

## THE DEVELOPMENT OF GENAI AND ITS IMPACT ON ENTERPRISES: CHALLENGES AND SAFETY

DOI: 10.2478/czoto-2026-0011

Received: 15/01/2026

Accepted: 10/02/2026

**Katarzyna Łukasik-Stachowiak**<sup>1</sup> – *orcid id: 0000-0001-7632-9513,*  
*e-mail: k.lukasik-stachowiak@pcz.pl*

<sup>1</sup> Centre for Entrepreneurship, Czestochowa University of Technology, al. Armii Krajowej 19B, 42-200 Czestochowa, **Poland**

**Abstract:** Artificial Intelligence (GenAI) is fundamentally transforming enterprise operations by facilitating automation, enhancing decision support, and enabling new forms of value creation. Although GenAI offers considerable strategic potential, organizations encounter substantial challenges related to safety, ethics, legal compliance, and operational risk. This paper investigates two primary hypotheses: (H1) the positive impact of GenAI adoption on enterprise performance depends on the effective management of associated challenges and safety risks; (H2) enterprises implementing robust governance frameworks, ethical safeguards, and risk-mitigation strategies are more likely to achieve sustainable value from GenAI, while insufficient oversight may lead to operational, legal, and reputational harm. The study was analytical and validity in nature. It was conducted using a research methodology consisting in reviewing the latest scientific literature and reports on the topic of GenAI and its impact on enterprises. Its primary goal was not merely to describe the GenAI adoption phenomenon but to analyze specific cause-and-effect relationships (hypotheses) between technology, management, and enterprise performance, using available scientific and empirical evidence.

**Keywords:** GenAI, enterprise, risk management, safety, ethics, legal compliance

### 1. INTRODUCTION

Generative artificial intelligence (Gen AI) has made a significant entrance. It is a technology that could significantly change the economy as we currently understand it. Its influence has been likened to that of the Industrial Revolution. Nevertheless, there is substantial evidence suggesting that a transformation comparable to that of GenAI has never occurred in the past. It is currently affecting the operations of numerous companies and is evolving at an unprecedented rate. It has multiple applications in various industries, and its capabilities are continually expanding.

The rapid development of GenAI is transforming the way enterprises operate, innovate, and compete. By enabling new methods of automation, decision-making support, and content creation, GenAI opens opportunities for increased efficiency and value generation across industries. At the same time, its adoption presents significant challenges related to integration, governance, workforce adaptation, and ethical considerations. Safety and



security aspects, including data protection, model reliability, and risk management, remain crucial to ensuring responsible and sustainable implementation. This paper examines both the potential and risks associated with GenAI, highlighting key implications for enterprises and outlining strategies to strike a balance between innovation and safety. Also, this paper argues that GenAI should not be viewed as a purely technical asset, but rather as a socio-technical system whose impact depends on governance, oversight, and risk management (Orlikowski & Iacono, 2001). Accordingly, this study advances two hypotheses emphasizing the contingent nature of GenAI benefits and the central role of enterprise governance structures. The study was analytical and validity in nature, analyzing specific cause-and-effect relationships (hypotheses) between technology, management, and enterprise performance, using available scientific and empirical evidence. The research methodology used was a review of the latest scientific literature and reports on GenAI and its impact on businesses.

## **2. MATERIAL AND METHODOLOGY**

This article draws on a literature review and national and international reports on GenAI. The identified topics include implementation strategies, security risks, workforce adoption, and regulatory compliance. It also highlights the potential of GenAI tools for organizational development in Poland and globally. The article attempts to verify the two previously presented hypotheses.

### **2.1. Literature Review**

#### **2.1.1. Strategic, Operational Benefits and Financial Potential of GenAI**

Research on artificial intelligence and digital transformation indicates that AI-enabled systems can enhance organizational performance by automating routine tasks, augmenting human cognition, and enabling new business models (Brynjolfsson & McAfee, 2017; Rai et al., 2019). GenAI extends these capabilities by supporting creative and knowledge-intensive activities, including content generation, software development, and strategic analysis (Noy & Zhang, 2023).

However, prior studies caution against technological determinism. The realization of performance gains from AI depends on complementary organizational resources such as skills, processes, and managerial capabilities (Brynjolfsson, Rock, & Syverson, 2021). Without these complements, AI investments may fail to generate sustained value.

The research also shows that enterprise investment in generative AI, estimated at \$2.5 billion in 2024, is surprisingly small compared to the budgets for traditional AI (\$70 billion) and cloud software (\$400 billion). Today, 60% of enterprise generative AI investments come from innovation budgets, reflecting the early stages of generative AI adoption. However, with 40% of generative AI spending sourced from more permanent budgets, 58% of which is redirected from existing allocations, businesses are demonstrating a growing commitment to AI transformation. Certainly, future technology, including generative artificial intelligence, is becoming a fundamental corporate tool (The State of Generative AI in the Enterprise 2024 year-end Generative AI report; Menlo Ventures. (2023). The state of generative AI in the enterprise).

