

OPEN ACCESS: Giarmoleo, F. V., Pablo, G.-R., Rocchi, M., & Ferrero, I. (2026). Virtuous Organizations in the Age of AI: Relational Goods and Human Flourishing. *Business Ethics, the Environment & Responsibility*. <https://doi.org/10.1111/beer.70090>

Virtuous Organizations in the Age of AI. Relational Goods and Human Flourishing

Abstract

The integration of AI-based systems in everyday work has given rise to augmented organizations, transforming traditional work paradigms and prompting new research questions concerning augmented work processes and their related ethical issues. Drawing upon the practice-institution framework proposed by Alasdair MacIntyre, integrated with Donati's concept of relational goods, this article examines whether and how augmented organizations can be virtuous. This article spans the macro, meso, and micro levels, shedding light on the crucial role of practical wisdom in balancing effectiveness and relational goods. The findings underscore the significance of practical wisdom across diverse organizational settings, with care-related professions serving as exemplars. We focus on carebots and hospitals, exploring the relational dimension in nursing and medical practices. We chose this sector for its ethical relevance, technological involvement, and its human-centric nature, combining expertise and technological advancements for the common good. Additionally, the article encourages further investigation of the interplay between AI and human moral development within augmented organizations.

Keywords: virtuous organizations, AI, virtue ethics, relational goods, chatbot, practical wisdom

Introduction

The rapid integration of artificial intelligence (AI) in the workplace has given rise to augmented organizations, i.e. companies and institutions that leverage AI to optimize their processes and decision-making. This phenomenon has drawn significant academic attention, leading to different lines of research. On the one hand, how AI reshape human interactions in organizations by shifting autonomy from people to technology when augmenting tasks, thereby redefining roles and skill requirements (e.g. Carroll et al., 2019; Ezer et al., 2019; Jaiswal et al., 2022; Memmert & Bittner, 2022; Siemon, 2022; van den Bosch & Bronkhorst, 2018; Zhang et al., 2021). On the other hand, ways to foster effective coordination between humans and AI (Flathmann et al., 2021; Schelble et al., 2024), suggesting that AI may soon be perceived as an autonomous moral agent, challenging traditional notions of responsibility in AI-augmented environments (Niederman & Baker, 2023; Zhang et al., 2023).

Despite the extent of these contributions, the literature still lacks a comprehensive framework that integrates AI augmentation as both an organizational and ethical phenomenon. This lack generates two concerns. First, focusing only on one of these two levels of analysis has the risk of either prioritizing AI's organizational benefits -such as enhanced productivity- while neglecting ethical considerations, or highlighting only the ethical challenges for individuals failing to account for the transformation at the organizational level. Second, existing studies rarely address how AI technologies reshape the relational dynamics that sustain organizational life thus overlooking the moral and social foundations of collective practices. By mediating decision-making, communication, and interaction, AI technologies reshape the conditions under which trust, cooperation, mutual recognition, esteem, and sense of purpose can emerge and flourish. This is not a merely theoretical concern: when these relational goods deteriorate, organizations risk losing the moral ground that enables their members to act as responsible agents rather than as instruments of efficiency. These two gaps underscore the need for a

framework that simultaneously addresses both its ethical and organizational dimensions. As Erman and Furendal (2022) emphasize, understanding the ethical implications of transformative AI requires an interdisciplinary—and, we add, multi-level—approach capable of capturing how AI integration affects individuals, relationships, and institutional structures alike.

This article aims to bridge this critical gap by presenting a unified multi-level theoretical analysis grounded in virtue ethics (MacIntyre, 2007), offering a normative proposal for “virtuous augmented organizations”. The rationale for this approach is twofold. First, virtue ethics stands out as the most suitable ethical framework for addressing AI’s ethical challenges over rule-based approaches (Hagendorff, 2020; Heyder, 2023; Giarmoleo et al., 2024), in particular assessing whether augmented organizations can be virtuous, as it prioritizes moral character development (Annas, 2006; Aristotle, 1999). Second, the MacIntyrean perspective extends this ethical approach to organizations, highlighting how structures and practices can support or hinder virtuous behavior (Beadle & Moore, 2006; Moore, 2017, 2022). MacIntyre is widely cited in contemporary discussions on business ethics (Ferrero & Sison, 2014), and his framework has been adopted in organizational studies (Moore, 2017, 2022; Sison et al., 2017), highlighting how “virtuous” organizations promote human flourishing.

In this article, we specifically integrate MacIntyre’s practice–institution framework (MacIntyre, 2007) with Donati’s relational sociology (Donati, 2010), offering a framework to evaluate the ethical challenges of AI-augmented organizations. MacIntyre provides the normative foundation, showing how virtues and internal goods foster excellence within practices and institutions. Donati explains how “relational goods” — such as trust, cooperation, mutual recognition, esteem, and sense of purpose — constitute the social fabric that sustains such practices even in technologically mediated environments.

While developing the theoretical contribution, this article considers the care sector as a prominent context for examining how augmented organizations can be virtuous for three key reasons. First, the care sector is at the forefront of work augmentation, as AI and automation are increasingly integrated into caregiving roles (Kellogg & Sadeh-Sharvit, 2022). From robotic assistants in elderly care to AI-driven diagnostic tools in healthcare, augmentation is reshaping the industry. Second, care-related activities have already been analyzed through a MacIntyrean lens, making the sector a well-established domain for applying virtue ethics (Bishop 2011). Finally, the care sector uniquely demands a balance between a human-centric approach and continuous technological advancements. Unlike many other industries where efficiency and productivity are the primary concerns, care work inherently involves relational goods such as empathy, trust, and interpersonal relationships. This dual necessity makes the care sector a compelling case for evaluating how augmented organizations can be virtuous and whether virtue ethics provides the most effective ethical framework for guiding their development.

This theoretical contribution advances the literature on virtuous organizations by grounding moral excellence in the preservation of relational structures that sustain cooperation, trust, mutual recognition, esteem, and sense of purpose. It also enriches current debates on responsible AI, moving beyond principles of accountability and transparency toward a virtue-based account of how technological mediation affects human flourishing. Beyond its theoretical implications, this framework has practical relevance for managers, policymakers, and organizational designers. It suggests that preserving relational goods should be treated as a strategic moral priority in AI governance, ensuring that efficiency and innovation remain at the service of human flourishing and societal good. The conceptual synthesis thus marks a significant advancement in AI ethics, bridging moral philosophy and relational sociology to offer a concrete, multi-level framework that can guide managers and decision-makers in shaping virtuous augmented organizations. Finally, the conceptual model developed here opens

new avenues for research: future studies can examine ways through which virtue-based governance practices can support both efficiency and relational goods.

The article is structured as follows. Section 1 introduces the concept of work augmentation and examines its potential effects on organizational practices and individual moral development. Section 2 presents a framework for evaluating scenarios in augmented organizations, distinguishing between virtuous and non-virtuous practices, with practical recommendations for developing virtuous AI-enhanced work environments at various organizational levels (macro, meso, micro). Finally, the conclusion summarizes the findings and suggests directions for future research.

1. Augmented work and the pursuit of excellence: a MacIntyrean perspective

1.1. The augmentation of work

The integration of AI into the workplace, driving increased human-AI interaction (Davenport & Miller, 2022), has sparked a transformative revolution in organizations, characterized by three key factors.

First, this integration has redefined human-AI collaboration, particularly through real-time interaction between AI-based systems and human workers. These AI systems operate with a relative degree of autonomy and demonstrate consistent reliability in specific contexts (Gamez et al., 2020, p. 800). For AI-human collaboration to be truly effective, AI must develop what Johnson and Vera (2019) describe as "teaming intelligence", the ability to work dynamically alongside human counterparts. In military applications, for example, Van den Bosch and Bronkhorst (2018) highlight the need for "trust calibration"—adjusting collaboration levels based on trust dynamics—finding that augmented teams perform better at lower trust levels. They further recommend structuring AI-human partnerships to enhance mutual awareness of strengths, limitations, and shared objectives (Van den Bosch & Bronkhorst, 2018). Moreover,

AI's analytical capabilities complement human strengths such as intuition, imagination, and creativity, compensating for AI's decision-making limitations while streamlining problem-solving by identifying causal relationships (Jarrahi, 2018). However, in certain scenarios, human oversight remains crucial, requiring humans to actively guide AI systems to ensure alignment with ethical and operational goals (Caldwell et al., 2022).

Second, the interaction between humans and AI within a team increasingly mirror human-to-human collaboration, as AI takes on a more active role as a partner in specific domains (Ashktorab et al., 2020). Caldwell et al. (2022) argue that augmented teams progress through the same four developmental stages outlined in Tuckman's classic model (1965). In the forming phase, humans must familiarize themselves with the AI system's purpose and functionality. During the storming phase, conflicts may arise due to uncertainty about AI's decision-making processes and outputs. As teams enter the norming phase, humans establish trust in AI by implementing protocols and feedback mechanisms, fostering a sense of partnership. Finally, in the performing phase, the augmented team operates efficiently, leveraging AI's capabilities for effective problem-solving. However, just as human teams face challenges, augmented teams also encounter obstacles, particularly regarding trust and transparency. These elements are essential to fostering mutual understanding between humans and AI, as successful collaboration requires confidence in AI's reliability and decision-making processes (Caldwell et al., 2022). Additionally, humans must adapt by refining their analytical skills to effectively interpret and work alongside AI systems (Ashktorab et al., 2020).

