

SMART TECHNOLOGY AND THE HUMAN SPIRIT

Balancing Innovation with Integrity in Business

Rudy C Tarumingkeng

www.ruduct.com/cv.pdf

RudyCT Academic Series 2026

Bogor, Indonesia • July 2026

SMART TECHNOLOGY AND THE HUMAN SPIRIT

Balancing Innovation with Integrity in Business

INNOVATION



AI & Automation



Data-Driven Strategy



Intelligent Business

INTEGRITY



Human Dignity



Ethical Leadership



Trust & Responsibility



STRATEGY



ANALYTICS

GROWTH



GOVERNANCE



SUSTAINABILITY

By: Rudy C Tarumingkeng

RudyCT Academic Series 2026

Abstract

Smart technologies are transforming how firms create value, organize work, understand customers, and exercise power. Artificial intelligence, connected systems, automation, and analytics offer major gains in productivity, innovation, safety, and access; yet they may also intensify surveillance, bias, opacity, deskilling, environmental pressure, and distrust. This article develops a human-centered and integrity-based framework for business transformation. It argues that the human spirit—expressed through dignity, conscience, creativity, empathy, responsibility, and hope—is not an obstacle to technological progress but its moral and strategic foundation. The discussion integrates leadership, strategy, data stewardship, workforce design, customer trust, governance, sustainability, and responsible innovation. It concludes that enduring advantage emerges when organizations align smart capability with human purpose, measurable accountability, and the courage to correct course.

Keywords: smart technology; human spirit; responsible innovation; business integrity; artificial intelligence; digital transformation; human-centered management; governance; stakeholder trust; sustainability

Executive Synthesis

- Technology becomes strategically valuable when it expands human capability and solves a legitimate stakeholder problem.
- Integrity is operational infrastructure: it sustains trust, learning, cooperation, and resilience.
- Human oversight requires real authority, competence, time, information, and protection for dissent.
- Responsible innovation integrates purpose, dignity, truth, fairness, privacy, safety, accountability, and sustainability.
- The wise enterprise measures not only what technology can optimize, but also what should never be sacrificed.

Introduction: Progress with a Moral Center

Smart technology has become an organizing force in contemporary business. Artificial intelligence, connected sensors, robotics, digital platforms, predictive analytics, and generative systems do more than accelerate existing processes; they alter how firms perceive reality, distribute authority, design work, and define value. A recommendation engine shapes what customers see. A workforce algorithm influences who is hired, scheduled, promoted, or monitored. A digital twin changes the timing of investment and maintenance. These capabilities create genuine opportunity, yet they also raise a fundamental question: can organizations become more intelligent without becoming less humane?

The phrase human spirit refers here not to sentimentality or hostility toward machines, but to the qualities through which people give moral and social meaning to economic life: dignity, conscience, imagination, courage, empathy, responsibility, hope, and the capacity to act for purposes larger than efficiency. Business has always depended on these qualities. Trust makes contracts workable, judgment interprets incomplete evidence, creativity generates new possibilities, and moral courage prevents profitable wrongdoing. Smart technology should enlarge these capacities rather than hollow them out.

This article argues that innovation and integrity are not rival goals. Properly designed, integrity improves the quality, legitimacy, and durability of innovation. Conversely, innovation without integrity may create short-term gains while accumulating hidden liabilities: biased decisions, privacy violations, deskilling, cyber exposure, employee disengagement, reputational loss, and social resistance. The strategic task is therefore not to slow technology indiscriminately, but to govern its direction, purpose, and consequences.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

1. From Digital Tools to Smart Systems

Traditional information systems stored records and automated predefined transactions. Smart systems learn from data, adapt outputs, generate content, and recommend or execute actions. Their value arises from scale, speed, pattern recognition, and coordination across organizational

boundaries. In manufacturing, sensors and predictive models reduce downtime. In retail, demand forecasting aligns inventories. In finance, algorithms detect anomalies. In professional services, generative AI assists research, drafting, and knowledge retrieval.

The change is qualitative because smart systems participate in organizational cognition. They select what receives attention, classify situations, and frame choices. A dashboard can make one risk vivid while rendering another invisible. A model score can become a proxy for a person's potential. When managers rely on these representations, technical assumptions become managerial assumptions. The system is therefore never merely a tool; it is part of a socio-technical arrangement that includes data, roles, incentives, policies, and culture.

This perspective prevents technological determinism. Outcomes are not dictated by algorithms alone. The same technology can support worker autonomy in one company and surveillance in another. It can widen access for underserved customers or intensify exclusion. What matters is the context of use, the distribution of power, the quality of oversight, and the organization's willingness to learn from harm.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

2. Innovation as Human Capability

Innovation is often reduced to novelty, speed, patents, or market disruption. A richer understanding sees innovation as the disciplined creation of valuable possibilities. Technology becomes innovative when it improves human capability: helping employees exercise judgment, enabling customers to solve meaningful problems, reducing avoidable hazards, or making services more accessible. A feature that is technically impressive but socially useless is novelty without purpose.