Three ways of deploying artificial intelligence have been found: ambitious, deliberate, and people-focused. Currently, Poland has a well-thought-out plan in action. Among companies that emphasize both creativity and their staff, meanwhile, the most significant advantages are seen. Given the expected demographic problems, it is sensible for businesses and workers to try to maximize human resources so that they may improve

their ability to use their skills effectively. Development that gives people first priority will provide the greatest benefits for the general economy. By 2038, it has the potential to generate PLN 570 billion in Poland, so boosting the standard annual GDP growth rate by an additional one percentage point.

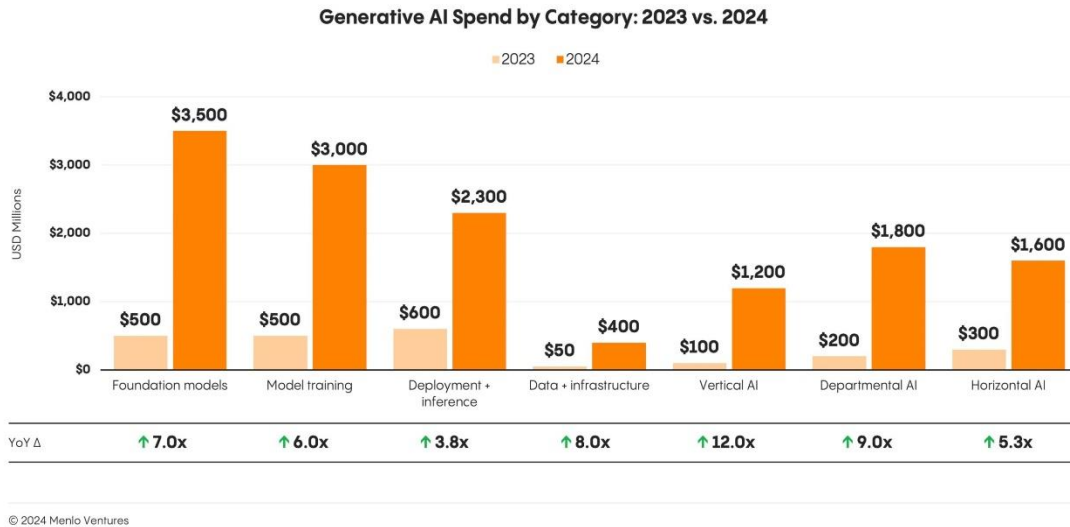


Fig. 1. GenAI spend by Category, Menlo Ventures Research, 2024

GenAI is transforming the ways in which businesses innovate, automate processes, and engage with information. From marketing and product design to cybersecurity and data analysis, GenAI tools enhance the speed of decision-making and foster creativity. Nonetheless, this development brings about intricate ethical, legal, and safety issues, such as the misuse of data, biases in AI, and concerns regarding the transparency of models.

Research shows that organizations are primarily investing in practical, ROI-driven use cases. The top five use cases (code generation, chatbots, enterprise search, data transformation, and meeting summaries) focus on increasing productivity and efficiency (The State of Generative AI in the Enterprise 2024 year-end Generative AI report; Menlo Ventures. (2023), The state of generative AI in the enterprise).

