized enterprises by improving access to financial services: development-focused policies, quality job creation, entrepreneurial initiatives, improving access to financial services
W8.4	Advancing the efficient use of global resources for consumption and production by 2030, while ensuring that economic growth becomes decoupled from environmental degradation, consistent with the 10-Year Framework for Sustainable Consumption and Production led by developed countries: advancing the efficient use of global resources, ensuring growth is decoupled from degradation, sustainable consumption and production framework
W8.5	By 2030, secure productive employment and decent work opportunities for all women and men, with particular attention to young people and persons with disabilities, and ensure equal pay for work of equal value.
W8.6	By 2020, significantly reduce the share of young people who are neither employed, in education nor in training.
W8.7	Adopt prompt and effective measures to end forced labour, abolish modern slavery and human trafficking, and guarantee the prohibition and elimination of the most severe forms of child labour, such as the recruitment and use of child soldiers, with the goal of eliminating all forms of child labour by 2025.
W8.8	Safeguarding the right to work and advancing safe, secure and healthy working conditions for all workers, including migrant workers - particularly immigrant women - and individuals in precarious forms of employment.
W8.9	By 2030, develop and implement policy measures that advance sustainable tourism capable of generating employment and supporting local culture and products.
W8.10	Strengthen the capacity of domestic financial institutions to promote and broaden access to banking, insurance and financial services for all individuals.

Source: Developed by the author after processing data from Government of Romania – Department for Sustainable Development www.dezvoltaredurabila.gov.ro

Without going into too much detail, W3 of the GA30 envisages, in general terms, ensures fostering a healthy life and enhancing the well-being of all those involved in the performance of work, regardless of age, gender, social status, etc. This SDG encompasses nine diverse targets, ranging from lowering global mortality rates to eradicating epidemics and significantly reducing deaths and illnesses linked to hazardous chemicals, pollution and the contamination of water, air and soil. It is observed that the support provided through industrial relations, for W8, would be impossible without taking into account the targets set for W3. Worker physical and mental well-being are indispensable for high-quality work. In their absence, productivity might be affected and the quality of industrial relations also deteriorates. As a result, industrial relations lose their capacity to function as a meaningful driver of economic performance

W4 is closely linked to industrial relations in at least two important ways. According to the GA30, W4 guarantees access to equitable and effective education and supports lifelong learning opportunities for all. W4 is segmented into 7 distinct targets whose common denominator is ensuring permanent access, regardless of category, gender, etc., to quality education. Industrial relations need a quality education, provided permanently and to which access is easy. High-performance work needs immediate and easy access to quality education. From another point of view, a strong system, well defined by industrial relations, naturally imposes the need for quality education and a permanent learning process, regardless of the professional or life stage in which a professional finds himself. Employers also could benefit from an educated workforce, which is more capable of understanding complex workplace processes, adapting to innovation etc. Therefore, quality education can be a very

important point in the perspective of reducing labor conflicts or resolving them in a decent manner, without unnecessary losses.

Decent employment and sustainable economic growth, the objectives of W8, depend fundamentally on access to continuous, high-quality education and training, from which both employees and employers stand to benefit. The two main categories of actors - employees and employers - require both general and specific education to enhance work performance. A well-educated labor force, supported by strong industrial relations systems, contributes to the effective use of labor and the maximization of value from other production factors, including capital and natural resources.

Starting from the above, it can be seen that industrial relations, through content and approach, through the correlations established with the SDGs described above, have a strong tangent and make a full contribution to achieving the targets contained in W12, W16 and W17.

The intersection between industrial relations and these last three SDGs is on a different level compared to the previous ones addressed in this paper. A higher level of education can contribute to more responsible consumption patterns of the individuals (including the workforce). Moreover, the production systems evolve toward greater responsibility, a process shaped in part by the ethical and environmental commitments of both employers and employees. The 8 targets of the W12 detail the ways to achieve sustainable consumption, respectively sustainable production., it is observed that industrial relations and work represent the fundamental and argumentative basis for educating employees and employers regarding sustainable consumption and production practices. Responsible patterns of consumption and production cannot be achieved in the absence of quality education, health and well-being, factors that lead to dignified work and sustainable economic growth

Thus, it establishes correlations and theoretical premises that open new directions for scientific research in industrial relations and sustainable development, a domain that remains rich in unexplored dimensions. As stated in the first section of this paper, an important part of the content of industrial relations is represented by institutions, such as governments or courts. This is easily revealed when it comes to intersecting industrial relations with sustainable and balanced development, through W16.