The capability lens also changes measurement. Productivity remains important, but leaders ask additional questions. Does the system improve decision quality? Does it transfer knowledge or concentrate it? Does it give frontline employees better information? Does it reduce tedious work while preserving meaningful responsibility? Does it expand customer choice? These questions reveal benefits that conventional return-on-investment models may overlook, as well as harms that financial models may externalize.

Human-centered innovation is not equivalent to giving users a pleasant interface. It requires participation in defining the problem, testing assumptions, and evaluating consequences. Employees, customers, affected communities, and subject-matter experts carry knowledge that

designers lack. Co-design is therefore both an ethical practice and a source of strategic intelligence.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

3. Integrity as Strategic Infrastructure

Integrity means coherence among stated values, actual decisions, and accepted responsibility. In business it includes honesty, fairness, reliability, respect for rights, and the willingness to correct mistakes. Integrity is sometimes treated as a constraint imposed after strategy has been designed. In reality, it is infrastructure for cooperation. Customers share data because they expect restraint; employees experiment because they trust that failure will not be exploited; partners integrate systems because commitments are credible.

Digital operations magnify both integrity and misconduct. A fair rule embedded in software can be applied consistently at scale, but a flawed rule can also produce thousands of unfair outcomes before anyone notices. Automation lowers the marginal cost of action; it can therefore lower the marginal cost of harm. Organizations need integrity by design, expressed through requirements, data practices, testing, escalation, procurement, and performance incentives.

The economic case is compelling but incomplete. Integrity may reduce litigation, turnover, and reputational risk, yet its value cannot be justified only when it pays. Some actions are required because persons possess dignity and rights. A mature company can articulate both instrumental and intrinsic reasons: responsible technology sustains value, and it is the right way to treat people.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

4. The Human Spirit at Work

Work is a source of income, but it is also a domain of identity, mastery, relationship, contribution, and meaning. Smart technology can remove dangerous and monotonous tasks, provide assistance to people with disabilities, and democratize expertise. It can also fragment work, narrow discretion, intensify pace, and turn employees into objects of continuous measurement. The decisive question is whether technology treats workers as responsible agents or as variables to be optimized.

Dignity at work requires voice, intelligible expectations, reasonable privacy, and the opportunity to develop. A worker should not discover that an opaque score has silently reduced access to shifts or promotion. Managers should be able to challenge automated recommendations. Monitoring must be proportionate to a legitimate purpose, not simply technically possible. The presumption that all observable behavior may be collected corrodes trust.

The human spirit also appears in practical wisdom. Experienced employees notice context, exceptions, and moral salience that models may miss. When automation removes opportunities to practice judgment, organizations may lose resilience. Augmentation should therefore preserve meaningful decision points, mentoring, rotation, and learning. The goal is not maximum automation but an intelligent allocation of tasks between people and machines.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

5. Leadership in the Age of Algorithms

Leadership becomes more important, not less, as systems grow more autonomous. Executives determine purposes, risk tolerance, resource allocation, accountability, and the signals that shape culture. A board that celebrates rapid deployment while ignoring unresolved harms teaches employees that ethics is ceremonial. A leader who pauses a profitable system because evidence is inadequate establishes a different norm.

Responsible digital leadership combines technological literacy with moral imagination. Leaders need not write code, but they must understand model limitations, data provenance, automation bias, cybersecurity, and the difference between prediction and causation. Moral imagination enables them to consider how a decision feels and functions from the perspective of those with less power. This is essential because harm often appears at the edges of aggregate metrics.

Leadership also requires humility. Smart systems create an aura of precision, yet uncertainty remains. Executives should ask what the model does not know, which groups are underrepresented, how incentives may distort use, and what evidence would justify stopping. Humility is not indecision; it is disciplined openness to correction.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

6. Strategy: Purpose before Technology

Many digital initiatives begin with a solution looking for a problem. Vendors demonstrate capability, competitors announce adoption, and executives fear being left behind. This pattern produces scattered pilots, weak integration, and unclear value. Responsible strategy begins with the business and human outcome: safer operations, better access, reduced waste, improved service, or stronger employee capability.

A clear theory of value links technology to operational change and stakeholder benefit. It identifies assumptions, complementary investments, and potential externalities. For example, an AI customer-service system may lower response time, but only if knowledge is current, escalation works, and customers can reach a person. Without these complements, apparent efficiency may transfer cost to customers and frontline staff.

Strategic portfolios should distinguish exploration from scale. Low-risk experiments can test learning quickly; high-impact applications require stronger evidence and governance. Exit criteria are as important as success metrics. Organizations need permission to stop systems whose benefits are marginal or whose social costs are unacceptable.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

7. Data Stewardship and Privacy

Data is often called the new oil, but the metaphor is misleading. Data describes persons, relationships, behavior, and institutions; it can be copied, combined, inferred, and used beyond the context in which it was collected. Stewardship therefore differs from ownership. Possessing data does not grant unlimited moral permission to exploit it.