Third, the integration of AI-based systems introduces novel structural configurations within organizations that can either constrain or expand opportunities for actions, products, and services. Contrary to the fear of AI replacing human roles, Shneiderman (2022) compares this concern to past innovations like telegraphy and automobiles, while Daugherty and Wilson (2018) argue that these technologies complement and enhance human capabilities, boosting

organizational effectiveness and driving innovation, leading to augmented organizations that optimize operations and decision making processes.

1.2 The augmentation of work in the care sector

The ethical implications of AI augmentation have been widely examined across various domains in business, including auditing (Brown-Liburd et al., 2020), marketing (Hermann, 2021) and personnel recruitment (Hunkenschroer & Luetge, 2022). However, beyond these industry-specific concerns, fundamental moral questions emerge: How does AI integration impact human moral development? Can augmented organizations help their employees flourish? These questions take on particular urgency in the care sector.

The healthcare sector has witnessed a rapid expansion of AI adoption, driven by the need to reduce costs and meet increasing care demands (Guo et al., 2020). As a result, organizations are actively seeking ways to integrate AI innovations into care work (Czaja & Ceruso, 2022; Hsu, 2021). Caregiving—whether for children, the elderly, individuals with disabilities, or dependent patients—has long been recognized as a domain that fosters moral and personal development (González & Iffland, 2014). At the same time, this sector presents profound ethical challenges, requiring caregivers to navigate the delicate balance between preserving human dignity and leveraging technological advancements.

One of the most promising AI-driven innovations is carebots—robotic systems designed to support daily caregiving tasks. These technologies assist with essential activities such as mobility (Graf & Eckstein, 2023), medication management (Darokar et al., 2021), and companionship (Vallor, 2020). By alleviating some of the physical and cognitive burdens on human caregivers, carebots have the potential to enhance both the quality and efficiency of care delivery (Brannigan, 2022; Palmer & Schwan, 2022). Looking ahead, their capabilities may extend to answering patient and caregiver inquiries, detecting early signs of fatigue, identifying

symptoms that might otherwise go unnoticed, and even recognizing potentially dangerous drug interactions.

Given the significant physical, psychological, and economic demands of caregiving, it is likely that carebots will continue to take on an increasingly autonomous role in care provision. This shift raises important ethical questions about the evolving nature of caregiving and the extent to which carebots can—or should—assume responsibilities traditionally reserved for human caregivers. A key concern in the literature is the risk of ‘deskilling’, where human caregivers lose their ability to develop and refine essential skills, such as assisting patients in managing pain or providing emotional reassurance (Vallor, 2015). A decline in these skills could, in turn, weaken the relational aspect of caregiving, which is foundational to high-quality care.

Scholars widely agree that carebots cannot replace human beings in fostering meaningful relationships. Bertolaso and Rocchi (2020) argue that technology can perform certain care-related tasks, but only human caregivers can go beyond those tasks and “take care” of their “own and other’ historicity” (p. 892). Similarly, Robson (2019) warns that while AI can assist in decision-making and perform specific tasks, it cannot develop moral agency or genuinely care for others. More broadly, the delegation of care tasks to AI poses risks to the depth and authenticity of human relationships.

Rubeis (2020) identifies four interrelated dangers—referred to as “4D-risks”—in elderly care: Depersonalization, caused by algorithmic standardization that strips care of its individual, person-centered nature; Discrimination as AI systems may reinforce biases that disadvantage minority groups; Dehumanization where excessive automation reduces human caregivers to mere overseers of robotic processes; and Disciplining in which AI-driven monitoring and surveillance subtly control users’ behaviors, potentially limiting their autonomy.

These risks highlight the potential for AI to undermine trust and tenderness weakening the personal, empathetic aspects of care. For example, while carebots can assist nurses in dealing with patients safely and efficiently, their presence might shift the caregiver's focus from the patient to operating the machine, diminishing the quality of interaction and emotional connection (Van Wynsberghe, 2020).

In summary, while the literature underscores the importance of preserving human relationships in AI-augmented care, it remains unclear how organizations should operationalize this principle when integrating AI into caregiving processes. To address this challenge, the next section introduces MacIntyre's practice-institution framework and applies it to the context of augmented work, offering a structured approach to balancing technological advancement with ethical caregiving practices.

1.3 The practice-institution scheme for the augmented work

Virtue ethics, described by Abbà (1996) as “first-person ethics”, evaluates actions from the perspective of the acting individual. Unlike deontological ethics, which focuses on adherence to moral rules, or utilitarianism, which prioritizes the consequences of actions, virtue ethics emphasizes the cultivation of good character traits, known as virtues. Virtues are stable dispositions that guide behavior towards human excellence (Aristotle, 1999). Aristotle's virtue ethics highlights two crucial dimensions. First, virtuous behavior is essential to achieving *eudaimonia*, often translated as flourishing—the highest human good and the ultimate goal of life. Second, virtue is not developed in isolation but within communities that encourage and support individual ethical behavior. Building on Aristotle's insights, Alasdair MacIntyre, one of the most influential contemporary scholars in virtue ethics (Ferrero & Sison, 2014), further emphasizes the central role of communities in shaping moral character. He argues that virtues

are cultivated within shared practices and traditions, where individuals learn and refine their moral dispositions through collective participation and engagement.

MacIntyre (2007) defines practice as “any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended” (p. 187). According to MacIntyre, engagement in practices provides both internal goods, defined as “goods of excellence”, and external goods, referred as “goods of effectiveness” (MacIntyre, 1988). External goods include money, power, and prestige, and are not characteristic of any specific practice. Internal goods are typically linked to virtues and personal excellence and include the specific achievements, skills, and satisfactions developed by participating in that practice. For example, the practice of nursing includes the development and sustenance of a helping relationship, the exercise of skills and wisdom to care for the patients, and the feeling of being valued by them and their relatives as internal rewards that are directly related to the satisfaction of helping others (Armstrong, 2006; Sellman, 2011). Nursing requires physical, emotional, and intellectual presence as well as a wide range of moral virtues such as compassion, benevolence, kindness, respectfulness, patience, tolerance, trustworthiness, and honesty (Armstrong, 2006). In another example related to healthcare practices, MacIntyre (1975) pointed out that among the virtues that medical doctors must develop are reliability, fairness, courage, humility, and friendship.

Practitioners need to organize themselves to set standards, obtain resources and advance other common goals. To this end, institutions emerge. MacIntyre (2007) identifies various organizations as examples of institutions, including clubs, universities, and—most relevant to this discussion—hospitals. While practices are concerned with internal goods, institutions focus

on the acquisition of external goods, which are necessary to sustain and nurture practices. Institutions sustain practices by providing necessary means but also typically introduce conflicts when the ideals and the creativity of the practice prove “vulnerable to the acquisitiveness of the institution” (MacIntyre 2007, p. 194). This practice-institution tension consists precisely in the need to negotiate which type of good has priority in each situation and circumstance.

The practice-institution framework has been extensively applied in business ethics to explain how individuals can achieve personal flourishing within organizations in various fields, including finance (Rocchi et al., 2021), investment advising (Wyma, 2015), management (Beabout, 2012) and medicine (Bishop, 2011). Beyond its application to specific industries, the framework has been instrumental in studying human virtues in organizational settings (Moore, 2005, 2012, 2017, 2022; Wang et al., 2016). It has also provided insights into the nature of innovation (Redín et al., 2023) and has been applied to analyze organizational transformations driven by technological advancements like the integration of information systems (Adam & Bull, 2008).

The adaptability and effectiveness of this framework lie in its ability to reconceptualize organizations as a dynamic interplay between practice and institution (Beadle & Moore, 2011). Given their dual role as both centers of professional practice and complex institutions subject to external pressures, hospitals serve as a compelling context for applying the practice-institution framework, particularly in understanding the ethical implications of AI augmentation in care work. As noted in the previous section, the literature highlights that the impact of carebots on human relationships is a key factor in assessing the ethical implications of work augmentation. MacIntyre’s theoretical framework offers a valuable lens through which analyze this relational dimension.

1.4 The relational dimension of the practice

A central tenet of MacIntyre's thought is that practice is inherently social, cooperative, and, therefore, relational. As already mentioned, MacIntyre (2007, p. 187) defines practice as a "socially established cooperative human activity" in which internal goods can only be achieved through relational engagement. Practitioners do not merely pursue individual excellence but actively strive for common goods, which are both achieved and enjoyed *qua* members of various social groups—whether a family, a school, or a professional team (MacIntyre, 2016, p. 167).