W16 promotes peaceful and inclusive societies aimed at advancing sustainable development. This SDG is concerned with unconditional access to legal remedies for everyone and aims to create effective, accountable and inclusive institutions at all levels. Even if we are talking about another level of involvement, much more rigid perhaps, industrial relations have their well-defined role in achieving the targets set by W16.

The 10 targets of W16 envisage, in particular, unrestricted access to information, adequate social protection and the safeguarding of fundamental freedoms, but also compliance with national and international legislation, respectively with the agreements in force. Although there may be exceptions, industrial relations, seen from the perspective of this SDG, are somewhat limited by certain rigors. In most cases, the situation does not involve private initiative, but rather employers from the public sector, with private actors representing a clear minority. Even if the balance of forces is changing, structurally, industrial relations remain just as important for achieving the targets set in the GA30 of W16. High-quality work must also be ensured within these public organizations, or within the public system as a whole, in order to prevent major military and diplomatic conflicts and to guarantee coherent, effective justice and well-functioning institutions. Work is the basis of all these parameters, and industrial relations combine, in this case, the need for quality work with ensuring, under the law, high-performance work environments, in competition with the industrial relations established between employees and employers, when it comes to private employers.

In conclusion, the intersection of industrial relations with W17, as outlined in the GA30, is implicitly evidenced by the analyses presented in this paper regarding the correlations between industrial relations and the other SDGs under consideration

Overall, W17 focuses on enhancing the means of implementation and reinvigorating the global partnership for sustainable development. Among the 17 SDGs outlined in the GA30, it is the most comprehensive, comprising 19 diverse targets. In addition to this wide range of activities, W17, leaves the enumeration open and accepts, depending on the particularities, other targets and means of achieving them.

Implicitly, from this universality, industrial relations and quality work, in all its aspects, cannot be missing. By their essence, industrial relations presuppose, in terms of content and approach, a

continuous partnership for the achievement of common objectives. Partnership is found in the form of cooperation between employees and employers, the structural axis of industrial relations, both categories having objectives of maximizing resources and profitability. Thus, reducible to theory, the practice of industrial relations means partnerships established in order to achieve set objectives, which confirms the need to bring together industrial relations and sustainable development, through several SDGs. It may equally be said that W17, collects the experience gained in studies and research carried out from the perspective of work and industrial relations, with other SDGs.

W0, adopted by the UN in 2015, can be viewed as a universal framework for action aimed at eradicating poverty, hunger and disease, protecting the planet, and ensuring the health and well-being of all by 2030. Financial inclusion - an outcome of quality work and sound industrial relations - is fostered, among other factors, through support for quality education, the effective use of free time, and the expansion of financial resources available for the development of individuals and households. (Vasile, Panait, & Apostu, 2021).

We therefore come to the basic idea exposed by political economy textbooks, according to which political economy is a science of wealth creation and management (Coșea, 2020). The creation, but also the subsequent administration of wealth, are based on labor and labor relations, defined in the paper as industrial relations, which derive from the performance of work and its efficiency by employers. Implicitly, sustainable development is based on the need to create and manage wealth, objectives that are impossible to achieve without work and without the crystallization of a coherent and strong system of industrial relations. Sustainable development takes different forms of achievement through the 17 SDGs. None of the 17 W0 outlined in GA30 can be fully achieved without the contribution of labor and the support of strong, well-functioning industrial relations systems.

Artificial intelligence and social dialogue – elements of sustainable development through industrial relations

Using artificial intelligence for decent work and sustainable economic growth

Sustainable development represents one of the major challenges of the contemporary era, reflecting the need to balance economic progress with environmental and social responsibility. This challenge also involves the economic, performative side that is obviously based on the labor factor of production.

Among the goals of the GA30, W8, recognizes, among other things, the significance of maintaining long-term economic growth, which, as shown in the previous section of the work, should be assimilated with economic development. The same SDG also recognises, at the same time and without excluding the importance of sustainable economic growth, the importance of high labour productivity. Taking the syllogism further, labor productivity leads to the essence of W8, i.e. economic productivity translated into the creation of quality jobs and paid at least at a satisfactory level for employees. Fulfilling all the criteria outlined above requires promoting job creation, expanding employment opportunities, and ensuring access to decent work for all individuals who are able and willing to contribute through meaningful labor.