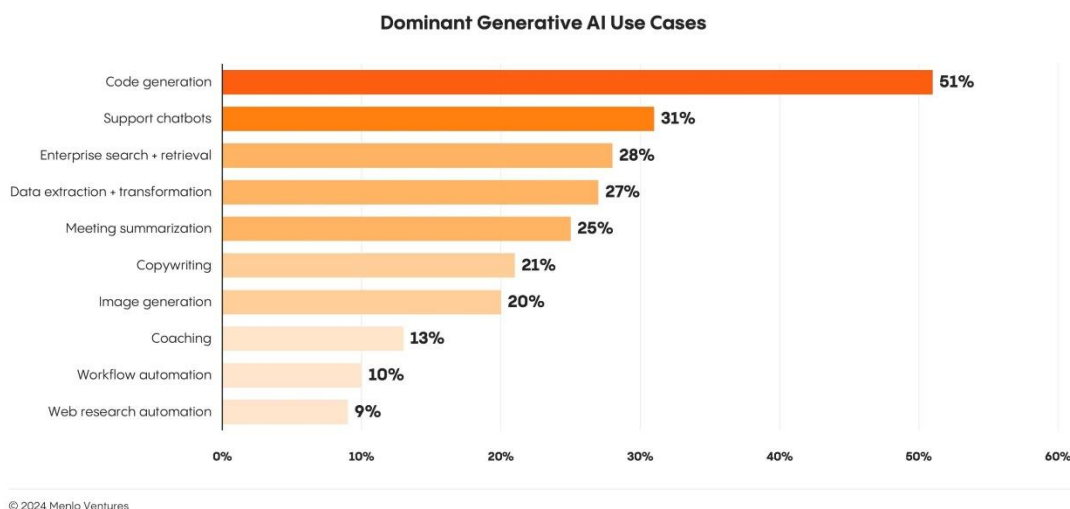


Fig. 2. Dominant GenAI use cases, Menlo Ventures Research, 2024

### 2.1.2. Risks and Challenges in Enterprise GenAI Adoption

GenAI introduces a distinct risk profile compared to traditional information systems. Models may produce incorrect or fabricated outputs (“hallucinations”), exhibit bias inherited from training data, or generate content that violates legal or ethical norms (Bender et al., 2021; Marcus & Davis, 2019). In enterprise contexts, these risks can translate into faulty decision-making, discrimination claims, intellectual property disputes, and regulatory sanctions (European Commission, 2021).

From a risk management perspective, the scalability of GenAI amplifies the potential impact of errors. As automation increases, failures can propagate rapidly across organizational processes, increasing the likelihood of systemic harm (Taleb, 2010).

Literature research identifies five key challenges to GenAI implementation:

**1. Integration into Existing Systems** - Incorporating GenAI capabilities into legacy IT infrastructure and business processes is technically complex, resource-intensive, and often costly. Organizations frequently need new infrastructure, robust data management pipelines, and scalable platforms to support GenAI models, especially large language models that require extensive computational resources and real-time data access. Failure to align these technological foundations can lead to unreliable outputs and hinder enterprise scale-up efforts (Smith, 2025; Żywiołek, 2025).

**2. Governance and Regulatory Compliance** - Effective governance frameworks are critical to ensure responsible, lawful, and transparent use of GenAI. The rapid pace of innovation often outstrips existing governance structures, creating gaps in accountability, auditability, and compliance. Moreover, compliance with regulations such as the EU AI Act, GDPR, and sector-specific mandates demands integrated policies that address risk management, explainability, and ongoing monitoring — which current organizational practices often lack (Batool et al., 2025; Abbas et al., 2025).

**3. Workforce Adaptation and Skill Gaps** - The introduction of GenAI alters job roles, workflows, and required competencies. Many enterprises face critical shortages in AI literacy, specialized technical skills, and ethics-oriented expertise, leading to resistance among employees and a mismatch between workforce capabilities and technological demands. Training initiatives, change management strategies, and reskilling programs are therefore essential but often underdeveloped (Enterprises are concerned about (...), 2025; Deepika, 2023).

**4. Ethical Considerations** - GenAI systems can inadvertently produce biased, misleading, or harmful outputs, raising deep ethical issues regarding fairness, accountability, transparency, and societal impact. These concerns are magnified in high-stakes contexts like hiring decisions, legal recommendation systems, and clinical settings. Scholars argue for embedding ethical principles and responsible AI practices into governance frameworks to mitigate risks such as algorithmic bias and discrimination (Batool et al., 2025; Uddin et al., 2025).

**5. Safety and Security Risks** - Safety challenges extend from data protection vulnerabilities, model misuse, and malicious attacks (e.g., prompt injection or adversarial manipulation) to fundamental issues arising from opaque “black-box” systems whose internal decision logic is difficult to interpret or control. These risks can expose organizations to data breaches, reputational damage, and operational disruptions if adequate security protocols, monitoring systems, and incident response plans are not in place (Humphreys et al., 2024; Arar et al., 2025).

### 2.1.3. Governance and Ethical Safeguards in AI Systems

The rapid advancement and diffusion of artificial intelligence, particularly Generative Artificial Intelligence (GenAI), have intensified scholarly and policy attention on the need for effective governance and ethical safeguards. AI governance refers to the set of institutional, organizational, and technical mechanisms through which AI systems are designed, deployed, monitored, and held accountable to ensure their alignment with societal values, legal requirements, and organizational objectives (Floridi et al., 2018).

The AI governance literature emphasizes the importance of formalized mechanisms to support responsible AI development and use. Core elements of such mechanisms include the articulation of ethical principles (e.g., fairness, accountability, transparency), clearly defined accountability structures, model documentation and explainability requirements, human-in-the-loop or human-on-the-loop controls, and continuous monitoring of system performance over time (Floridi et al., 2018; Raji et al., 2020; Jobin, Ienca, & Vayena, 2019). These safeguards are particularly critical in GenAI systems, whose probabilistic and non-deterministic outputs can obscure causal accountability and complicate traditional control structures.

A growing body of empirical research demonstrates that governance practices significantly shape organizational outcomes from AI adoption. Kellogg, Valentine, and Christin (2020) show that algorithmic systems embedded in workplaces are not self-governing but are continuously negotiated through managerial oversight, worker resistance, and organizational routines. Their findings suggest that AI systems require ongoing governance to prevent misalignment between automated decision-making and organizational values. Similarly, studies in information systems research indicate that firms with established AI governance capabilities are better positioned to integrate AI into strategic decision-making while minimizing ethical and operational risks (Rai et al., 2019). Governance also plays a critical role in managing risk amplification associated with large-scale AI deployment. As AI systems become more autonomous and integrated into core business processes, errors and biases can propagate rapidly, leading to systemic failures rather than isolated incidents (Taleb, 2010). Continuous monitoring, auditing, and periodic model retraining are therefore essential governance practices to ensure that AI systems remain reliable as data distributions, user behavior, and regulatory environments evolve (Amershi et al., 2019; Raji et al., 2020).