Contemporary scholarship further underscores the dual significance of individual and communal dimensions in cooperative practices. Bezuidenhout (2017) highlights relational activities, such as collaboration and data sharing, as essential to sustaining scientific practice—distinct from internal goods but equally crucial. Fitzmaurice (2010) similarly argues that teaching is a practice that extends beyond intellectual mastery; it requires understanding the learners within their broader social and contextual environment, rather than merely applying standardized methodologies.

Relationships involve a specific category of goods known as "*relational goods*", a concept first introduced by Nussbaum (2001 [1986]), and later expanded by various scholars, particularly by the sociologist Pierpaolo Donati (2010). Relational goods are intangible, shared benefits—such as trust, cooperation and reciprocity—that emerge from social interactions and help produce further relational goods, namely scientific advancement and co-learning. These goods are co-created and experienced collectively, offering benefits not only to participants but also to the broader community, without exclusive ownership. Other examples include friendship, supportive communities, harmonious work environments, and caring social and health services (Donati, 2019a).

The role of relational goods in the workplace is becoming central. Rodriguez-Lluesma et al. (2021) notice that, with the rise of emerging technologies, work is increasingly mediated by social networks and interaction. Donati (2021) suggests evaluating AI implementation based on whether it fosters positive relational benefits that enhance human well-being or, conversely, undermines them. Generating relational goods requires '*relational reflexivity*', an awareness of how individuals are interconnected and the consequences of these relationships (Donati & Archer, 2015). Relational goods arise when agents reflexively and intentionally engage with others to create mutually beneficial relationships.

MacIntyre (2016) distinguishes between two perspectives on social experience: those who see themselves as independent individuals, regarding social ties as incidental, and those who recognize that their identity is shaped by fundamental social relationships. The latter group understands that personal flourishing is discovered through collective deliberation and the promotion of shared goods.

Integrating AI into care-based professions risks undermining the relational dimension of practices like nursing and medicine. The relational goods inherent in these fields depend on trust, cooperation, and interpersonal connection among agents. As Donati (2019b) argues, in order to ensure that interpersonal relationships remain central in these practices, work augmentation must be '*relationally steered*', that is, oriented to respect and promote specific relational goods. Therefore, relational goods, as described by Donati, are fundamental to sustaining practices, as conceived by MacIntyre.

In summary, MacIntyre's virtue ethics emphasizes the cultivation of personal excellence within cooperative practices, providing a foundation for the ethical and organizational design of augmented organizations. The erosion of relational goods would undermine the attainment of internal goods within a practice. Therefore, a normative proposal on augmented organizations

needs to balance the pursuit of external goals, like efficiency and productivity, with relational goods, such as trust and cooperation. This framework provides a lens for analyzing specific relational goods and assessing how AI may influence them, either positively or negatively. The following section addresses these implications for organizations, with a particular focus on the healthcare sector.

2. Designing virtuous augmented organizations

2.1 Virtuous organizations and augmented work: fostering excellence and relational goods

As argued, relational goods such as trust, reciprocity, sense of purpose, mutual recognition and cooperation constitute the social fabric that sustains collaborative practices. Only within stable and trust-based relationships can practitioners engage in shared activities that enable the cultivation of internal goods — namely, virtues and forms of professional excellence. When relational goods deteriorate, cooperation within organizations weakens, and the practice itself risks losing the conditions necessary for the pursuit and realization of internal goods. Accordingly, the preservation of relational goods is a necessary precondition for AI to genuinely foster virtue and excellence within augmented organizations.

The concept of ‘virtuous organizations’ has been widely discussed in the literature (Collier, 1995; Moore, 2015, 2022) to explain how organizations either foster or hinder the moral development of employees and stakeholders. A virtuous organization “has a good purpose realized in its pursuit of internal and common goods; recognizes that its most important function is the sustaining and encouragement of excellence in the particular practice it houses; and has an ordered focus on the achievement of external goods” (Moore, 2022, p. 3). Therefore, an organization becomes virtuous by promoting excellence among its members while pursuing its

purpose. In contrast, it is flawed or morally deficient if it prevents its members from achieving excellence in the pursuit of that purpose.

To safeguard and promote relational goods in organizations, vital for sustaining a practice, Donati (2019c) proposes a three-step approach. First, organizations should monitor interactions and relationships actively, allowing members to understand their relational interdependencies and their impact on performance. Second, organizations should diagnose relational challenges, identifying and addressing deviations that hinder effective collaboration. Third, management should establish guidance programs and set clear objectives, standards, and expectations, and providing ongoing support mechanisms. In doing so, organizations can balance efficiency-driven external goals with the human-centered pursuit of relational and internal goods. Achieving this balance requires decision-makers to cultivate practical wisdom, a virtue essential for navigating the ethical and relational complexities of augmented environments. Practical wisdom (*phronesis*) is crucial in decision-making, enabling individuals to analyze complex situations, recognize their ethical dimensions, and act in alignment with the human good (Díez Gómez & Rodríguez Córdoba, 2019; Roca, 2008; Melé, 2010). It involves discerning which goals are worth pursuing and selecting the most appropriate means to achieve them (Morales-Sánchez & Cabello-Medina, 2013).

A key aspect of practical wisdom is its relational dimension. Thomas Aquinas (1964) outlines three stages of practical wisdom: seeking advice, deliberation, and action—where the initial phase is inherently social. Staudinger et al. (2006) further highlight four facets of wisdom—its origin, acquisition, activation, and function—all of which require relational reflexivity. For example, consider a nurse caring for elderly patients who demand continuous support. Her practical wisdom is reflected in how she provides medical care, ensuring that patient dignity remains central. This wisdom is cultivated through meaningful relationships with patients and families, where attentive listening, empathy, tenderness and trust shape individualized care. Her

decision-making is not purely task-oriented but deeply relational, fostering a compassionate and honest hospital environment.

Conversely, agents who lack practical wisdom may focus solely on operational efficiency, neglecting the relational aspects of their role. A doctor, for instance, might prioritize meeting time constraints and cost-saving measures over patient interaction. However, research underscores the importance of communication, listening skills, and emotional intelligence in medical decision-making (Malik et al., 2015). In healthcare and other augmented environments, fostering relational reflexivity and practical wisdom ensures that professionals balance internal and external goods, maintaining both ethical integrity and effectiveness (Pugh, 2024).

This interplay between efficiency and relationality is also reflected in empirical research. Studies on person-centered care show that respect, trust, and shared decision-making are key factors influencing patient experience and perceived quality of care (Ahmed et al., 2023; Giusti et al., 2020). The impact of AI on these dimensions has become an increasingly prominent topic. Larsson et al. (2025) found that healthcare leaders believe AI applications can support person-centered care at multiple levels, improving both care quality and patient health. Nash et al. (2023) reported that clinicians regard AI as a tool to improve efficiency and reduce burnout, while expressing concern that inadequate implementation may undermine the doctor–patient relationship. Similarly, Gumus and Alan (2025) noted that participants viewed AI and robotic nurses as beneficial for healthcare delivery but doubted that such technologies could replicate human empathy, emotional connection, or personalized care. Collectively, these findings suggest that while AI can enhance efficiency, it also poses challenges to the human and relational dimensions of care, highlighting the need for practical wisdom and relational reflexivity in augmented healthcare practice.

The following section delves deeper into how practitioners can navigate this balance in augmented care settings.

2.2 Virtuous augmented organizations: balancing relational goods and effectiveness

As discussed above, virtuous organizations must balance their orientation towards different kinds of goods. Moore (2012) describes different scenarios that can occur in an organization, depending on its orientation towards the goods of effectiveness, the goods of excellence, or both. This section applies Moore's understanding of a virtuous organization to the augmented organization setting. We now identify three scenarios, which are exemplifications of possible positioning of an organization towards virtuous behaviors when integrating AI technologies.

2.2.1 Scenario A: reluctance in AI integration

Scenario A) represents companies reluctant to adopt AI, fearing that it may prioritize efficiency over relational goods. However, pursuing moral excellence should not entail neglecting effectiveness in achieving organizational aims. Moore (2012) argues that internal goods encompass both product excellence and personal development, and MacIntyre (1988) emphasizes the interdependence of effectiveness and excellence in most social contexts. Indeed, the attainment of external goods like power, wealth, and recognition often depends on genuine excellence, and effectiveness can serve as a means to this end.

In healthcare, for example, limited resources can hinder patient access to quality care. Relying on traditional methods instead of AI-enhanced solutions may lead to service delays, inefficiencies, and higher costs, ultimately restricting growth. Sellman (2011) defines 'efficacy' as the balance between effectiveness and excellence—an equilibrium that organizations resistant to AI may fail to achieve, hindering their evolution into virtuous augmented organizations. Despite these potential benefits, many companies remain cautious about AI adoption. Some express ethical concerns, fearing that automation could undermine relational

goods such as empathy and trust. Others worry about job displacement, as AI-driven automation may reduce employment opportunities, creating resistance among both employees and management. Financial barriers also play a role, as AI implementation requires significant investment in infrastructure, software, and staff training, which some businesses may find prohibitive. Additionally, lack of technical expertise further complicates integration, while heavily regulated industries face complex compliance requirements that discourage innovation. Concerns over data privacy and security also deter businesses, as AI reliance introduces potential risks of data breaches and misuse. Finally, organizational inertia and rigid structures often impede technological adaptation.