W8 is based on three types of cross-functional indicators, as follows:

- Economic growth made up of the sub-segments of real GDP, share of investment in GDP and material footprint;
- Employment, reflected through indicators such as the employment rate, the long-term unemployment rate, the share of young people not in employment, education or training (NEET), and the proportion of individuals inactive due to domestic responsibilities;
- Decent work, assessed through the incidence of fatal workplace accidents and the at-risk-of-poverty rate among employees.

Some of these multifunctional indicators will be employed, within the scope of this research, to assess the relevance of industrial relations linked to decent work and economic growth in the broader context of the Sustainable Development Goals. The emergence of new technologies and the growing integration of artificial intelligence have inevitably transformed both the nature and volume of work. The Covid-19 pandemic further accelerated these shifts, marking the onset of a new era characterized

by digital financial inclusion, artificial intelligence and fintech - developments that played a major, even decisive, role in reshaping contemporary societies (Vasile, Panait, & Apostu, 2021).

Industrial relations, in the context of the increasingly intensive use of artificial intelligence in the workplace, must also be rethought and reshaped as a new paradigm. The contemporary era is marked by an unprecedented drive to integrate artificial intelligence as a means of enhancing professional performance. AI systems rely on complex mathematical computations and advanced algorithms, often employing unsupervised learning models to analyze employee behavior and workplace dynamics. (Oprea, 2023).

The vision of this research talks about the help given by artificial intelligence for the labor factor of production. Implicitly, artificial intelligence modifies, to a consistent extent, the labor relations between colleagues, but also the industrial relations that are established between employees and employers, respectively unions and employers' consortia. The European Union emphasizes the need to use artificial intelligence both to create decent working conditions, much easier compared to previous periods, but also to record economic growth (European Parliament, 2023).

From this perspective, artificial intelligence can be understood as a technology that proposes and implies a future promise for the transformation of economies. At the same time, this proposal stimulates economic growth and approaches, from different angles, society and the work performed in society. The use of artificial intelligence implies imminent risks of social and economic disruptions, these disruptions being inherent from the perspective of humans as a worker, when it is replaced by robots. Safety-related risks must likewise be considered when assessing the effectiveness of artificial intelligence applications. The European Union has estimated these risks and tried to make projections of the future, in the new perspectives (European Parliament, 2023).

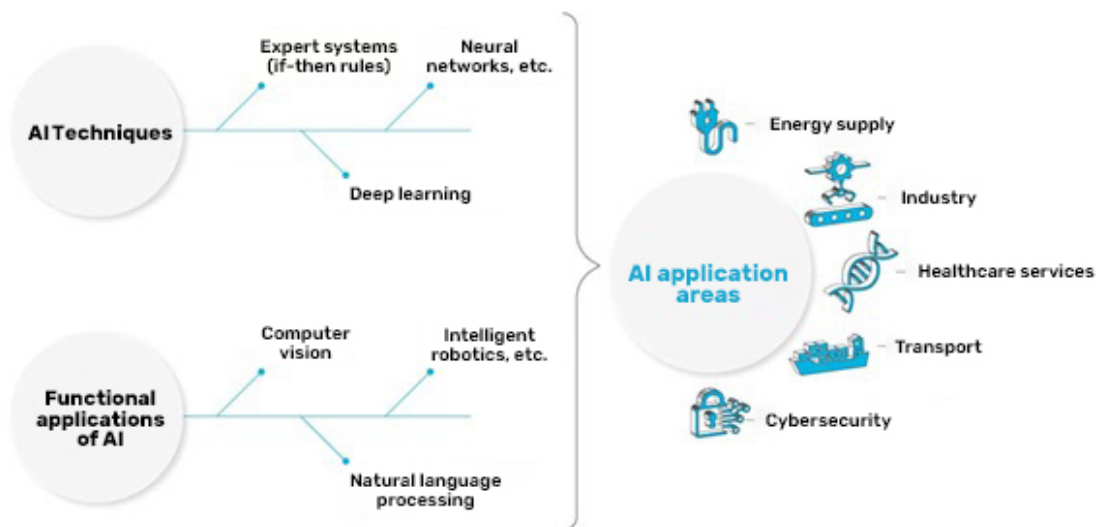
In relation to industrial relations, the first major category of risks associated with artificial intelligence is its very definition. Worldwide, there is still no definition of what artificial intelligence is, which is why different interpretations can lead to different approaches and conclusions, disruptive factors for industrial relations. The European Commission has sought to substantially mitigate these risks, defining artificial intelligence as systems capable of displaying intelligent behaviour through the analysis of their surrounding environment. (TFUE, 2009). Viewed in this light, artificial intelligence systems possess the capacity to implement actions with a degree of operational autonomy, enabling them to work toward the attainment of specific goals. The notion of artificial intelligence encompasses various technologies that are evolving and that can develop synergistic relationships with other emerging technologies.