Importantly, recent scholarship conceptualizes AI governance not merely as a compliance or risk-avoidance function, but as a dynamic organizational capability that enables sustainable value creation. Drawing on the dynamic capabilities perspective, governance allows organizations to sense emerging risks, seize opportunities enabled by AI, and reconfigure processes in response to technological and regulatory change (Teece, 2007; Mikalef et al., 2020). From this perspective, governance enhances—not constrains—organizational agility by providing clear boundaries within which innovation can occur responsibly.

Finally, the increasing institutionalization of AI governance is reflected in emerging regulatory and standards frameworks, such as the European Union's Artificial Intelligence Act and the NIST AI Risk Management Framework. These initiatives signal a shift toward legally enforceable expectations for transparency, accountability, and risk management, reinforcing the need for enterprises to embed ethical safeguards into their AI lifecycle rather than treating them as ad hoc or voluntary measures (European Commission, 2021; NIST, 2023).

Governance and ethical safeguards are central to addressing the challenges and safety risks associated with enterprise GenAI adoption. Organizations that develop mature, adaptive governance structures are more likely to align AI systems with strategic goals, maintain stakeholder trust, and achieve sustainable long-term value, whereas inadequate governance increases the likelihood of operational, legal, and reputational harm.

#### 2.1.4. Reports and research results on the development of GenAI and its impact on enterprises: challenges and safety in Poland and worldwide

The comprehensive overview of reports and research findings on the development of generative AI (GenAI) and its impact on enterprises, focusing on global research as well as studies and data from Poland. This summary includes adoption, business value, challenges, risks, safety considerations, and references to downloadable reports and academic surveys (Table 1).

Tabel 1

Reports on the development of GenAI and its impact on enterprises: challenges and safety in Poland and worldwide

Reference	Geographic Scope	Methodology	Focus Area	Key Findings	Challenges & Safety Issues	Research Gaps
Deloitte (2024). <i>State of Generative AI in the Enterprise</i>	Global	Large-scale executive survey (n>2,000)	Enterprise adoption & ROI	High adoption intent; only ~20% achieve high ROI; value uneven across firms	Hallucinations, data quality, lack of trust, and governance immaturity	Longitudinal ROI evidence; sector-specific safety metrics
OpenAI (2025). <i>State of Enterprise AI</i>	Global	Enterprise case studies & usage analytics	Productivity & workforce impact	40–60 min/day productivity gain; strong adoption in IT & operations	Access control, data security, and prompt governance	Independent validation; non-tech sector analysis
Accenture (2024). <i>Making Reinvention Real with GenAI</i>	Global	Analysis of 2,000+ enterprise projects	Transformation & scaling	Only 13% reach enterprise-scale value; pilots dominate	Responsible AI integration; operational risk	Causal links between governance maturity & success
OECD (2025). <i>The effects of generative AI on productivity, innovation and entrepreneurship</i>	OECD countries	Policy analysis & economic modeling	Productivity & innovation	GenAI boosts productivity but increases firm inequality	Labor displacement, market concentration, and misuse risks	Firm-level microdata; AI safety metrics

Reference	Geographic Scope	Methodology	Focus Area	Key Findings	Challenges & Safety Issues	Research Gaps
ISACA (2024). <i>AI Policy &amp; Risk Survey</i>	Europe	Professional survey	AI governance & policy	~30% of firms lack formal AI policies	Cybersecurity, deepfakes, and regulatory non-compliance	Impact of the AI Act on enterprise governance
Bengio et al. (2024). <i>International AI Safety Report</i>	Global	Expert synthesis	Systemic AI safety	Identifies existential, cyber, and labor risks	Misuse, deepfakes, AI-driven cybercrime	Enterprise-level mitigation frameworks
Deloitte (2024). <i>Trust in Generative AI – Poland</i>	Poland	National survey (n≈3,000 PL)	Trust, adoption & readiness	~60% firms use GenAI; trust higher for assistive use	Data leakage, legal uncertainty, and low explainability	Polish sectoral comparisons
PwC Poland (2024). <i>Ready for Artificial Intelligence</i>	Poland	Executive survey	Skills & readiness	Talent shortages main barrier	Ethical risks, social exclusion	Workforce transition models
SAS Poland (2024). <i>GenAI Business Survey</i>	Poland	Business survey	Investment & governance	48% active use; strong investment plans	Privacy, bias, lack of standards	Governance best practices in SMEs
Human+AI Institute & CampusAI (2024). <i>GenAI Adoption in Poland</i>	Poland	Comparative survey	Adoption speed	Poland is among the fastest adopters	Shadow AI, public-model dependency	Security maturity benchmarks