Responsible data practices include purpose limitation, minimization, quality controls, access governance, retention schedules, security, and meaningful transparency. Consent alone is rarely sufficient when bargaining power is unequal or notices are incomprehensible. Companies should ask whether collection is necessary, whether a less intrusive alternative exists, and how inference may affect individuals even when direct identifiers are removed.

Privacy is not merely secrecy. It protects autonomy, experimentation, and freedom from manipulation. Customers behave differently when every action is profiled; employees speak less freely under continuous monitoring. Firms that practice restraint signal respect and may build deeper trust than firms that pursue maximal extraction.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

8. Fairness, Bias, and Inclusion

Algorithms learn patterns from historical data, and history contains inequality. Bias can enter through sampling, labels, proxies, objectives, interfaces, and deployment. A hiring model may reproduce earlier preferences. A credit model may use location as a proxy for disadvantage. A facial system may perform unevenly across demographic groups. High average accuracy can coexist with serious group-specific harm.

Fairness cannot be reduced to a single mathematical measure. Different definitions—equal error rates, equal opportunity, calibration, individual consistency—may conflict. The appropriate choice depends on rights, context, and consequences. Organizations need interdisciplinary review that combines quantitative testing, legal analysis, domain knowledge, and lived experience.

Inclusion begins before deployment. Affected groups should help identify failure modes and define acceptable performance. Accessibility must be designed, not appended. Organizations also need accessible complaint channels, correction of data, human review, and protection against retaliation. Procedural fairness can preserve dignity even when outcomes are contested.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

9. Transparency, Explainability, and Truth

Transparency is a relationship between an organization and those affected by its decisions. It is not satisfied by publishing dense technical documents. Customers need to know when they are interacting with AI, what material factors shape an outcome, and how to seek review. Operators need limits and confidence information. Auditors need data lineage, performance, incidents, and change histories.

Explainability must be fit for purpose. A simplified explanation may help a customer but be insufficient for validation. Some complex systems resist intuitive explanation, which creates a governance choice: if a consequential decision cannot be explained or contested adequately, the system may be unsuitable for that use. Accuracy does not automatically override due process.

Generative AI adds a truthfulness challenge. Fluent content can be false, fabricated, or contextually inappropriate. Businesses should ground systems in controlled sources, display provenance where possible, and require verification for high-impact communication. A disclaimer cannot substitute for design controls when users reasonably rely on the output.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

10. Accountability and Human Oversight

Accountability answers who must explain, correct, and bear consequences. Diffuse supply chains make this difficult: a foundation model provider, software integrator, purchasing

company, manager, and user may each control part of the system. Contracts can allocate duties, but the organization deploying a system cannot outsource its responsibility to stakeholders.

Human-in-the-loop is meaningful only when the human has competence, information, time, authority, and psychological permission to disagree. A reviewer who rubber-stamps hundreds of recommendations is not oversight. Organizations should measure override rates, investigate why overrides occur, and protect employees who raise concerns.

Accountability requires records: system purpose, owner, data, tests, approvals, versions, incidents, and retirement decisions. Documentation should support learning rather than bureaucratic theater. When harm occurs, remediation includes restoring the affected person, correcting the system, communicating honestly, and preventing recurrence.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

11. Cybersecurity, Safety, and Resilience

Smart technology expands the attack surface. Connected devices, third-party models, plugins, data pipelines, and automated agents create new dependencies. Prompt injection, data poisoning, model theft, adversarial examples, and supply-chain compromise interact with familiar risks such as credential theft and misconfiguration. Security must be integrated across the lifecycle.

Safety concerns extend beyond malicious attacks. A system can fail because context shifts, sensors degrade, data distributions change, or users rely on outputs beyond intended purposes. Monitoring should detect performance drift and unexpected use. High-impact systems need fallback procedures, manual modes, red-team testing, incident exercises, and clearly defined shutdown authority.

Resilience is the capacity to continue essential service and recover with learning. Efficiency strategies that remove all redundancy can make organizations brittle. Human expertise, alternative suppliers, backups, and local decision rights may appear costly in normal periods but become vital during disruption.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to

make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

12. Generative AI and Knowledge Work

Generative AI can accelerate drafting, coding, synthesis, customer communication, and ideation. Its greatest value often comes from iteration rather than one-shot substitution: a professional frames the problem, the model proposes alternatives, and the professional evaluates evidence and consequences. This pattern can raise quality when domain knowledge and review are strong.

The same tools can create hallucinations, confidential-data leakage, copyright uncertainty, homogenized thinking, and automation bias. Novices may be especially vulnerable because fluent output resembles expertise. Firms should classify permitted data, require disclosure for consequential work, verify citations and calculations, and retain accountable human authorship.