The integration of artificial intelligence within private enterprises and the public sector, particularly in the European Union, has the potential to generate substantial productivity gains throughout the entire value chain, from market research to the final commercialization of products and services. The forecasts are that in the period 2024-2030, the artificial intelligence market may reach 680 billion euros, which would mean a percentage increase of 15.8% (European Court of Auditors, 2024).

Effective investments in a revolutionary technology such as artificial intelligence can be very important in the future. However, precisely because the emotional intelligence factor is missing, the role of the labor provider, the human or human capital, appears here.

Basically, artificial intelligence forms an ecosystem, and its organization and regulation, including from the perspective of industrial relations interest, is the responsibility of decision-makers in the public sphere. According to an OECD report, recent investment levels in artificial intelligence development within the European Union have lagged behind those recorded in the United States and China. (European Parliament, 2023). Empirical evidence indicates that investments in building ecosystems and advancing artificial intelligence are directly accompanied by a growing need for substantial investment in social measures and in strengthening communication between employees and employers.

Figure 1. Artificial intelligence techniques and their use



Source: (European Court of Auditors, 2024).

Thus, industrial relations, as a traditional common denominator between employee and employer, take into account, in the current perspective, the possibility of using, in a double sense, artificial intelligence, an area in which investments are, as shown, massive. Therefore, industrial relations must acknowledge the substantial contribution of artificial intelligence to improving labor productivity, as its influence has become too prominent to be disregarded. At the level of the European Union, the use of artificial intelligence is different, from country to country.

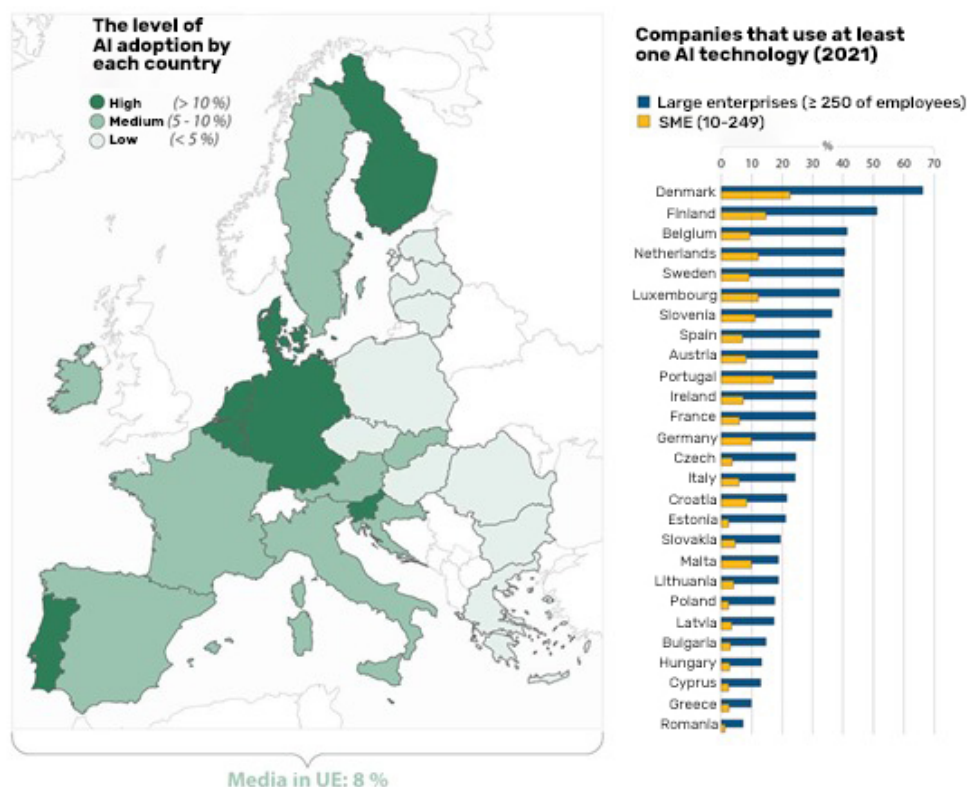
A report published by Stanford University in 2022 shows that, despite the major increase in patent applications for the field of artificial intelligence, worldwide, only 4% of these applications were registered in Europe and Central Asia. For comparison, in North America, by 2021, about 17% of patents for artificial intelligence had been requested, while in the same period, in East Asia-Pacific, 62% of artificial intelligence patents were requested (Zhang et al., 2022, Figure 1.1.23a).