Source: Deloitte. (2024), *State of Generative AI in the Enterprise*; OECD. (2025), *The effects of generative AI on productivity, innovation and entrepreneurship*; Deloitte. (2024), *Trust in Generative AI – Poland*; Accenture. (2024), *Making Reinvention Real with GenAI*; Human+AI Institute, & CampusAI. (2024), *Generative AI adoption in Poland: Comparative study*; Bengio, Y. et al. (2024), *International AI safety report*. UK Government AI Safety Institute; ISACA. (2024), *AI governance and risk management survey report*. ISACA; OpenAI. (2025), *The state of enterprise AI 2025*. OpenAI; SAS Institute. (2024). *Generative AI adoption and investment trends in Poland*; PwC Poland. (2024), *Ready for artificial intelligence*. PwC.

### 3. RESULTS

This literature and reports review demonstrates that generative artificial intelligence (GenAI) has reached a phase of rapid enterprise diffusion, both globally and in Poland, yet its organizational, economic, and safety impacts remain uneven and insufficiently understood. While adoption rates are high and expected productivity gains are substantial, the majority of enterprises struggle to translate GenAI experimentation into sustained, enterprise-level value creation.

The comprehensive review of academic literature and industry reports allows for a structured verification of the two primary hypotheses advanced in this study. The evidence strongly supports the contingent nature of GenAI's value and underscores the critical, mediating role of governance and risk management.

**Hypothesis 1 Verification: The positive impact of GenAI adoption on enterprise performance is contingent upon the effective management of associated challenges and safety risks.**

The collected evidence robustly supports this hypothesis. The literature consistently demonstrates a significant gap between the potential and the realized value of GenAI in enterprises.

- Empirical Evidence of Contingent Value: Reports indicate that while adoption intent and pilot projects are widespread, only a minority of organizations (approximately 20% according to Deloitte, 2024; 13% per Accenture, 2024) achieve high ROI or enterprise-scale value. The majority of productivity gains remain isolated at the task level and fail to translate into measurable financial or strategic impact. This "value paradox" is directly attributed to unmanaged challenges, as outlined in the literature.
- Specific Challenges as Contingency Factors: The failure to realize value is explicitly linked to the unresolved challenges identified in Section 2.1.2. For instance:
  - Technical Integration: Difficulties in integrating GenAI with legacy systems (Smith, 2025; Żywiołek, 2025) prevent scalability and reliable operation.
  - Unmitigated Risks: Hallucinations, data leakage, bias, and intellectual property risks (Bender et al., 2021; ISACA, 2024; PARP & Deloitte, 2024) directly undermine the reliability and safety of outputs, eroding trust and causing potential harm.
  - Workforce Gaps: Shortages in AI literacy and technical skills (PwC Poland, 2024; Deepika, 2023) constrain effective deployment and adaptation.

The data confirms that GenAI adoption is a necessary but insufficient condition for performance improvement. The positive impact is indeed contingent, as hypothesized, on overcoming these intertwined technical, human, and risk-related hurdles.

To sum up, the reviewed material also suggests that the true challenge of GenAI adoption lies not in the technology itself, but in the organizational maturity required to use it responsibly. Across the literature, a consistent pattern emerges: companies are often enthusiastic about experimentation, yet far less prepared for the disciplined, long-term work of integration, governance, and capability building. This creates a tension between ambition and readiness, where expectations frequently outpace structural preparedness. In my view, this reinforces the interpretation that GenAI should not be treated as a plug-and-play innovation, but rather as a transformative capability that exposes existing weaknesses in processes, data management, and leadership alignment. Consequently, the organizations that derive real value are likely not those that adopt first, but those that learn to manage uncertainty, invest in people, and build trust around the technology in a deliberate and sustained manner.

**Hypothesis 2 Verification: Enterprises implementing robust governance frameworks, ethical safeguards, and risk-mitigation strategies are more likely to realize sustainable value from GenAI, whereas inadequate oversight may lead to operational, legal, and reputational harm.**

The analysis provides strong and direct support for this hypothesis, positioning governance as the key differentiating factor between successful and problematic GenAI deployments.