This reluctance carries significant risks. Companies that delay AI adoption may lose their competitive advantage as AI-enabled businesses optimize decision-making, streamline operations, and enhance customer experiences. Without these capabilities, traditional organizations remain reliant on slow, error-prone manual processes, leading to inefficiencies and higher operational costs. Their limited capacity for data-driven innovation limits growth, while more adaptive competitors continue to advance. Over time, these disadvantages can lead to financial strain, declining market share, and reputational erosion hindering talent retention and customer satisfaction, as AI-forward companies set new standards and those resistant to change risk obsolescence.

2.2.2 Scenario B: AI adoption at all costs

Scenario B) represents companies that adopted AI, disregarding the relational aspects of work. Although AI can enhance efficiency, productivity, and profitability, if organizations prioritize short-term effectiveness over long-term sustainability, they may compromise the internal goods by eroding the relational goods that sustain them, neglecting the intrinsic values of care. The helping relationship, grounded in trust, empathy, and mutual recognition and esteem, weakens

when interactions are mediated by automated systems that standardize communication and reduce authentic human contact. The exercise of skills and practical wisdom is constrained by algorithmic decision-making, transforming practitioners into executors of predefined protocols and limiting opportunities for moral growth and collegial cooperation. Likewise, the intrinsic satisfaction of caring for others diminishes, as efficiency-driven workflows reduce the time available for emotional presence and patient recognition. Ultimately, the reliance on AI-based performance metrics threatens the dignity and uniqueness of each person assisted, replacing personalized care with a functional, instrumental approach. As a result, AI not only endangers the ethical quality of care practice but also undermines its relational foundation, making the realization of its internal goods—and thus its moral excellence—impossible.

Sellman (2011) observed that when institutions prioritize efficiency metrics, professionals may shift from patient-centered care to meeting externally imposed targets. Recent studies in healthcare illustrate how this imbalance can be ethically detrimental. For instance, Vergallo et al. (2025) show that excessive reliance on AI in clinical decision-making risks depersonalizing the doctor–patient relationship, as patients may perceive physicians as intermediaries of technology rather than as moral agents capable of compassion and prudence. Similarly, Isaza et al. (2025) warn that, in nursing, automation and algorithmic monitoring can generate emotional distance and diminish the human contact essential to compassionate care. In this sense, what is gained in procedural efficiency may be lost in moral and relational depth, weakening the very foundations of virtuous care. These dynamics reveal how AI, when implemented without relational awareness, can undermine both the practice and the possibility of moral development of the caregivers.

In short, a large-scale AI adoption introduces its own set of challenges. Employees may experience alienation as automation reduces meaningful human interactions. The devaluation of human-centered skills may lead to job dissatisfaction and decreased engagement,

undermining morale and creativity. While AI can optimize many processes, it lacks the capacity for moral discernment, making it unsuitable for decisions requiring compassion or ethical consideration. Furthermore, the overuse of AI may foster a short-term mentality, focusing on immediate gains while neglecting the foundational human relationships that contribute to long-term organizational resilience and trust.

2.2.3 Scenario C: AI adoption enhances effectiveness and relational goods (Virtuous augmented organization)

Finally, scenario C) describes virtuous augmented organizations, where AI enhances both effectiveness and relational goods. In these cases, AI optimizes processes without sacrificing human-centered values. Daugherty and Wilson (2018, p. 200) illustrate this by explaining how AI reduces doctors' workload by reading X-rays and MRIs, identifying hidden health risks in medical records, and detecting cancerous moles that might otherwise go unnoticed. By handling routine tasks, AI allows physicians to dedicate more time to meaningful interactions with their patients, fostering both efficiency and relational goods as trust and empathy.

Ideally, all types of tasks should be augmented, but achieving this balance presents challenges. In medical diagnosis, for instance, human supervision may slow AI-driven processes, yet it remains essential to both preserving the internal goods of the practice and avoid deskilling of medical professionals. As practitioner Moseley notes, AI's coding is often remarkably accurate but sometimes makes inexplicable errors (Davenport & Miller, 2022: 56). This highlights AI's inherent limitation: it simplifies reality into variables, optimizing for effectiveness but sometimes overlooking nuances that require human judgment. Organizations must recognize the acceptable limits of inefficiency to ensure that relational goods are not compromised.

Virtuous organizations continuously refine their processes to strike a balance between effectiveness and human values, rather than rigidly prioritizing one over the other. However,

this balance is not static; it evolves alongside technological advancements. A shift in circumstances can push an organization from excellence to excess, where AI's efficiency gains start to erode relational goods of work. Therefore, practical wisdom is essential—leaders must make context-driven decisions that preserve ethical and moral integrity while leveraging AI's capabilities. This ability to navigate the middle ground ensures that AI remains a tool for augmentation rather than domination, sustaining both innovation and humanity within organizations.

Figure 1 graphically synthesizes the content of this section by reporting the three possible scenarios on the design presented by Moore (2012). The horizontal axis represents an organization's orientation toward *relational goods* (e.g., trust, cooperation, mutual recognition, esteem, and shared purpose), while the vertical axis reflects its orientation toward *effectiveness* (e.g., efficiency, performance, and operational success). Points A, B, and C illustrate three distinct configurations of these orientations, corresponding respectively to the neglect of technology, the overreliance on technology, and the virtuous integration of technological and moral dimensions. Scenarios A and B are intentionally presented to be an exemplification of extreme positions, and we do acknowledge that real organizations are likely to move between these two extremes, finding their own position along the spectrum. Positioned in the upper-right quadrant, point C depicts *virtuous augmented organizations*, where practical wisdom enables a dynamic equilibrium between relational and performance orientations, allowing organizations to harmonize technological efficiency with moral growth.

Insert Figure 1 here

Now that the possible positions related to the integration of AI in a company have been described, the next section focuses on Scenario C and characterizes the conditions that an organization should guarantee in order to move in the virtuous augmented organization space, without falling into the extremes represented by reluctance and adoption at all costs.

3. Nurturing practical wisdom for augmented teams: a multi-level view

To fine-tune the characterization of the normative conditions to become a virtuous augmented organization, our analysis is structured across three levels: macro (the organization), meso (teams and social groups), and micro (individuals). This multi-level approach allows for a nuanced understanding of the complexities at each stage.

We adopt this framework for two key reasons. First, it is a well-established model in business ethics (Dierksmeier & Seele, 2018; Flynn, 2022; Heugens et al., 2006; Spence, 1999), offering a solid foundation for ethical inquiry. Second, given the diverse applications of AI, characterizing its ethical implications at different levels provides deeper insight into the interactions between AI and human dynamics within augmented organizations.

Our analysis considers hospitals as a case study to explore the conditions for exercising relational reflexivity at the macro, meso, and micro levels in medical settings. This serves as a guide for ethical decision-making in the integration of AI, helping institutions maintain both efficiency and human-centered care. Table 1 at the end of this section summarizes the key relationships between AI processes, goods of effectiveness, relational goods, practical wisdom in action, and the internal goods achieved by practitioners.

3.1 Macro-level

At the macro level, AI revolutionizes organizational processes by enhancing strategic planning, resource management, and overall operational efficiency. For instance, in healthcare, AI-powered software can streamline hospital operations by optimizing staff scheduling, predicting

patient influx, and automating administrative tasks such as medical record management, allowing professionals to focus on higher-value activities. In the case of doctors, this means dedicating more time to complex diagnoses, patient interaction, and personalized care. Augmented learning further enhances this transition by automating time-consuming processes while maintaining accuracy, efficiency, and effectiveness (Raisch & Krakowski, 2021). These advancements not only improve efficiency but also reduce cognitive and logistical burdens on healthcare professionals, producing goods of effectiveness such as improved workflow and lighter cognitive and logistical burdens for healthcare professionals.

However, building the relational good of trust is also essential. At this level, practical wisdom ensures that the organization's policy emphasize transparency in the use of AI, but also actively involve physicians in the decision-making process. It is not enough for practitioners to merely understand how AI systems are used—they must feel that their perspectives and professional judgment genuinely shape those decisions. If transparency is neglected, practitioners may perceive AI as an opaque system that undermines their autonomy, reducing engagement and morale. The practical wisdom of hospital leaders is therefore crucial to finding the right balance between technological efficiency, transparency, and meaningful professional participation. To ensure a successful AI implementation at the macro level, organizations should establish the following conditions:

- Develop a comprehensive AI strategy: Align AI integration with organizational goals by setting clear objectives, defining key performance indicators, and ensuring a phased, well-structured implementation plan. Allocate sufficient budget and infrastructure to AI initiatives, ensuring that technology deployment is supported by robust systems and trained personnel.
- Invest in training and feedback mechanisms: Provide continuous education on AI applications, benefits, and ethical implications to foster a culture of AI literacy that

reduces resistance and enhances adoption. Establish open channels for staff to share insights, concerns, and suggestions, promoting ongoing learning and alignment with a human-centered approach.