According to the data in Figure 2, Romania is the last country among the European Union in the context of artificial intelligence utilisation. This is equivalent to the fact that, for now, work in the traditional format is not as affected as elsewhere by the interference of AI-driven technologies. However, future projections anticipate both a quantitative and proportional expansion in the use of artificial intelligence in our country, implying that industrial relations, as an autonomous field, must prepare for profound - potentially even radical - structural transformations.

At EU level, expert groups are working on shaping a common framework for investments in artificial intelligence. As this framework takes shape, obviously, industrial relations have more known constants and can be reshaped, reinterpreted and understood in the new key of the reality of the labor field, in which there is the presence of artificial intelligence. All such planning should be formulated in accordance with international best practices and must fully consider the requirements set out in both national and international regulatory frameworks.

The European Commission's strategy for developing artificial intelligence policies and regulations must align with the overarching principles of *Better Regulation*. These principles ensure that policymaking is evidence-based, transparent, and involves broad stakeholder consultation. In this regard, the Commission applies the *Better Regulation Guidelines*, which provide a structured framework for conducting impact assessments, stakeholder consultations, and evaluations of regulatory initiatives. By embedding AI policies into this framework, the Commission seeks to guarantee coherence with existing EU priorities while safeguarding efficiency and legitimacy in the decision-making process (European Commission, 2021a).

Figure 2. Share of companies using artificial intelligence in the EU (2021)



Source: European Court of Auditors, 2024.

These protective measures also benefit the sphere of industrial relations, both directly and indirectly. One of the persistent concerns of European policymakers is the extent to which work - and the way it is performed - has been transforming, or is expected to transform, as the primary factor of production in light of the increasingly prominent use of artificial intelligence technologies. Concerns about the gradual replacement of working humans by robots, by artificial intelligence, are not new. Basically, such concerns were present in other eras, when humanity recorded industrial leaps and innovations that, in the end, made the world benefit from sustainable development. Whether we are talking about the post-1850 phase of the nineteenth century, whether we refer to the interwar period or the current one, it is obvious that decent work leads to economic growth, and decent work, along with economic growth, presupposes sustainable development.

A similar conclusion has been reached at the global level, indicating that the conditions for an expanded use of artificial intelligence are evident, particularly in light of projected future investment trends.

The Digital Europe programme, which started in 2021 and is expected to end in 2027, pursues several investment objectives in artificial intelligence. These investments also benefit the work, or the providers of work in the traditional format, because the development of artificial intelligence also has positive consequences in terms of adapting and reshaping industrial relations, a useful aspect for both employees and employers.