Knowledge strategy must consider deskilling. If junior employees no longer perform foundational analysis, they may never develop the expertise needed to supervise AI later. Organizations should design apprenticeship deliberately: protected practice without automation, comparison exercises, explanation requirements, and mentoring.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

13. Customers, Markets, and Digital Trust

Customers encounter smart technology through personalization, dynamic pricing, chatbots, fraud controls, and automated eligibility. These services can improve convenience and access, yet they can also manipulate attention, exploit vulnerability, or obscure meaningful choice. Customer centricity must include respect for agency, not merely conversion rates.

Dark patterns illustrate the conflict. Interfaces can use behavioral data to make cancellation difficult, create artificial urgency, or steer consent. Such practices may increase short-term

revenue while degrading trust and inviting regulation. Ethical design makes important options visible, uses plain language, and avoids exploiting cognitive limitations.

Digital trust develops through repeated evidence that a company is competent, honest, benevolent, and accountable. Trust is not produced by branding alone. It is earned when the company limits data collection, communicates incidents promptly, repairs harm, and allows customers to reach a responsible human.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

14. Employees, Skills, and the Future of Work

Automation changes tasks before it eliminates occupations. Jobs are bundles of activities, relationships, responsibilities, and tacit knowledge. Strategic workforce planning should map which tasks are automated, augmented, created, or intensified. It should also identify transition pathways rather than treating displacement as an external labor-market problem.

Reskilling must be credible. A short online module does not prepare a worker for a fundamentally different role. Effective transition includes time, coaching, practice, recognized credentials, and access to actual vacancies. Workers should participate in redesign because they understand workflow realities and can identify safety or quality risks.

Performance management also requires care. Algorithmic metrics can narrow behavior, discourage cooperation, and penalize necessary variation. Measures should support dialogue, not replace it. Employee data should not be repurposed secretly. Appeals and contextual review protect both fairness and managerial intelligence.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

15. Organizational Culture and Ethical Voice

Policies cannot compensate for a culture that punishes dissent. Employees often see warning signs before leaders do, but may remain silent when schedules, bonuses, or careers depend on launch. Ethical voice requires psychological safety, protected escalation channels, and leaders who respond constructively.

Culture is shaped by incentives. If teams are rewarded only for speed, adoption, and revenue, harms will be rationalized as someone else's problem. Balanced scorecards can include safety, fairness, privacy, customer complaints, employee impact, and remediation. Gate reviews should have authority to delay deployment.

Moral courage grows through practice. Scenario workshops, pre-mortems, red teams, and case discussions help employees recognize ethical dimensions before crises. The objective is not to provide a formula for every dilemma, but to strengthen shared language and judgment.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

16. Governance Architecture

Responsible technology requires a governance architecture connecting the board, executives, business units, technical teams, risk functions, and affected stakeholders. The board oversees alignment with purpose and risk appetite. Executives allocate ownership. Product teams build controls. Independent functions challenge evidence. Frontline users report reality.

An inventory is foundational: what systems exist, what they do, what data they use, who owns them, and whom they affect. Systems can then be tiered by impact. Low-risk productivity tools receive lightweight controls; systems influencing employment, finance, health, safety, or essential services require rigorous validation and oversight.

The NIST AI Risk Management Framework offers a useful cycle of Govern, Map, Measure, and Manage (Tabassi, 2023). Governance is not a one-time approval. Models, vendors, data, regulation, and context change. Periodic reassessment, incident monitoring, and retirement procedures are essential.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to

make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

17. Boards and Fiduciary Responsibility

Boards need sufficient literacy to oversee smart technology without micromanaging engineering. They should understand strategic value, material dependencies, risk concentration, workforce implications, data governance, and stakeholder impacts. A dedicated committee may help, but responsibility should not become isolated from strategy, audit, remuneration, and sustainability.

Useful board questions include: Which systems could cause material harm? What evidence supports deployment? How are employees and customers able to contest outcomes? Which third parties are critical? What events trigger escalation? How do incentives reward responsible conduct? These questions turn ethics from aspiration into oversight.

Boards must also watch the narrative presented to investors. Inflated AI claims can create strategic pressure and disclosure risk. Honest communication distinguishes pilots, capabilities, limitations, and realized value. Integrity in reporting protects capital allocation and organizational learning.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

18. Responsible Innovation Process

Responsible innovation begins with anticipation: imagining benefits, misuse, failure, and unequal impact. It continues with inclusion of diverse knowledge, reflection on assumptions and values, and responsiveness when evidence changes. These practices are not a linear checklist but habits embedded in product development.

Stage gates can require a problem statement, stakeholder map, data assessment, threat model, fairness analysis, human-factors testing, and deployment plan. The rigor should match risk. Sandboxes allow limited experiments with clear boundaries, monitoring, consent where necessary, and predetermined stop criteria.