- Ensure ethical and transparent AI use: Define and enforce clear guidelines for responsible AI deployment that prioritize fairness, accountability, and explainability in all decision-making processes.

As shown in Table 1, reliability stands as an internal good achieved thanks to the trustworthiness of an organization committed to virtuous practice. This ethical orientation toward reliability at the organizational level provides the foundation for virtuous collaboration within teams, explored in the meso level below.

3.2 Meso level

At the meso level, which focuses on specific hospital departments or units, the connection between institutional structures (macro level) and interpersonal practices (micro level) becomes tangible. It is within these team dynamics that organizational policies are translated into virtuous action, and where relational reflexivity enables the co-generation of both internal and external goods. As shown in Table 1, AI can significantly enhance clinical decision-making and operational efficiency. For example, in a radiology department, AI-driven image analysis can assist in detecting abnormalities more accurately and quickly, improving both diagnostic precision and overall patient care. Similarly, in emergency departments, AI-powered triage systems can help prioritize critical cases, reducing wait times and optimizing resource allocation.

At this level, the practical wisdom of department heads and unit directors plays a crucial role in harmonizing technical excellence with the relational goods of trust, teamwork, and transparent communication. Their practical wisdom ensures that AI implementation does not become a purely technical exercise but a shared process in which clinicians feel ownership and

responsibility for the outcomes. To successfully integrate AI at the meso level, the following conditions should be met:

- AI tool selection and integration: Choose AI solutions that align with departmental workflows and integrate seamlessly with existing hospital systems to minimize disruption. Facilitate hands-on training, workshops, and real-world case discussions to help staff understand AI's capabilities and limitations. For instance, AI systems that have been trained on extensive datasets—such as those capable of analyzing over one hundred thousand chest X-rays with accuracy surpassing professional assessments—illustrate how carefully selected tools can enhance diagnostic precision while fitting within existing clinical routines (Vergallo et al, 2025).
- Encouraging open communication: Foster an environment in which professionals can discuss AI's role, share concerns, and collaborate across disciplines and specialities. Transparent communication is ethically essential: clinicians should be able to explain to patients how AI contributes to clinical decisions, its functioning, and its limitations, ensuring human oversight remains clear (Vergallo et al, 2025).
- Regular evaluation meetings: Schedule recurring evaluations to assess AI's impact, gather feedback, and address workflow challenges to uphold ethical integrity in AI-assisted decisions. The literature (Natali et al., 2025) analyzes the risk of professional de-skilling resulting from excessive reliance on AI. Without continuous evaluation and adequate human supervision, overdependence on AI systems may erode clinicians' practical competence and weaken the therapeutic alliance, underscoring the importance of structured and ongoing review processes at the departmental level.

By emphasizing the importance of an open, supportive environment, the organization facilitates the cultivation of two internal goods, as shown in Table 1. One is fairness, ensuring that responsibility for medical judgments remains intact, regardless of AI's recommendations. The

other is courage, the moral virtue that helps practitioners overcome obstacles while striving for a good end, voice concerns about unjust practices, and defend relational goods when they are at risk of being subordinated to external goals. These team-based virtues enable the ethical practice of care at the micro level, where individual relationships with patients take shape.

3.3 Micro level

At the micro level, where individual practitioners interact directly with AI, the integration of AI-driven diagnostic tools can significantly enhance clinical decision-making. For example, a physician using AI-assisted imaging analysis can detect diseases earlier and with greater accuracy, leading to improved treatment plans. As shown in Table 1, these processes generate goods of effectiveness—such as improved diagnostic accuracy, tailored treatment plans and proactive intervention. At this level, the practical wisdom of practitioners aligns technical effectiveness with human flourishing through the cultivation of empathy, trust, and attentive communication with the patient. Indeed, as AI takes on a more prominent role in healthcare, there is a risk that patient care may become overly mechanized, and individuals may feel unheard, disconnected, or excluded from their own healthcare decisions. At the micro level, direct interactions between professionals and patients should be guided by the following conditions:

- Enable transparent patient communication: Clearly explain AI’s role in care, addressing patient concerns and emphasizing how it improves diagnostic accuracy while maintaining human oversight.
- Maintain empathetic interaction: Prioritize active listening, eye contact, and personalized discussions to ensure AI enhances —rather than replaces— the human connection in healthcare.
- Encourage shared decision-making: Involve patients in discussions about AI-driven insights, enabling them to participate meaningfully in their treatment choices.

By using AI while cultivating empathy, trust, mutual understanding, building personal relationships and facilitating collaboration with the patient, the physician can achieve two internal goods. One is humility, recognizing the continuous evolution of medical knowledge. The other is friendship, a sense of partnership with patients, built through shared concerns and decision-making (MacIntyre, 1975).

These virtues at the micro level mirror and complete the moral trajectory established at the macro and meso levels. Through reliability, fairness, courage, friendship, and humility, organizations can transform AI integration from a pursuit of efficiency into a practice of shared flourishing guided by phronesis. Across these three levels, practical wisdom acts as the integrative virtue that harmonizes technical rationality with relational ethics, enabling augmented organizations to pursue excellence both in performance and in moral growth.

Table 1 summarizes this multi-level analysis. The first column indicates the organizational level, followed by the main AI processes involved. The following columns show how these processes generate both goods of effectiveness and relational goods. The fifth column identifies the role of practical wisdom in action, and the final column highlights the internal goods cultivated by practitioners at each level.

Insert Table 1 here

Conclusions

The transformation brought by artificial intelligence (AI) into organizations is not merely a technological upgrade but a reconfiguration of the moral and relational foundations of organizational life. Augmented organizations represent optimal scenarios for observing how

technological mediation affects human cooperation, judgment, and moral growth. Drawing on MacIntyre's virtue ethics and Donati's relational sociology, this article has advanced a normative framework to assess how AI can either sustain or erode the relational and internal goods that constitute virtuous organizational life. From a theoretical perspective, its novelty lies in reframing relational goods as constitutive conditions for achieving internal goods. By integrating these two traditions, the article contributes a fresh theoretical lens to evaluate whether AI enhances or undermines the moral ecology of work.

From a practical perspective, this framework guides organizations, managers, and decision-makers to align AI integration with ethical and relational considerations. When organizations cultivate environments where practical wisdom guides technological use, AI becomes a means of strengthening trust, cooperation, mutual recognition and shared purpose—rather than eroding them. Preserving these relational goods is therefore not a by-product but a strategic moral priority in AI governance. Recent examples show how practical wisdom plays a key role in finding this delicate balance. Stitch Fix, the apparel firm, for instance, combines 'art' and 'science' in serving its online customers (Davenport & Miller, 2022). Its augmented teams exercise practical wisdom when combining human judgment with machine recommendations. Human stylists must determine whether it is appropriate to include more or less 'diversity' outside the algorithm based on a customer's previous purchases and messages. Moreover, Meister and Brown (2020) identify two other noteworthy themes that align with the approach proposed in this paper. The first pertains to the potential use of AI to initiate discussions on mental health within workplace settings. A survey conducted by Oracle and Future Workplace (2019) revealed that most employees are more confident in AI chatbots than in their managers. The use of AI to facilitate discussions on mental health within the workplace can highlight its importance in the future of work. Additionally, this approach could encourage organizations to

contemplate new forms of promoting employee flourishing and proper implementation strategies.

The second theme involves the creation of a new job position known as the ChatBot Coach (Meister, 2019). This role is intended to collaborate with the recruitment team to perform routine tasks such as screening and responding to commonly asked questions from candidates. Meanwhile, human recruiters can focus on fulfilling the strategic needs of hiring managers. At the same time, during the recruitment process, candidates may have queries or apprehensions that require customized attention and empathy, which can be challenging for an AI chatbot to address. Moreover, a chatbot may struggle to discern subtle cues like tone, body language, or facial expressions, which are vital in creating rapport and establishing trust between candidates and recruiters. Hence, in both examples, relational reflexivity allows understanding that an AI chatbot cannot provide the same degree of personal interaction and relationship-building as a human, outlining the right way to implement the work augmentation. These cases illustrate how relational discernment and moral awareness determine whether AI truly augments or merely automates work.

The article also identifies two directions for future research. First, cross-sectoral analyses are needed to understand AI's ethical implications beyond the care sector, such as in corporate, retail, and public-administration contexts, where algorithmic decision-making could have important collective repercussions. Second, future studies could compare training models, measure their impact on trust, perceived fairness, and bias awareness, and assess how AI literacy varies across organizational levels and roles.

Ultimately, designing virtuous augmented organizations requires the irreplaceable quality of human judgment. Across all three levels—macro, meso and micro—the virtue of practical wisdom harmonizes technological innovation with moral growth. As Shneiderman (2020)

reminds us, the goal of AI is not to imitate human behavior but to empower human excellence. When guided by virtue and relational awareness, AI can augment rather than diminish the moral agency, compassion, and cooperation that define flourishing organizations.