- **Governance as an Enabler of Value:** The literature conceptualizes mature AI governance not as a constraint but as a dynamic capability that enables sustainable value creation (Teece, 2007; Mikalef et al., 2020). Firms with established governance frameworks are better positioned for strategic integration (Rai et al., 2019). The reports empirically corroborate this; high-achieving organizations are those that have moved beyond ad-hoc experimentation to implement formal policies, accountability structures, and continuous monitoring (Accenture, 2024; Kellogg et al., 2020).
- **The Consequences of Inadequate Oversight:** Conversely, the evidence clearly outlines the harms stemming from governance gaps. The review reveals that deployment often outpaces the development of safety mechanisms, resulting in systemic vulnerabilities.
  - **Operational Harm:** Risks like unchecked "hallucinations" and data leakage (Deloitte, 2024) lead to faulty decision-making and process disruptions.
  - **Legal Harm:** Non-compliance with emerging regulations like the EU AI Act and GDPR (European Commission, 2021; ISACA, 2024) exposes firms to sanctions. The reliance on public models in Poland, amid legal uncertainty, exemplifies this risk (PARP & Deloitte, 2024).
  - **Reputational Harm:** Incidents of bias, misuse, or data breaches (Batool et al., 2025; Humphreys et al., 2024) damage stakeholder trust and brand integrity.

**The Polish Case Study:** The data from Poland offers a compelling real-world test. While Poland is a fast adopter, its lower institutional maturity in AI governance (reliance on public models, informal experimentation) coincides with heightened exposure to shadow AI, data protection breaches, and legal uncertainty. This pattern starkly illustrates the second part of the hypothesis: rapid adoption without commensurate governance increases the likelihood of harm.

The body of evidence confirms that robust governance and ethical safeguards are crucial in harnessing GenAI's potential to create sustainable value while mitigating a wide range of operational, legal, and reputational risks. Inadequate oversight is consistently associated with negative outcomes.

From an analytical standpoint, the above research highlights that governance in the context of GenAI should be understood not merely as a compliance requirement but as a signal of organizational responsibility and strategic maturity. What becomes particularly striking across the reviewed sources is how strongly outcomes diverge depending on whether firms treat governance as an afterthought or as an integral part of innovation. The cases of harm described in the literature suggest that technological capability alone does not determine success; rather, it is the presence of clear accountability, ethical awareness, and risk-conscious leadership that shapes long-term results. In this sense, governance appears less as a barrier to rapid deployment and more as a stabilizing mechanism that allows organizations to scale confidently. Autor's interpretation is that companies willing to slow down early in order to build structured oversight may ultimately move faster and more safely in the long run, while those prioritizing speed over structure risk accumulating hidden vulnerabilities that can undermine both performance and trust.

The verification of both hypotheses reinforces the socio-technical perspective that GenAI's impact is shaped by organizational context. The findings from the literature and reports

converge to show that value is contingent (H1) and governance is the critical mediating variable (H2). However, the review also identifies a methodological gap: while the correlational support is strong, the current research landscape lacks longitudinal studies and causal models that quantitatively measure the strength of the relationship between specific governance practices and long-term GenAI performance metrics. Future research should aim to close this gap.

#### **4. DISCUSSION**

The advancement of Generative AI presents both opportunities and challenges for businesses. While it drives productivity, creativity, and personalization, it also introduces risks such as misinformation, data exposure, bias, and ethical issues. Key challenges include complex integration, the need for effective governance, workforce adaptation, ethical oversight, and ensuring safety and security. Despite current investments being smaller than in traditional AI or cloud technologies, the transition from experimentation to sustained funding reflects increasing confidence in GenAI's long-term strategic value. Anyway, many processes can be automated or significantly improved, supporting employees in their duties. New tasks, challenges, and professions will undoubtedly emerge. However, unlike previous revolutions, during which transformations focused largely on reducing labor costs, an analysis comparing the paths to implementing gen AI shows that in the new era, prioritizing cost reduction will not be the solution that will yield the most beneficial long-term results.

The hypotheses advanced in this paper reinforce the view that GenAI adoption alone is insufficient to guarantee positive enterprise outcomes. Consistent with prior research on information technology business value, organizational performance gains arise from the interaction between technology, structure, and management practices (Melville, Kraemer, & Gurbaxani, 2004).

Enterprises that treat GenAI as a “plug-and-play” solution risk amplifying errors at scale, undermining trust among stakeholders. In contrast, organizations that embed GenAI within robust governance frameworks can harness its benefits while maintaining control over ethical, legal, and operational risks. Governance thus emerges as a strategic capability that enables both innovation and resilience.

#### **5. CONCLUSION**

The advancement of Generative AI offers businesses a situation filled with both opportunities and risks. On the one hand, GenAI significantly enhances productivity, encourages creativity, and enables more personalized services. Conversely, it brings about new risks, including the creation of false information, exposure of data, increased bias, and ethical dilemmas.

Generative Artificial Intelligence (GenAI) is emerging as a transformative force that redefines how enterprises innovate, optimize operations, and create value. Although current global and national investments remain modest compared to traditional AI and cloud technologies, the steady shift from experimental to long-term funding indicates growing confidence in GenAI's strategic importance. In Poland and worldwide, organizations adopting people-centered and deliberate AI strategies achieve the most sustainable benefits—enhancing both productivity and workforce development.

However, the research also underscores that successful GenAI integration requires addressing significant challenges, including technical complexity, regulatory compliance,

workforce adaptation, and ethical governance. Ensuring transparency, fairness, and data security will be critical to building trust and preventing misuse.