Post-deployment evidence matters because laboratories cannot reproduce every context. Feedback, complaints, override patterns, drift, and near misses should flow back to design. A learning organization treats negative findings as valuable information rather than reputational threats.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

19. Sustainability and the Materiality of Digital Systems

Digital services appear weightless, yet depend on energy, water, data centers, semiconductor supply chains, minerals, logistics, and electronic waste. Large-scale AI can carry substantial environmental cost. Sustainability analysis should include the full lifecycle rather than focusing only on operational convenience.

Proportionality is a useful principle: use the smallest and least resource-intensive system that meets the legitimate need. Not every classification problem requires a large generative model. Procurement can request energy and water information, hardware longevity, repairability, and credible emissions accounting.

Social sustainability includes the conditions of workers who label data, moderate content, extract minerals, manufacture devices, and maintain infrastructure. A polished interface can conceal precarious labor. Responsible supply-chain due diligence extends the circle of concern beyond direct employees.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

20. Global Business and Cultural Pluralism

Multinational firms deploy systems across legal and cultural environments. A global baseline protects universal rights, while local adaptation addresses language, institutions, and expectations. Localization cannot mean lowering standards where enforcement is weak. Nor should a single cultural model be presented as neutral.

Data and models often privilege dominant languages and markets. Products may perform poorly for smaller populations or misunderstand local norms. Testing must reflect real users, and local experts need authority, not ceremonial consultation. Companies should support accessible documentation and grievance channels in relevant languages.

Cross-border governance also concerns data transfers, regulatory conflict, and geopolitical dependency. Resilience may require diversified infrastructure, portability, and regional capacity. Strategic sovereignty should be pursued without fragmenting fundamental commitments to dignity and fairness.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

21. Small and Medium Enterprises

SMEs can gain from cloud services, automation, digital payments, and AI assistance, but they have fewer resources for governance and cybersecurity. Generic calls for extensive committees are unrealistic. Proportionate tools—approved-use lists, simple impact assessments, vendor checklists, data rules, backups, and external advice—can provide practical protection.

Vendor dependence is a central risk. SMEs should clarify data use, service continuity, export formats, price changes, liability, and support. Free services may be financed through data extraction or may disappear. Collective procurement through associations can improve bargaining power and access to expertise.

Human relationships are often an SME advantage. Technology should strengthen responsiveness rather than replace the trust that differentiates a local firm. A small business may automate scheduling while keeping sensitive customer conversations personal. Selectivity is a form of strategy.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision

remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

22. Cases in Responsible and Irresponsible Transformation

Consider a bank introducing an AI credit assistant. A narrow approach optimizes approval speed and default prediction. A responsible approach also tests disparate impact, explains adverse decisions, protects data, monitors economic shifts, and preserves human review. The second approach may take longer, but it produces more reliable learning and legitimacy.

Consider a manufacturer deploying wearable sensors for safety. If data is secretly reused for discipline, workers will evade the system and trust will collapse. If workers co-design the program, data is minimized, safety use is separated from performance evaluation, and results are shared, the same technology can reduce injury while strengthening cooperation.

Consider a consulting firm using generative AI. Immediate productivity gains tempt leaders to reduce junior roles. A longer view recognizes that junior analysis is the pipeline for future expertise. The firm redesigns apprenticeship, uses AI for comparison and feedback, preserves foundational assignments, and evaluates quality rather than billable speed alone. Responsible choices protect future capability.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

23. An Integrity-by-Design Framework

An integrity-by-design framework can be expressed through eight commitments: purpose, dignity, truth, fairness, privacy, safety, accountability, and sustainability. Purpose asks why the system should exist. Dignity protects agency and meaningful work. Truth requires accurate claims and verifiable outputs. Fairness examines distribution and procedure. Privacy practices restraint. Safety anticipates failure. Accountability assigns responsibility. Sustainability considers long-term social and ecological consequences.

Each commitment should translate into evidence. Purpose requires a documented problem and alternatives. Fairness requires group-level testing and remedies. Accountability requires named owners and escalation. Sustainability requires lifecycle analysis. Evidence prevents values from becoming decorative language.

Trade-offs remain. Privacy can limit data for fairness testing; explainability can conflict with intellectual property; safety can reduce speed. Integrity does not eliminate disagreement. It provides a legitimate process: identify affected interests, examine alternatives, protect rights, document reasoning, invite challenge, and revisit decisions.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

24. Roadmap for Implementation

In the first phase, the organization establishes foundations: executive sponsorship, board literacy, system inventory, principles, risk tiers, data rules, and reporting channels. It identifies a small number of use cases tied to strategic outcomes. Training begins with leaders, developers, procurement, legal teams, managers, and users.