Article elements

Figure 1: The three scenarios in work augmentation

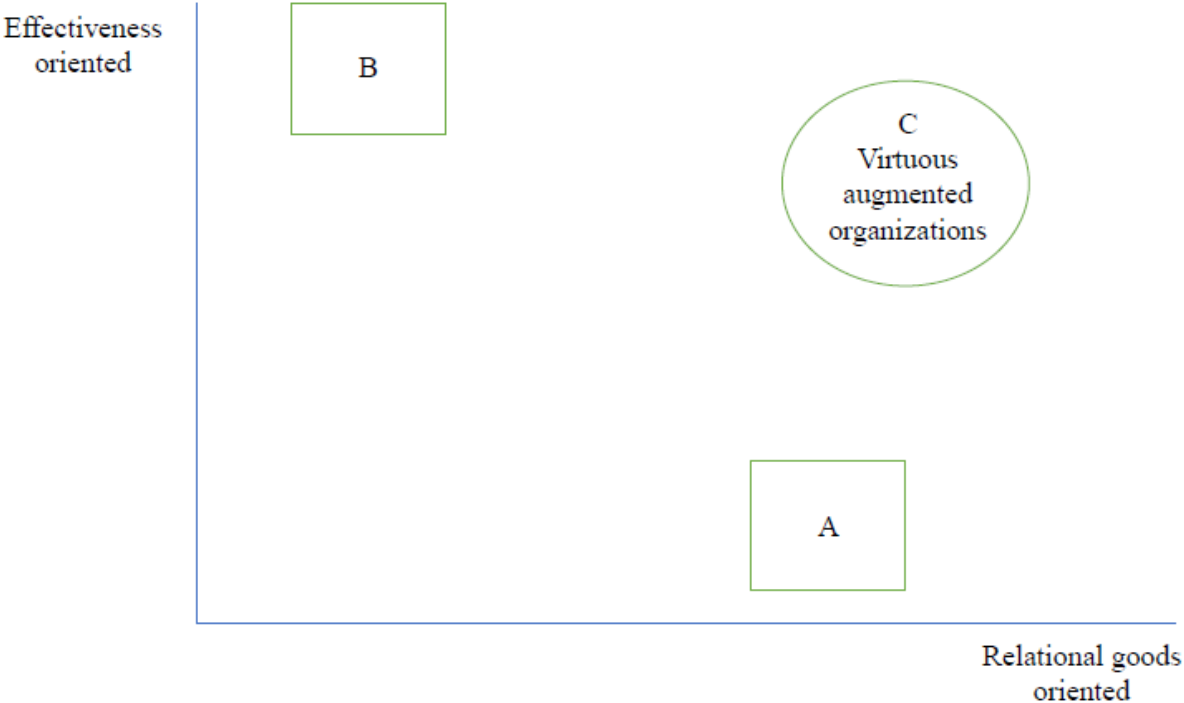


Table 1: Promoting ethical AI-enhanced work

Level of Organization	AI Process	Goods of effectiveness produced	Relational goods produced	Practical Wisdom in action	Internal goods achieved
<p>MACRO LEVEL</p> <p>Heads of the organization itself</p>	<p>Strategic planning, resource allocation, operational efficiency.</p> <p>Example: A hospital that uses an AI-powered software to streamline hospital operations (optimizing staff scheduling, predicting patient influx, automating administrative task).</p>	<p>Workflow improvement and reduction of cognitive and logistical burdens on healthcare professionals</p>	<p>Building trust in the hospital around the use of AI.</p>	<p>Assuring transparency in the use of AI.</p> <p>conditions:</p> <ul style="list-style-type: none"> - Develop an AI strategy. - Invest in training and feedback mechanisms. - Ensure ethical and transparent AI use. <p>Example: The hospital should communicate the AI policy to the workers encouraging staff feedback.</p>	<p>Reliability</p>
<p>MESO LEVEL</p> <p>Heads and Staff of teams and departments</p>	<p>Augmented teams that use AI to enhance clinical decision-making and operational efficiency.</p> <p>Example: A radiology department integrates AI-powered software for image analysis and diagnosis, promising more precise and efficient patient assessments</p>	<p>A more precise and efficient patient assessment, ultimately elevating the quality of patient care.</p>	<p>Trust, teamwork, and transparent communication within the team.</p>	<p>Assuring an open, supportive environment.</p> <p>conditions:</p> <ul style="list-style-type: none"> - AI tool selection and integration. - Encouraging open communication. - Regular evaluation meetings. <p>Example: Team leaders should establish regular meetings, utilizing clear communication, promoting constructive feedback.</p>	<p>Fairness and courage</p>
<p>MICRO LEVEL</p>	<p>Enhance practitioners'</p>	<p>Improving diagnostic</p>	<p>Cultivating empathy, trust</p>	<p>Cultivating empathy, trust, and mutual</p>	<p>Friendship and humility</p>

	<p>clinical decision-making</p> <p>Example: A physician who incorporates AI-driven diagnostic tools into daily practices.</p>	<p>accuracy, tailored treatment plans and proactive intervention.</p>	<p>and attentive communication with the patient.</p>	<p>understanding and building personal relationships and facilitating collaboration with the patient.</p> <p>conditions:</p> <ul style="list-style-type: none"> - Transparent patient communication. - Maintaining empathetic interaction. - Encouraging shared decision-making. <p>Example: The doctor should provide a clear explanation of how AI is employed in the diagnostic process, its role in complementing the physician's expertise, and its value in enhancing accuracy.</p>	
--	---	---	--	--	--

References

- Abbà, G. (1996). *Quale impostazione per la filosofia morale? Ricerche di filosofia morale 1*. Libreria Ateneo Salesiano. ISBN 88-213-0314-4. *Scripta Theologica*, 29(3), 916-922. <https://doi.org/10.15581/006.29.11412>.
- Adam, A., & Bull, C. M. (2008). Exploring MacIntyre's virtue ethics in relation to information systems. *ECIS 2008 Proceedings*.
- Ahmed, A., Muijsenbergh, M., & Vrijhoef, H. (2023). Person-centred care in the Dutch primary care setting: Refinement of middle-range theory by patients and professionals. *PLOS ONE*, 18, e0282802. <https://doi.org/10.1371/journal.pone.0282802>
- Annas, J. (2006). *Virtue ethics*. *The Oxford handbook of ethical theory*, 515–536.
- Aquinas, T. (1964). *Summa theologiae: Latin text and English translation, introductions, notes, appendices, and glossaries* (T. Gilby, ed.). Cambridge: Blackfriars.
- Aristotle. (1999). *Nicomachean ethics*. Indianapolis: Hackett Publishing Co.
- Armstrong, A. E. (2006). Towards a strong virtue ethics for nursing practice. *Nursing Philosophy*, 7(3), 110-124.
- Ashktorab, Z., Liao, Q. V., Dugan, C., Johnson, J., Pan, Q., Zhang, W., Kumaravel, S., & Campbell, M. (2020). Human-AI collaboration in a cooperative game setting: Measuring social perception and outcomes. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW2), 1–20.
- Bankins, S., & Formosa, P. (2023). The ethical implications of artificial intelligence (AI) for meaningful work. *Journal of Business Ethics*, 1–16.
- Beabout, G. R. (2012). Management as a domain-relative practice that requires and develops practical wisdom. *Business Ethics Quarterly*, 22(2), 405–432. <https://doi.org/10.5840/beq201222214>

- Beadle, R., & Moore, G. (2006). MacIntyre on virtue and organization. *Organization Studies*, 27(3), 323–340.
- Beadle, R., & Moore, G. (2011). MacIntyre, neo-Aristotelianism and organization theory. In *Philosophy and organization theory*. Emerald Group Publishing Limited.
- Bertolaso, M., & Rocchi, M. (2020). Specifically human: Human work and care in the age of machines. *Business Ethics, the Environment & Responsibility* 31, No. 3 (2022): 888–98. <https://doi.org/10.1111/beer.12281>.
- Bezuidenhout, L. (2017). The relational responsibilities of scientists: (Re) considering science as a practice. *Research Ethics*, 13(2), 65–83.
- Bishop, J. P. (2011). Waiting for St. Benedict among the ruins: MacIntyre and medical practice. *Journal of Medicine and Philosophy*, 36(2), 107–113.
- Brannigan, M. C. (2022). *Caregiving, carebots, and contagion*. Rowman & Littlefield.
- Liburd, H. L., Munoko, I., & Vasarhelyi, M. (2020). The ethical implications of using artificial intelligence in auditing. *Journal of Business Ethics*, 167(2), 209–234.
- Caldwell, S., Sweetser, P., O'Donnell, N., Knight, M. J., Aitchison, M., Gedeon, T., Johnson, D., Brereton, M., Gallagher, M., & Conroy, D. (2022). An agile new research framework for hybrid human-AI teaming: Trust, transparency, and transferability. *ACM Trans. Interact. Intell. Syst.* <https://doi.org/10.1145/3514257>
- Carroll, M., Shah, R., Ho, M. K., Griffiths, T., Seshia, S., Abbeel, P., & Dragan, A. (2019). On the utility of learning about humans for human-AI coordination. *Advances in Neural Information Processing Systems*, 32.
- Collier, J. (1995). The virtuous organization. *Business Ethics: A European Review*, 4: 143-149. <https://doi.org/10.1111/j.1467-8608.1995.tb00245.x>
- Czaja, S. J., & Ceruso, M. (2022). The promise of artificial intelligence in supporting an aging population. *Journal of Cognitive Engineering and Decision Making*, 16(4), 182–193.