To sum up, this paper argues that the enterprise value of Generative Artificial Intelligence is contingent rather than automatic. While GenAI offers substantial strategic and operational benefits, these gains depend on the effective management of associated risks. Enterprises that implement robust governance frameworks, ethical safeguards, and risk-mitigation strategies are more likely to achieve sustainable value, whereas those that neglect oversight may incur significant operational, legal, and reputational harm. Future research should empirically test the proposed hypotheses and examine how different governance models influence GenAI outcomes over time. Besides, the findings also suggest that future research should move beyond adoption metrics toward integrated models of value, risk, and governance. For practitioners and policymakers, the evidence underscores the need for institutionalized AI governance, proactive safety-by-design approaches, and workforce reskilling strategies aligned with emerging regulatory frameworks such as the EU AI Act. Without such measures, GenAI risks remaining a high-potential yet underperforming technology within enterprise contexts.

## REFERENCES

- Abbas, F., Chesterman, S. & Taeihagh, A., 2025. *Building trust in the generative AI era: a systematic review of global regulatory frameworks to combat the risks of mis-, dis-, and mal-information*. AI & Soc. DOI: 10.1007/s00146-025-02698-9
- Accenture, 2024, *Making reinvention real with generative AI*. Accenture. <https://www.accenture.com/insights/consulting/making-reinvention-real-with-gen-ai>, Access date: 15.12.2025
- Amershi, S., Begel, A., Bird, C., DeLine, R., Gall, H., Kamar, E., Zimmermann, T., 2019. *Software engineering for machine learning: A case study*. Proceedings of the 41st International Conference on Software Engineering, 291–300. DOI: 10.1109/ICSE-SEIP.2019.00042
- Arar, K.H., Özen, H., Polat, G., Turan, S., 2025. *Artificial intelligence, generative artificial intelligence and research integrity: a hybrid systemic review*, Smart Learn. Environ. 12, 44, DOI: 10.1186/s40561-025-00403-3
- Batool, A., Zowghi, D. & Bano, M., 2025. *AI governance: a systematic literature review*, AI Ethics 5, 3265–3279, DOI: 10.1007/s43681-024-00653-w;
- Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S., 2021. *On the dangers of stochastic parrots: Can language models be too big?* Proceedings of the ACM Conference on Fairness, Accountability, and Transparency, 610–623. DOI: 10.1145/3442188.3445922
- Bengio, Y., et al., 2024, *International AI safety report*. UK Government AI Safety Institute. <https://www.gov.uk/government/publications/international-ai-safety-report-2024>, Access date: 05.01.2025
- Brynjolfsson, E., & McAfee, A., 2017. *Machine, platform, crowd: Harnessing our digital future*. W. W. Norton & Company.
- Brynjolfsson, E., Rock, D., & Syverson, C., 2021. *The productivity J-curve: How intangibles complement general purpose technologies*, American Economic Journal: Macroeconomics, 13(1), 333–372., DOI: 10.1257/mac.20180386
- Deloitte., 2024. *State of generative AI in the enterprise*. Deloitte Insights. <https://www.deloitte.com/az/en/issues/generative-ai/state-of-generative-ai-in-enterprise.html>, Access date: 14.01.2026
- Deloitte, 2024. *Trust in generative AI: Poland 2024.*, <https://www.deloitte.com/pl/pl/services/consulting/services/artificial-intelligence-and-data/trust-in-AI-polska-perspektywa-2024.html>. Access date: 11.01.2026