Of course, this research does not exhaust the subject of artificial intelligence and, indirectly, industrial relations. The specific objectives for future investment under the Digital Europe Programme are as follows:

- High Performance Computing - 2.2 billion euros;
- Artificial Intelligence - 1 billion euros;
- Cybersecurity and trust - €1.6 billion;
- Advanced digital skills - €0.6 billion;

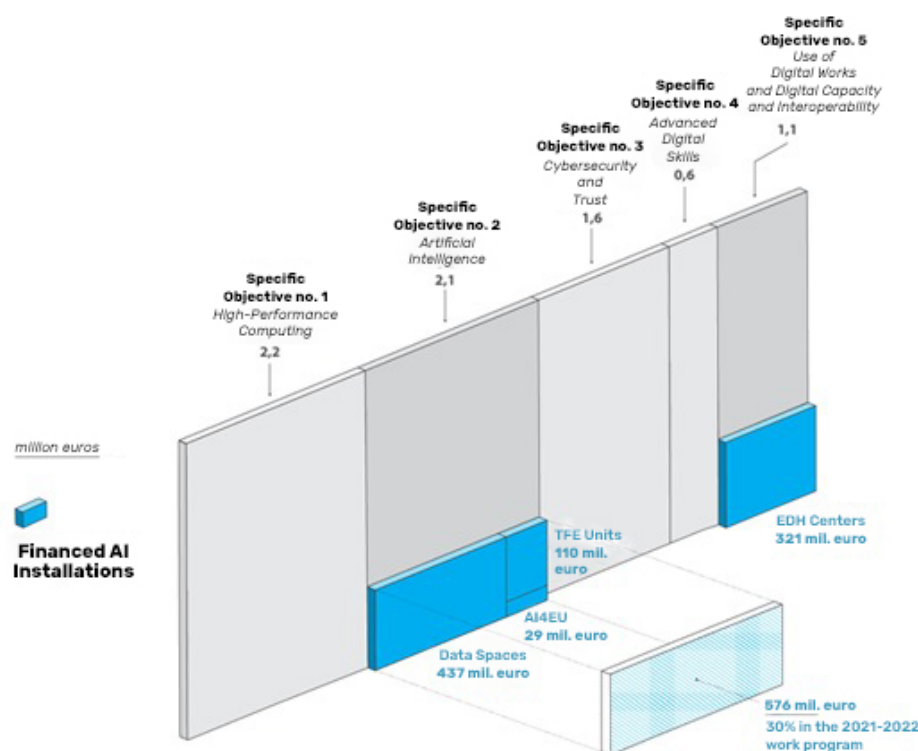
- Implementation, optimal use of digital capacity, interoperability - 1.1 billion euros (European Commission, 2021b).

Of this money, a part is also poured into the research field of labor relations and industrial relations. Those funds are not allocated exclusively to technological components; they are also directed toward societal measures and initiatives aimed at mitigating the disruptive effects that the use of artificial intelligence may generate on the labor market.

This objective is likewise reflected in W8, which promotes sustainable economic growth in conjunction with decent work and enhanced individual well-being.

The significant impact of artificial intelligence on productivity enhancement, labor market structures, and workplace dynamics inevitably reshapes the way employees and employers interact, making social dialogue not only relevant but essential in addressing emerging challenges and ensuring equitable adaptation to the digital era.

Figure 3. Artificial intelligence installations funded by the Digital Europe Programme for the period 2021-2027



Source: European Court of Auditors, 2024

The significance of social dialogue within industrial relations and sustainable development

The European Parliament considers social dialogue to be an essential element of the emerging European social model, underpinning its capacity to promote cohesion, fairness, and sustainable development. (European Parliament, 2025). If in the past labor conflicts had an unamicable, sometimes even bloody resolution, today, social dialogue plays a predominant and even prophylactic role in industrial relations. Social dialogue enables the social partners to participate actively in shaping European employment and social policies, including through the conclusion of agreements that may later be revised, expanded, and improved.

By social partners we mean both the staff and the management, basically the two main categories of forces that make up the picture of industrial relations: employees and employers, respectively trade unions and employers. As a cornerstone of employment and social policy, social dialogue plays a vital role in shaping equitable labour standards and fostering inclusive socio-economic development.

The legal basis for social dialogue is Articles 151 to 156 of the Treaty on the Functioning of the European Union (TFEU). In accordance with Article 151 of the TFEU, the promotion of social dialogue is acknowledged as a shared objective of both the European Union and its Member States. Its purpose is to enhance European governance by ensuring the active involvement of social partners in both the decision-making process and the implementation of adopted policies. For this reason, including the theme of the doctoral thesis, to which this work is subordinated, it considers the remodeling of industrial relations, from the perspective of Romania's integration into the European Union.