- Darokar, V., Ghatge, T., Wakchaure, M., Pande, V., & Mahindrakar, A. (2021). *The Role of Robots in Smart Health Care System: A Review*.
- Daugherty, P. R., & Wilson, H. J. (2018). *Human+ machine: Reimagining work in the age of AI*. Harvard Business Press.
- Davenport, T. H., & Miller, S. M. (2022). *Working with AI: Real stories of human-machine collaboration*. MIT Press.
- Dierksmeier, C., & Seele, P. (2018). Cryptocurrencies and business ethics. *Journal of Business Ethics*, 152, 1–14.
- Díez Gómez, D. A., & Rodríguez Córdoba, M. D. P. (2019). Practically wise ethical decision-making: An ethnographic application to the UNEMillicom merger. *Business Ethics: A European Review*, 28(4), 494–505. <https://doi.org/10.1111/beer.12226>
- Donati, P. (2010). *Relational sociology: A new paradigm for the social sciences*. Routledge.
- Donati, P. (2014). Relational goods and their subjects: The ferment of a new civil society and civil democracy. *Recerca: Revista de Pensament i Anàlisi*, 14, 19–46.
- Donati, P., & Archer, M. S. (2015). *The relational subject*. Cambridge: Cambridge University Press.
- Donati, P. (2019a). Discovering the relational goods: Their nature, genesis and effects. *International Review of Sociology*, 29(2), 238–259.
- Donati, P. (2019b). How to promote the dignity of work in the face of its hybridization in the digital economy. 14–15. *Proceedings of the workshop, dignity and the future of work in the age of the fourth industrial revolution*.
- Donati, P. (2019c). The digital matrix and the hybridisation of society. In *Post-Human Institutions and Organizations* (pp. 67–92). Routledge.
- Donati, P. (2021). Impact of AI/robotics on human relations: Co-evolution through hybridisation. In *Robotics, AI, and Humanity* (pp. 213–227). Springer, Cham.

- Ezer, N., Bruni, S., Cai, Y., Hepenstal, S. J., Miller, C. A., & Schmorrow, D. D. (2019). *Trust engineering for human-AI teams*. 63(1), 322–326.
- Ferrero, I., Rocchi, M., Pellegrini, M. M., & Reichert, E. (2020). Practical wisdom: A virtue for leaders. Bringing together Aquinas and authentic leadership. *Business Ethics: A European Review*. 29. <https://doi.org/10.1111/beer.12298>
- Ferrero, I., & Sison, A. J. G. (2014). A Quantitative Analysis of Authors, Schools and Themes in Virtue Ethics Articles in Business Ethics and Management Journals (1980-2011). *Business Ethics: A European Review*, 23(4), 375-400.
- Fitzmaurice, M. (2010). Considering teaching in higher education as a practice. *Teaching in Higher Education*, 15(1), 45–55.
- Flathmann, C., Schelble, B. G., Zhang, R., & McNeese, N. J. (2021). Modeling and guiding the creation of ethical human-AI teams. In *Proceedings of the 2021 AAAI/ACM Conference on AI, Ethics, and Society* (pp. 469-479).
- Flynn, G. (2022). *Leadership and business ethics* (Vol. 60). Springer.
- Gamez, P., Shank, D. B., Arnold, C., & North, M. (2020). Artificial virtue: The machine question and perceptions of moral character in artificial moral agents. *AI & SOCIETY*, 35(4), 795-809.
- Giarmoleo, F. V., Ferrero, I., Rocchi, M., & Pellegrini, M. M. (2024). What ethics can say on artificial intelligence: Insights from a systematic literature review. *Business and Society Review*.
- Giusti, A., Nkhoma, K., Petrus, R., Petersen, I., Gwyther, L., Farrant, L., Venkatapuram, S., & Harding, R. (2020). The empirical evidence underpinning the concept and practice of person-centred care for serious illness: A systematic review. *BMJ Global Health*, 5, e003330. <https://doi.org/10.1136/bmjgh-2020-003330>

- González, A., & Iffland, C. (2014). Care professions and globalization: Theoretical and practical perspectives. *Springer*. <https://doi.org/10.1057/9781137376480>
- Graf, B., & Eckstein, J. (2023). Service Robots and Automation for the Disabled and Nursing Home Care. In *Springer Handbook of Automation* (pp. 1331–1347). Springer.
- Gumus, E., & Alan, H. (2025). Perspectives of physicians, nurses, and patients on the use of artificial intelligence and robotic nurses in healthcare. *International Nursing Review*, 72(2), e70017.
- Guo, Y., Hao, Z., Zhao, S., Gong, J., & Yang, F. (2020). Artificial intelligence in health care: Bibliometric analysis. *Journal of Medical Internet Research*, 22(7), e18228.
- Hagendorff, T. (2020). The Ethics of AI Ethics: An Evaluation of Guidelines. *Minds & Machines* 30, 99–120. <https://doi.org/10.1007/s11023-020-09517-8>.
- Hermann, E. (2021). Leveraging artificial intelligence in marketing for social good—An ethical perspective. *Journal of Business Ethics*. <https://doi.org/10.1007/s10551-021-04843-y>
- Heugens, P. P., Van Oosterhout, J., & Kaptein, M. (2006). Foundations and applications for contractualist business ethics. *Journal of Business Ethics*, 68, 211–228.
- Heyder, T., Passlack, N., & Posegga, O. (2023). Ethical management of human-AI interaction: Theory development review. *The Journal of Strategic Information Systems*, 32(3), 101772.
- Hsu, E. L. (2021). Robots as means to address the challenges of an ageing population. *The Routledge Social Science Handbook of AI*, 96.
- Hunkenschroer, A. L., & Luetge, C. (2022). Ethics of AI-enabled recruiting and selection: A review and research agenda. *Journal of Business Ethics*. <https://doi.org/10.1007/s10551-022-05049-6>

- Isaza, K. A. C., Restrepo, J. C. G., & García Uribe, J. C. (2025). Riesgos y oportunidades de la inteligencia artificial en el cuidado de enfermería: una revisión de alcance. *Trilogía Ciencia Tecnología Sociedad*, 17(35), e3272. <https://doi.org/10.22430/21457778.3272>
- Jaiswal, A., Arun, C. J., & Varma, A. (2022). Rebooting employees: Upskilling for artificial intelligence in multinational corporations. *The International Journal of Human Resource Management*, 33(6), 1179–1208.
- Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons*, 61(4), 577–586. <https://doi.org/10.1016/j.bushor.2018.03.007>
- Johnson, M., & Vera, A. (2019). No AI is an island: The case for teaming intelligence. *AI Magazine*, 40(1), 16–28.
- Larsson I, Svedberg P, Nygren JM, Petersson L. Healthcare leaders' perceptions of the contribution of artificial intelligence to person-centred care: An interview study. *Scandinavian Journal of Public Health*. 2025;53(1_suppl):72-80. doi:10.1177/14034948241307112
- Lematta, G. J., Graham, H. D., Grimm, D., Johnson, C. J., Gorman, J. C., Amazeen, P. G., Holder, E., & Cooke, N. J. (2021). Resilience in human-AI-robot teams: Widening the scope of measurement. *In Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 65, No. 1, pp. 1151-1151). Sage CA: Los Angeles, CA: SAGE Publications.
- Kellogg, K. C., & Sadeh-Sharvit, S. (2022). Pragmatic AI-augmentation in mental healthcare: key technologies, potential benefits, and real-world challenges and solutions for frontline clinicians. *Frontiers in Psychiatry*, 13, 990370.
- MacIntyre, A. (1975). How virtues become vices: Medicine & Society. *Encounter*, 45(1), 11-17.