- Deepika, N., 2023. *The Future of Work and Business: Leveraging GenAI in Enterprise Applications*, International Journal of Innovative Research in Engineering & Multidisciplinary Physical Sciences, Volume 11 Issue 1, January – February. 1-12, DOI: 10.5281/zenodo.15029783
- Enterprises are concerned about 'critical shortages' of staff with AI ethics and security expertise*, <https://www.itpro.com/business/careers-and-training/enterprises-are-concerned-about-critical-shortages-of-staff-with-ai-ethics-and-security-expertise>, Access date: 15.12.2025
- European Commission, 2021. *Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain union legislative acts*. Brussels. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52021PC0206>, Access date: 05.01.2026
- Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., Vayena, E., 2018. *AI4People—An ethical framework for a good AI society*. Minds and Machines, 28(4), 689–707. DOI: 10.1007/s11023-018-9482-5.
- Human+AI Institute, & CampusAI, 2024, *Generative AI adoption in Poland: Comparative study*. <https://www.trade.gov.pl/en/news/poland-is-the-leader-in-gen-ai-implementations/>, Access date: 06.01.2026
- Humphreys, D., Koay, A., Desmond, D. et al., 2024, *AI hype as a cyber security risk: the moral responsibility of implementing generative AI in business*, AI Ethics 4, 791–804, DOI: 10.1007/s43681-024-00443-4.
- ISACA, 2024. *AI governance and risk management survey report*. ISACA. <https://www.isaca.org/resources/research>. Access date: 56.01.2026
- Jobin, A., Ienca, M., & Vayena, E., 2019. *The global landscape of AI ethics guidelines*, Nature Machine Intelligence, 1(9), 389–399. DOI: 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. DOI: 10.5465/annals.2018.0174.
- Marcus, G., & Davis, E., 2019. *Rebooting AI: Building artificial intelligence we can trust*. Pantheon Books.
- Melville, N., Kraemer, K., & Gurbaxani, V., 2004. *Information technology and organizational performance: An integrative model*. MIS Quarterly, 28(2), 283–322. DOI: 10.2307/25148636
- Menlo Ventures, 2023. *The state of generative AI in the enterprise*, <https://menlovc.com/2023-the-state-of-generative-ai-in-the-enterprise-report/>. Access date: 15.12.2025
- Mikalef, P., Krogtstie, J., Pappas, I. O., & Pavlou, P. A., 2020. *Exploring the relationship between big data analytics capability and competitive performance: The mediating roles of dynamic and operational capabilities*. Information & Management, 57(2), 103169. DOI: 10.1016/j.im.2019.05.004
- NIST, 2023. *Artificial Intelligence Risk Management Framework (AI RMF 1.0)*. National Institute of Standards and Technology.
- Noy, S., & Zhang, W., 2023. *Experimental evidence on the productivity effects of generative artificial intelligence*. Science, 381(6654), 187–192. DOI: 10.1126/science.adh2586
- OECD (2025). *The effects of generative AI on productivity, innovation and entrepreneurship*. [https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/06/the-effects-of-generative-ai-on-productivity-innovation-and-entrepreneurship\\_da1d085d/b21df222-en.pdf](https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/06/the-effects-of-generative-ai-on-productivity-innovation-and-entrepreneurship_da1d085d/b21df222-en.pdf), Access date: 05.01.2025
- OpenAI, 2025. *The state of enterprise AI 2025*. OpenAI. <https://openai.com/index/the-state-of-enterprise-ai-2025-report/>. Access date: 05.01.2025
- Orlikowski, W. J., & Iacono, C. S., 2001. *Research commentary: Desperately seeking the "IT" in IT research*, Information Systems Research, 12(2), 121–134. DOI: 10.1287/isre.12.2.121.9700
- PwC Poland, 2024. *Ready for artificial intelligence*. PwC. <https://www.pwc.pl/en/publikacje/ready-for-artificial-intelligence.html>. Access date: 05.01.2026
- Rai, A., Constantinides, P., & Sarker, S., 2019. *Next-generation digital platforms: Toward human–AI hybrids*. MIS Quarterly, 43(1).

- Raji, I. D., Smart, A., White, R. N., Mitchell, M., Gebru, T., Hutchinson, B., Barnes, P., 2020. Closing the AI accountability gap: Defining an end-to-end framework for internal algorithmic auditing. *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency*, 33–44. DOI: 10.1145/3351095.3372873
- SAS Institute, 2024. *Generative AI adoption and investment trends in Poland*. [https://www.sas.com/pl\\_pl/news/informacje-prasowe-pl/2024/maj/badanie-sas-89-proc-uzytownikow-genai-w-polsce-chce-dalej-inwestowac-w-te-technologie.html](https://www.sas.com/pl_pl/news/informacje-prasowe-pl/2024/maj/badanie-sas-89-proc-uzytownikow-genai-w-polsce-chce-dalej-inwestowac-w-te-technologie.html). Access date: 05.01.2026
- Smith, G.K., 2025. *Strategic Integration of Generative AI: Opportunities, Challenges, and Organizational Impacts*, *Law, Economics and Society*, 1(1), 156-168. DOI:10.30560/les.v1n1p156
- Taleb, N.N., 2010. *The black swan: The impact of the highly improbable (2nd ed.)*. Random House.
- Teece, D.J., 2007. *Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance*. *Strategic Management Journal*, 28(13), 1319–1350. DOI:10.1002/smj.640
- The State of Generative AI in the Enterprise 2024 year-end Generative AI report*, <https://www.deloitte.com/us/en/what-we-do/capabilities/applied-artificial-intelligence/content/state-of-generative-ai-in-enterprise.html>. Access date: 16.12.2025
- Uddin, M., Arfeen, S.U., Alanazi, F. et al., 2025. *A Critical Analysis of Generative AI: Challenges, Opportunities, and Future Research Directions*, *Archives of Computational Methods in Engineering*, September, DOI: 10.1007/s11831-025-10355-z.
- Żywiołek, J., 2025. *The Impact of Generative Artificial Intelligence on Knowledge Exchange in Supply Chains*, *The Proceedings of the 26th European Conference on Knowledge Management*, Vol. 26 No.2, 1146- 1154. DOI: DOI: 10.34190/eckm.26.2.3988.