Under Article 154 TFEU, the European Commission is required to consult the social partners before undertaking any initiative in the field of social policy. Following this consultation, the social partners may choose to enter into negotiations with a view to concluding an agreement between themselves. They have a nine-month period in which to conduct negotiations, after which they may:

- conclude an agreement and jointly request the Commission to submit a proposal to the Council for the adoption of an implementing decision; or
- conclude an agreement and proceed to implement it in accordance with their own procedures and practices, as well as those applicable in the Member States (resulting in “voluntary” or subsequently “autonomous” agreements); or
- determine that no agreement can be reached, in which case the Commission resumes its work on the relevant proposal.

Article 153 TFEU also allows Member States to entrust the social partners with the implementation of a Council decision based on a collective agreement concluded at European level.

According to the European Union Labour Force Survey (EULFS), published by Eurostat, a considerable proportion of young people aged 15-29 who are residents of the European Union are not employed. Moreover, they do not want to specialise and obtain qualifications that will allow them to work and perform professionally in the future. This aspect is on the agenda of the competent committees within the European Union, one of the recommendations being that the role of social dialogue should increase in this case, in order to convince the latent workforce to get involved, to acquire capacities and skills and, ultimately, to work (Eurostat, ESDE Review 2024).

In this case, employers are also affected, or rather, the first affected are employers who, although they aim at economic growth and want to offer decent working conditions, with satisfactory salaries, have no properly trained willing candidates. Social dialogue can be extremely important and effective here, in order to minimize the effects of this trend. Romania, although it has managed to reduce, over time, the gap to this indicator, has not managed to leave the last position of the ranking, which means that, in the future, social policies and social dialogue in this regard must be intensified.

In this context, social dialogue should be understood as a governance instrument that supports the achievement of contemporary sustainable development goals. The idea is put forward by most Western researchers, who believe that social dialogue is a lever for achieving goals and for government instruments to be friendly to society (Hermans et al., 2017).

Therefore, the new perspective presents social dialogue and its role as a governance tool and information collector for governments, in the perspective of future legislative changes regarding labor and labor relations. It also follows from this fact the major role that social dialogue plays in the context of sustainable development and its objectives, in particular W8.

In order for social dialogue to have the effective role referred to, it is necessary for the pattern of industrial relations to require precise, measurable information, obtained through social dialogue, in the perspective of sustainable development. Such information is:

- what are the major themes addressed by the social dialogue;
- the basic concepts and theories of industrial relations pursued through social dialogue;
- correlation with the Sustainable Development Goals;
- contribution of social dialogue to sustainable development.

All the mentioned categories can be researched separately and developed, but not in the margin of the present work. Having clarified and consolidated the role of social dialogue at the intersection of industrial relations and sustainable development, the next step is to define more precisely the context in which social dialogue is employed, as well as the conditions required for it to contribute effectively to sustainable development. Here we can talk about measures and indicators at international, national,

local level, up to the workplace of each one, depending on the particularities and context. It is very important that, in order to make maximum use of social dialogue in this context, there is a very good and precise knowledge of what is known, up to that point, about the contribution of social dialogue to sustainable development. If these constants of the equation are clearly known, industrial relations, in this case, can start from a common point, understood and agreed, for the development and ramification of the role and use of social dialogue, in perspective.

Some specific details in this case are as follows:

- working conditions, workers' rights and equality at work;
- access to public goods and policy instruments, alongside redistributive measures;
- growth and technological innovation;
- climate and environment;
- governance and participation.

These guidelines can be developed, each of them, through specific research, to reveal the role that social dialogue plays in sustainable development. As social dialogue is one of the basic tools of industrial relations, it remains the same two-way vector that transfers and interprets information in multiple directions, from employees and employers and vice versa, respectively from industrial relations to sustainable development and vice versa.

A key conclusion of this section is that the sustainability of the European Union's economy depends on strengthening sectoral industrial relations. The diversity of work and the complexity of production processes across Member States make it difficult for purely national frameworks to capture all specificities. By placing the sector at the core level of collective bargaining and social partner organisation, industrial relations can better support decent work, economic growth and adaptation to structural changes.