- MacIntyre, A. (1988). *Whose justice, which rationality?* London: Duckworth.
- MacIntyre, A. (1994). *Three rival versions of moral enquiry: Encyclopaedia, genealogy, and tradition.* University of Notre Dame Press.
- MacIntyre, Alasdair C. 2007. *After Virtue: A Study in Moral Theory.* 3rd ed. Notre Dame. University of Notre Dame Press.
- MacIntyre, A. (2016). *Ethics in the conflicts of modernity: An essay on desire, practical reasoning, and narrative.* Cambridge University Press.
- Malik, A., Weir, C., Conroy, M., Hale, C., & Turner, C. (2020). *Phronesis and the Medical Community Follow-on Impact and Engagement Report: Impact Assessment of Phronesis Resources on Ethical Decision Making for Doctors.* (Phronesis and The Medical Community Research Reports; Vol. 2, No. 1). University of Birmingham.
- Meister, J. (2019). Ten HR trends in the age of artificial intelligence. *Forbes.* Available at: [www. Forbes. Com/Sites/Jeannemeister/2019/01/08/Ten-Hr-Trends-in-the-Age-of-Artificial-Intelligence.](http://www.forbes.com/sites/jeannemeister/2019/01/08/Ten-Hr-Trends-in-the-Age-of-Artificial-Intelligence)
- Meister, J. C., & Brown, R. H. (2020). 21 HR jobs of the future. *Harvard Business Review.*
- Melé, D. (2010). Practical wisdom in managerial decision making. *Journal of Management Development.*
- Memmert, L., & Bittner, E. A. (2022). Complex Problem Solving through Human-AI Collaboration: Literature Review on Research Contexts. In *Proceedings of the 55th Hawaii International Conference on System Sciences.* 10.24251/HICSS.2022.046.
- Moore, G. (2002). On the implications of the practice-institution distinction: MacIntyre and the application of modern virtue ethics to business. *Business Ethics Quarterly:* 19-32.
- Moore, G. (2005). Corporate character: Modern virtue ethics and the virtuous corporation. *Business Ethics Quarterly,* 15(4), 659–685.

- Moore, G. (2012). Virtue in business: Alliance boots and an empirical exploration of MacIntyre's conceptual framework. *Organization Studies*, 33(3), 363–387.
- Moore, G. (2015). Corporate character, corporate virtues. *Business Ethics: A European Review*, 24, S99–S114.
- Moore, G. (2017). Virtue at work: Ethics for individuals, managers, and organizations. *New York, NY: Oxford University Press*.
- Moore, G. (2022). Virtuous organizations: Desire, consumption and human flourishing in an era of climate change. *Frontiers in Sociology*, 7, 960054.
- Morales-Sánchez, R., & Cabello-Medina, C. (2013). The role of four universal moral competencies in ethical decision-making. *Journal of Business Ethics*, 116(4), 717–734. <https://doi.org/10.1007/s10551-013-1817-9>
- Nash, D. M., Thorpe, C., Brown, J. B., Kueper, J. K., Rayner, J., Lizotte, D. J., Terry, A. L., & Zwarenstein, M. (2023). Perceptions of artificial intelligence use in primary care: A qualitative study with providers and staff of Ontario Community Health Centres. *The Journal of the American Board of Family Medicine*, 36(2), 221–228.
- Natali, C., Marconi, L., Dias Duran, L. D., & Cabitza, F. (2025). AI-induced deskilling in medicine: A mixed-method review and research agenda for healthcare and beyond. *Artificial Intelligence Review*, 58(11), 1-40.
- Nussbaum, M. C. (2001). The fragility of goodness: Luck and ethics in Greek tragedy and philosophy. *Cambridge University Press*.
- Oracle, & Future Workplace. (2019). Artificial intelligence is winning more hearts and minds in the workplace. *Global Study 2019*.
- Palmer, A., & Schwan, D. (2022). Beneficent dehumanization: Employing artificial intelligence and carebots to mitigate shame-induced barriers to medical care. *Bioethics*, 36(2), 187–193.

- Pugh, A. J. (2024). *The last human job: The work of connecting in a disconnected world*, Princeton.
- Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *Academy of Management Review*, 46(1), 192-210.
- Redín, D. M., Cabaleiro-Cerviño, G., Rodríguez-Carreño, I., & Scalzo, G. (2023). Innovation as a practice: Why automation will not kill innovation. *Frontiers in Psychology*, 13, 1045508.
- Robson, A. (2019). Intelligent machines, care work and the nature of practical reasoning. *Nursing Ethics* 26, No. 7–8: 1906–16. <https://doi.org/10.1177/0969733018806348>
- Roca, E. (2008). Introducing practical wisdom in business schools. *Journal of Business Ethics*, 82(3), 607–620. <https://doi.org/10.1007/s10551-007-9580-4>
- Rocchi, M., Ferrero, I., & Beadle, R. (2021). Can finance be a virtuous practice? A MacIntyrean account. *Business Ethics Quarterly* 31, No. 1: 75–105. <https://doi.org/10.1017/beq.2020.5>
- Rodríguez-Lluesma, C., García-Ruiz, P., & Pinto-Garay, J. (2021). The digital transformation of work: A relational view. *Business Ethics, the Environment & Responsibility*, 30(1), 157–167.
- Rubeis, G. (2020). The disruptive power of artificial intelligence. Ethical aspects of gerontechnology in elderly care. *Archives of Gerontology and Geriatrics*, 91, 104186.
- Schelble, B. G., Lopez, J., Textor, C., Zhang, R., McNeese, N. J., Pak, R., & Freeman, G. (2024). Towards ethical AI: Empirically investigating dimensions of AI ethics, trust repair, and performance in human-AI teaming. *Human Factors*, 66(4), 1037–1055.
- Schwartz, B. (2011). Practical wisdom and organizations. *Research in Organizational Behavior*, 31, 3–23.

- Seeber, I., Bittner, E., Briggs, R. O., De Vreede, T., De Vreede, G.-J., Elkins, A., Maier, R., Merz, A. B., Oeste-Reiß, S., & Randrup, N. (2020). Machines as teammates: A research agenda on AI in team collaboration. *Information & Management*, 57(2), 103174.
- Sellman, D. 2011. *What makes a good nurse: Why the virtues are important for nurses*. Jessica Kingsley Publishers
- Shneiderman, B. (2020). Human-centered artificial intelligence: Three fresh ideas. *AIS Transactions on Human-Computer Interaction*, 12(3), 109–124.
- Shneiderman, B. (2022). *Human-centered AI*. Oxford University Press.
- Shotter, J., & Tsoukas, H. (2014). In search of phronesis: Leadership and the art of judgment. *Academy of Management Learning & Education*, 13(2), 224–243.
- Siemon, D. (2022). Elaborating team roles for artificial intelligence-based teammates in human-AI collaboration. *Group Decision and Negotiation*, 31(5), 871–912.
- Sinnicks, M. (2021). “We ought to eat in order to work, not vice versa”: MacIntyre, practices, and the best work for humankind. *Journal of Business Ethics*, 174(2), 263–274. <https://doi.org/10.1007/s10551-020-04603-4>
- Sison, A. J. G., Beabout, G. R., & Ferrero, I. (2017). *Handbook of Virtue Ethics in Business and Management*. 1st ed. 2 vols. Springer.
- Sison, A. J. G., Ferrero, I., & Guitián, G. (2018). *Business ethics: A virtue ethics and common good approach*. Routledge.
- Spence, L. J. (1999). Does size matter? The state of the art in small business ethics. *Business Ethics: A European Review*, 8(3), 163–174.
- Staudinger, U. M., Kessler, E.-M., & Dörner, J. (2006). Wisdom in social context. *Social Structures, Aging, and Self-Regulation in the Elderly*, 33–54.
- Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, 63(6), 384.

- Vallor, S. (2015). Moral deskilling and upskilling in a new machine age: Reflections on the ambiguous future of character. *Philosophy & Technology*, 28, 107–124.
- Vallor, S. (2020). Carebots and caregivers: Sustaining the ethical ideal of care in the twenty-first century. In *Machine ethics and robot ethics* (pp. 137–154). Routledge.
- van den Bosch, K., & Bronkhorst, A. (2018). Human-AI cooperation to benefit military decision making. In *Proceedings of the NATO IST-160 Specialist' meeting on Big Data and Artificial Intelligence for Military Decision Making*.
- van den Bosch, K., Schoonderwoerd, T., Blankendaal, R., & Neerinx, M. (2019). Six challenges for human-AI Co-learning. In *Adaptive Instructional Systems: First International Conference, AIS 2019, Held as Part of the 21st HCI International Conference, HCII 2019, Orlando, FL, USA, July 26–31, 2019, Proceedings 21* (pp. 572-589). Springer International Publishing.
- Van Wynsberghe, A. (2020). Designing robots for care: Care centered value-sensitive design. In *Machine Ethics and Robot Ethics* (pp. 185–211). Routledge.
- Vergallo, G.M., Campanozzi, L. L., Gulino, M., Bassis, L., Ricci, P., Zaami, S., Marinelli, S., Tambone, V., & Frati, P. (2025). How Could Artificial Intelligence Change the Doctor–Patient Relationship? A Medical Ethics Perspective. *Healthcare*, 13(18), 2340. <https://doi.org/10.3390/healthcare13182340>
- Wang, Y., Cheney, G., & Roper, J. (2016). Virtue ethics and the practice–institution schema: An ethical case of excellent business practices. *Journal of Business Ethics*, 138, 67–77.
- Wyma, K. D. (2015). The case for investment advising as a virtue-based practice. *Journal of Business Ethics* 127, No. 1: 231–49. <https://doi.org/10.1007/s10551-013-2025-3>
- Zhang, G., Raina, A., Cagan, J., & McComb, C. (2021). A cautionary tale about the impact of AI on human design teams. *Design Studies*, 72, 100990.