In the second phase, pilots operate within sandboxes. Teams define baseline performance, stakeholder outcomes, failure thresholds, and manual alternatives. Independent review challenges assumptions. Employee and customer feedback informs iteration. High-impact deployment waits for sufficient evidence.

In the third phase, governance is integrated into normal operations. Controls enter procurement, product development, internal audit, enterprise risk, workforce planning, and sustainability reporting. Metrics track value and harm. Systems are monitored, revalidated, and retired. The organization shares lessons and contributes to industry standards.

From a managerial perspective, this issue should be translated into explicit decisions about ownership, evidence, incentives, stakeholder participation, and remedies. A principle that cannot influence a budget, product requirement, performance measure, or stop decision remains rhetorical. The purpose of governance is therefore not to eliminate uncertainty, but to make uncertainty visible and to ensure that those who create risk remain responsible for learning and correction.

The deeper lesson is that smart technology changes relationships as much as processes. It redistributes knowledge, discretion, visibility, and bargaining power. Leaders must examine not only aggregate performance but also who gains voice, who becomes dependent, whose errors

are amplified, and whose experience disappears from the data. Such reflection connects operational design with the moral identity of the firm.

Conclusion: Toward the Wise Enterprise

The smart enterprise uses data, automation, and intelligence to perceive and act more effectively. The wise enterprise also understands what should be done, for whom, and at what cost. Intelligence without wisdom can optimize the wrong objective with extraordinary efficiency. Wisdom connects technical possibility to human purpose.

Balancing innovation with integrity is not a static compromise. It is an organizational capability to pursue opportunity while remaining truthful, fair, accountable, and open to correction. This capability depends on leadership, governance, culture, professional judgment, stakeholder participation, and disciplined evidence. Technology changes quickly, but these foundations remain durable.

The human spirit is not the residue left after automation. It is the source of purpose, imagination, moral responsibility, and trust that makes innovation worth pursuing. Businesses that honor it can create more than efficient systems: they can create institutions worthy of confidence, work worthy of commitment, and progress worthy of society.

Managerial Principles for Action

1. Begin with a legitimate human and business purpose, not with the availability of a tool.
2. Maintain an enterprise inventory of smart systems, owners, data, users, and affected stakeholders.
3. Classify applications by potential impact and scale governance accordingly.
4. Protect dignity, voice, privacy, accessibility, and meaningful human review.
5. Test performance across relevant groups and operational conditions.
6. Document limitations, assumptions, incidents, overrides, and model changes.
7. Align incentives so that employees can delay or stop unsafe deployment.
8. Design workforce transitions with participation, credible reskilling, and fair opportunity.
9. Require vendor transparency, security, portability, audit rights, and exit provisions.
10. Assess environmental and supply-chain consequences across the lifecycle.
11. Measure stakeholder value and harm alongside productivity and financial return.
12. Provide accessible channels for explanation, appeal, remediation, and whistleblowing.
13. Preserve foundational human skills and apprenticeship in AI-augmented work.
14. Communicate capabilities and limitations truthfully to customers, employees, investors, and regulators.
15. Review, revalidate, and retire systems as evidence and context change.

Integrity-by-Design Matrix

Commitment	Management question	Evidence
------------	---------------------	----------

Purpose	What legitimate need does the system address?	Problem statement; alternatives; outcome metrics
Dignity	How does it affect agency and meaningful work?	Worker consultation; human-factors tests
Truth	Can claims and outputs be verified?	Validation; provenance; correction process
Fairness	Who benefits, errs, or bears cost?	Group testing; accessibility; remedies
Privacy	Is each data element necessary?	Data map; retention; access controls
Safety	How can it fail or be misused?	Threat model; red team; fallback
Accountability	Who explains and repairs harm?	Named owner; logs; escalation
Sustainability	What are lifecycle consequences?	Energy, labor, supply-chain assessment

Discussion Questions

16. When does augmentation become dependency, and how can the boundary be recognized?
17. Which decisions in the organization should never be fully automated?
18. How should managers balance privacy with the data needed to test fairness?
19. What capabilities must junior employees practice without AI to become future experts?
20. How can boards distinguish genuine innovation from technological theater?
21. What remedies are owed when an automated system causes material harm?
22. How should environmental costs affect model and vendor selection?
23. What would customers and employees define as a trustworthy use of smart technology?

Extended Academic Synthesis

The central tension in smart business is not between humanity and technology, but between competing conceptions of value. A narrow conception treats every process as an opportunity for speed, prediction, and cost reduction. A broader conception recognizes that organizations produce relationships, capabilities, expectations, and externalities alongside financial returns. Once these wider outputs become visible, integrity is no longer peripheral. It becomes a criterion for determining whether innovation is genuinely valuable or merely shifts costs to less powerful stakeholders.