5. Conclusion

This paper underscores the pivotal role of industrial relations in advancing the Sustainable Development Goals, with particular emphasis on W8. By promoting inclusive decision-making, strengthening institutional trust, and ensuring fair transitions within the labour market, industrial relations function as a catalyst for sustainable growth. The study shows that the integration of AI and digital technologies into labour systems generates both significant opportunities and notable risks. Therefore, it is imperative for social partners - governments, employers, and trade unions - to co-create governance models that safeguard labor rights while fostering innovation. Sustainable development cannot be achieved without robust labor systems that address inequality, strengthen social cohesion, and align technological advancements with human dignity. Industrial relations, as an adaptive and continuously evolving institution, will remain indispensable for addressing the socio-economic challenges of the twenty-first century.

This research highlights the significant interplay between industrial relations and selected sustainable development goals, particularly W8, W3 and W4. Industrial relations are presented as a dynamic field of study, evolving in both theoretical understanding and practical application, and playing a crucial role in mediating relationships between employees and employers.

The analysis demonstrates that industrial relations serve as a strategic tool for promoting sustainable economic growth, enhancing workplace well-being, and supporting continuous learning and skill development. Their effectiveness is further amplified when considered alongside other SDGs, including responsible production and institutional partnerships, emphasizing the multidimensional impact of industrial relations on sustainable development.

Artificial intelligence is shown to reshape work processes and industrial relations practices, offering potential gains in productivity and economic growth, but also creating challenges related to labor market imbalances. In this context, social dialogue emerges as a stabilizing mechanism, ensuring equitable participation of all stakeholders, mitigating potential inequalities, and fostering sustainable development outcomes.

Overall, the research suggests that strengthening industrial relations, integrating technological innovation, and promoting inclusive dialogue can substantially contribute to achieving sustainable development objectives. These findings establish a solid basis for future research exploring the complex

interplay between industrial relations, technological transformation, and the design of sustainable development policies.

Limits of research. This research does not intend to deliver a comprehensive analysis of the multifaceted and evolving relationship between the Sustainable Development Goals and industrial relations, but rather to highlight key dynamics and areas of interaction. Instead, it focuses on three specific objectives: examining the links between industrial relations and W8, W3 and W4. Within this scope, the analysis is limited to a selection of relevant economic indicators, without extending to the entire range of available data series.

Industrial relations have been examined primarily in connection with the sustainable development goals, without an extensive focus on their historical evolution or detailed theoretical background.

Also, the objectives of sustainable development chosen as tangent to industrial relations, were briefly addressed, and some only mentioned. W8 was insisted on, but the field of research in this regard remains open for similar future work.

A similar analytical approach was applied to the examination of artificial intelligence and social dialogue, with particular attention to their relationship with industrial relations and the W0. These aspects were examined to highlight how technological and social innovations can influence the development and adaptation of industrial relations.

Future research directions. Human capital represents the most important resource from the perspective of both industrial relations and sustainable development. Building on the conclusions of this study, several avenues for future research can be identified, including:

- investigating the impact of industrial relations on sustainable development outcomes across different sectors and countries;
- exploring the integration of artificial intelligence into industrial relations and assessing its implications for workforce performance and labour-market dynamics;
- examining how social dialogue mechanisms can be adapted to support fair and inclusive transitions in the context of digitalisation and green transformation;
- analysing the institutional conditions that enable industrial relations systems to contribute effectively to the achievement of the W0;
- assessing cross-national differences in regulatory frameworks and their influence on the capacity of industrial relations to mediate **technological and environmental change**
- analyzing the role of social dialogue in mitigating potential inequalities and enhancing inclusive growth;
- examining the interactions between industrial relations and other sustainable development goals beyond W8, W3 and W4.

These directions provide a framework for further academic, theoretical, and practical inquiry in the field.

Drawing on the gaps highlighted in the current body of literature, a number of promising directions for future research can be identified:

1. Exploring the integration of industrial relations and artificial intelligence in promoting sustainable development, with a focus on balancing productivity gains and social equity in the labor market;
2. Investigating the role of industrial relations in advancing lesser-studied SDGs, such as responsible consumption and institutional partnerships, highlighting connections that have been insufficiently analyzed in prior research;
3. Developing innovative strategies for social dialogue to strengthen the implementation of the SDGs at organisational and sectoral level, emphasizing practical mechanisms that enhance employee participation and inclusive growth.

Together, these research directions seek to advance both theoretical understanding and practical approaches to the interplay between industrial relations and sustainable development, filling gaps that continue to be underexamined within the existing academic literature.

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