This distinction clarifies why compliance, although necessary, is insufficient. Law establishes minimum obligations and procedures, but it cannot anticipate every use, cultural context, or emergent behavior. A company can comply formally while manipulating customers, degrading work, or concealing uncertainty. Integrity asks a more demanding question: would the decision

remain defensible if its assumptions, beneficiaries, burdens, and alternatives were explained openly to those affected? The answer requires judgment rather than mechanical rule-following.

The human spirit provides the capacity for this judgment. Conscience identifies a moral claim that a performance metric overlooks. Empathy reveals how a system is experienced by someone without power. Imagination creates alternatives beyond the apparent trade-off. Courage enables an employee to challenge momentum. Hope sustains the belief that institutions can improve rather than accept harmful practice as inevitable. These are productive capabilities because they prevent moral blindness and stimulate better design.

Business schools and executive development programs should therefore integrate technology, strategy, and ethics rather than teach them as separate modules. Managers can analyze a digital investment through financial, operational, stakeholder, and moral lenses at the same time. Cases should require participants to specify data flows, incentives, governance, workforce effects, remedies, and measures of success. This approach prepares leaders for decisions in which technical feasibility and ethical legitimacy are inseparable.

Measurement remains essential, but responsible measurement acknowledges its own limits. Metrics simplify reality and can direct attention. Once tied to rewards, they may become targets and distort behavior. Organizations should combine quantitative indicators with qualitative evidence, frontline observation, complaints, and deliberation. A fairness metric cannot fully describe humiliation; a productivity measure may miss loss of mastery; a satisfaction score may overlook people who have quietly exited. Multiple forms of evidence create a more faithful picture.

Stakeholder participation should likewise be substantive. Consultation conducted after major design decisions mainly seeks acceptance. Meaningful participation occurs early enough to influence the definition of the problem, acceptable trade-offs, and evaluation criteria. It recognizes that affected people hold knowledge, not merely opinions. Participation can slow the beginning of a project while preventing costly redesign, resistance, and harm later. It is a mechanism for both legitimacy and organizational intelligence.

The global diffusion of smart technology makes institutional learning especially important. Firms should share incident patterns, testing methods, and governance practices through industry bodies while protecting legitimate security and privacy interests. Common standards can reduce a race to the bottom and help smaller firms. Regulators, universities, civil society, and professional associations provide independent perspectives that internal governance may lack. Responsible innovation is an ecosystem achievement, not solely a corporate virtue.

At the same time, organizations should resist ethics washing: the public display of principles without operational consequences. Warning signs include boards receiving only success stories, ethics teams lacking budget or veto power, impact assessments completed after launch, and employees being rewarded exclusively for adoption. Authentic governance can be observed in difficult decisions—resources allocated to validation, launches delayed, customers compensated, products withdrawn, and executives held accountable.

A mature organization also distinguishes reversible from irreversible decisions. Low-impact experiments can proceed quickly when errors are detectable and easily repaired. Decisions affecting livelihoods, safety, health, credit, or fundamental rights demand stronger evidence

because harm may be difficult to reverse. This logic permits agility without treating all risk equally. It aligns speed with consequence and concentrates scarce oversight where it matters most.

Ultimately, business integrity is tested by the treatment of persons who cannot easily reward or punish the firm: temporary workers, data subjects, small suppliers, marginalized customers, future employees, local communities, and future generations. Smart technology increases the distance between action and consequence, making these stakeholders easier to overlook. The wise enterprise deliberately shortens that moral distance through evidence, participation, accountability, and imagination. It seeks not perfection, but the institutional capacity to notice, listen, learn, repair, and choose better.

The strategic result is a different model of competitiveness. Advantage does not arise only from possessing powerful technology, which competitors may soon acquire. It arises from combining technology with trusted relationships, skilled people, responsible data, learning routines, and legitimate governance. These complementary assets are difficult to imitate. Integrity thereby becomes a source of resilience and innovation quality, even though its deepest justification remains respect for human dignity.

The practical message for leaders is clear. Ask not only whether a smart system works, but what kind of organization its use is creating. Examine whether employees become more capable or more dependent, whether customers become more empowered or more manipulable, whether decisions become more accountable or more obscure, and whether benefits endure after environmental and social costs are counted. These questions keep technological ambition connected to the human purposes that give business its license to operate.

Glossary

Algorithmic bias: Systematic error or unequal impact arising from data, design, objectives, or deployment.

Algorithmic management: Use of data-driven systems to allocate, monitor, evaluate, or control work.

Automation bias: The tendency to favor automated recommendations even when contrary evidence exists.

Data minimization: Collecting and retaining only data necessary for a defined purpose.

Data stewardship: Responsible care of data on behalf of persons and institutions affected by its use.

Digital trust: Stakeholder confidence that digital systems and their operators are competent, honest, safe, and accountable.

Explainability: The capacity to provide reasons or information that make a system output understandable for a particular audience.

Generative AI: AI that creates new text, images, audio, code, or other content from learned patterns.

Human-in-the-loop: A design in which qualified people retain meaningful review or decision authority.

Human spirit: Human capacities for dignity, conscience, creativity, empathy, responsibility, hope, and meaning.

Integrity by design: Embedding ethical commitments into requirements, processes, technology, incentives, and oversight.

Model drift: Deterioration or change in model performance as data or context changes.

Moral imagination: Capacity to understand a situation from multiple perspectives and envision ethically better possibilities.

Responsible innovation: Innovation that anticipates consequences, includes stakeholders, reflects on values, and responds to evidence.

Smart technology: Digitally connected, data-driven, adaptive, or autonomous technology that senses, predicts, generates, recommends, or acts.

Socio-technical system: An arrangement in which technology, people, roles, rules, incentives, and culture interact.

Stakeholder: A person or group that affects, or is affected by, organizational decisions.

Technology governance: Structures and processes that direct, control, monitor, and account for technology across its lifecycle.

Transparency: Meaningful disclosure about system use, purpose, data, limitations, and avenues for review.

Vendor lock-in: Dependence that makes switching providers, migrating data, or changing architecture difficult or costly.

References

- Acemoglu, D., & Restrepo, P. (2019). Automation and new tasks: How technology displaces and reinstates labor. *Journal of Economic Perspectives*, 33(2), 3–30. <https://doi.org/10.1257/jep.33.2.3>
- Binns, R. (2018). Fairness in machine learning: Lessons from political philosophy. *Proceedings of Machine Learning Research*, 81, 149–159.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility. *Business Horizons*, 34(4), 39–48. [https://doi.org/10.1016/0007-6813\(91\)90005-G](https://doi.org/10.1016/0007-6813(91)90005-G)
- Dignum, V. (2018). Ethics in artificial intelligence: Introduction to the special issue. *Ethics and Information Technology*, 20, 1–3. <https://doi.org/10.1007/s10676-018-9450-z>
- Dwivedi, Y. K., Kshetri, N., Hughes, L., et al. (2023). ‘So what if ChatGPT wrote it?’ Multidisciplinary perspectives on generative conversational AI. *International Journal of Information Management*, 71, 102642. <https://doi.org/10.1016/j.ijinfomgt.2023.102642>

- Floridi, L., Cowls, J., Beltrametti, M., et al. (2018). AI4People—An ethical framework for a good AI society. *Minds and Machines*, 28, 689–707. <https://doi.org/10.1007/s11023-018-9482-5>
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Gillespie, N., Lockey, S., Curtis, C., Pool, J., & Akbari, A. (2023). Trust in artificial intelligence: A global study. The University of Queensland and KPMG. <https://doi.org/10.14264/00d3c94>
- Jobin, A., Ienca, M., & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 1, 389–399. <https://doi.org/10.1038/s42256-019-0088-2>
- Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at work: The new contested terrain of control. *Academy of Management Annals*, 14(1), 366–410. <https://doi.org/10.5465/annals.2018.0174>
- Martin, K. (2019). Ethical implications and accountability of algorithms. *Journal of Business Ethics*, 160, 835–850. <https://doi.org/10.1007/s10551-018-3921-3>
- Mittelstadt, B. D., Allo, P., Taddeo, M., Wachter, S., & Floridi, L. (2016). The ethics of algorithms: Mapping the debate. *Big Data & Society*, 3(2). <https://doi.org/10.1177/2053951716679679>
- NIST. (2024). Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile (NIST AI 600-1). <https://doi.org/10.6028/NIST.AI.600-1>
- OECD. (2019). Recommendation of the Council on Artificial Intelligence. OECD/LEGAL/0449.
- Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *Academy of Management Review*, 46(1), 192–210. <https://doi.org/10.5465/amr.2018.0072>
- Shneiderman, B. (2020). Human-centered artificial intelligence: Reliable, safe and trustworthy. *International Journal of Human–Computer Interaction*, 36(6), 495–504. <https://doi.org/10.1080/10447318.2020.1741118>
- Stahl, B. C. (2021). Artificial intelligence for a better future: An ecosystem perspective on the ethics of AI and emerging digital technologies. Springer. <https://doi.org/10.1007/978-3-030-69978-9>
- Tabassi, E. (2023). Artificial Intelligence Risk Management Framework (AI RMF 1.0). National Institute of Standards and Technology. <https://doi.org/10.6028/NIST.AI.100-1>
- van de Poel, I. (2013). Translating values into design requirements. In D. P. Michelfelder et al. (Eds.), *Philosophy and engineering: Reflections on practice, principles and process* (pp. 253–266). Springer. https://doi.org/10.1007/978-94-007-7762-0_20
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems*, 28(2), 118–144. <https://doi.org/10.1016/j.jsis.2019.01.003>
- Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). Artificial intelligence and the public sector. *International Journal of Public Administration*, 42(7), 596–615. <https://doi.org/10.1080/01900692.2018.1498103>