

AI-Driven Risk Management for Sustainable Enterprise Development: A Review of Key Risks

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Abstract

The proliferation and application scope of artificial intelligence (AI) have witnessed a gradual expansion in the last several years, marking a substantial leap in quality when compared to the landscape a decade ago. Its permeation into every industry is undeniable, yet it concomitantly poses a multitude of challenges that are inherently difficult to fully mitigate across various domains. By harnessing the power of AI, enterprises can significantly augment their risk identification and management capabilities, ultimately fostering sustainable development. The implementation of AI technologies facilitates automated analysis of complex data sets, rapid identification of potential risk points, and offers precise early warning systems along with invaluable decision support. However, it is imperative to acknowledge that AI itself is not without risks. The rapid pace of its development has been accompanied by a proliferation of incident reports, highlighting the wide range and intricate nature of the risks involved. The unfortunate instances of technology companies succumbing to bankruptcy further underscore the fact that the development and utilization of AI are not devoid of vulnerabilities, thereby posing latent threats to the sustainable development of enterprises. Consequently, this paper adopts a rigorous literature review method, carefully selecting 82 highly pertinent articles, to comprehensively synthesize and analyze the drawbacks and risks associated with AI applications in recent years. The ultimate aim is to provide insightful guidance for the sustainable growth of enterprises and the efficient harnessing of AI technologies.

Keywords: artificial intelligent, literature review, risk and challenge, enterprise, sustainable development

1. Introduction

Over the past few years, artificial intelligence (AI) has swiftly gained traction and commercial viability, revolutionizing industries and global business operations. For example, AI-powered chatbots, as discussed by Lin and Yu (2024), have seen widespread implementation, offering unparalleled efficiency in resolving queries compared to conventional search engines. The notion of AI, defined as the emulation of human cognitive capabilities to autonomously attain goals (Benko and Lanyi, 2009), was formally introduced in 1956. Since its inception, progress in neural networks, big data analytics, and cloud computing (Sikka et al., 2024) has facilitated AI's maturation across various sectors, including healthcare, finance, manufacturing, and retail (Mahmoud et al., 2020). Governments and industries now perceive AI as a strategic technology, with a focus on patents (Chang, 2021), publications, and the creation of value. Stanford's "2022 Artificial Intelligence Index Report" underscores the leadership roles played by the U.S., Europe, and the Asia-Pacific regions in AI development. These global endeavors emphasize AI's pivotal role as a catalyst for economic and societal transformation (Korinek & Stiglitz, 2021). However, despite its myriad benefits, AI presents substantial challenges. Automation poses a threat to employment, while security risks, social disparities, and ethical concerns—such as bias and privacy violations—raise significant issues (Bostrom, 2020). These challenges complicate the pursuit of sustainable enterprise development, necessitating a delicate balance between technological advancement and responsible governance. AI governance has become imperative in addressing these risks (Luan Qun, 2019). Ethical frameworks and global standards are crucial to mitigating AI's potential harm while fostering innovation. Enterprises must integrate risk management and social responsibility (Žigienė et al., 2019; Camilleri, 2024), ensuring that AI is deployed ethically and contributes positively to society. In this

context, businesses must proactively engage in AI governance, formulating internal policies that align with ethical norms, collaborating with stakeholders, and promoting transparency. By addressing the risks while leveraging AI's potential, companies can drive sustainable growth and cultivate trust in AI systems.

2. Background

After the first three industrial revolutions, the manufacturing sector has witnessed remarkable enhancements in production efficiency, prompting a heightened global emphasis on research and development (R&D). With the advancement and maturation of electronic information technology, computer science, and automation (Tsafnat et al., 2014), Industry 4.0 has emerged as a pivotal concept since 2011. This new era is marked by sophisticated information technology, extensive interconnectivity, and seamless digital integration. Countries with cutting-edge high-tech industries and advanced manufacturing sectors have made substantial investments in R&D and innovation to sustain their competitive advantage (Bogliacino and Pianta, 2013). Data sourced from UNESCO and the United Nations Commodity Trade Statistics reveals that crucial scientific research indicators in prominent economic regions are either consistently rising or maintaining high levels, underscoring a steadfast dedication to technological progress. A portion of these data is presented in Table 1.

Table 1. National scientific research index (Average from 2019 to 2021.)

Partially listed countries	Proportion of R&D Investment in GDP in recent 3 years	Number of patents filed by non-residents	High-tech percentage of export finished products	R&D researchers (per million people)
America	3.36	331051	19.09	4341
China	2.37	156151	28.12	1592
German	3.15	19798	15.62	5459
British	2.83	7704	24.22	4468
Canada	1.78	31936	14.68	4910
Japan	3.26	63490	16.65	5514
Korea	4.79	48469	29.61	8673

As one of the important projects and technical pillars of Industry 4.0, AI is being regarded as one of the key technologies to achieve these capabilities and to disruptively redefine the way manufacturing processes and business models are structured (Peres et al., 2020). Including automation and intelligent production lines (Zhang, 2023), forecasting and maintenance (Öhlinger et al., 2022), quality inspection and control (Devasena et al., 2023), supply chain management and logistics optimization (Boute and Udenio, 2022), product design and research and development (Sharma, 2023), customer service, and personalized customization (Alfayoumi et al., 2023), these advancements have significantly assisted or replaced traditional human-centered modes within the current industrial chain, thereby enhancing accuracy and timeliness. From the available data, it is evident that mainstream technologically advanced countries prioritize the development of AI, with the United States taking the lead by establishing AI as a crucial development objective, documents such as the "2024-2025 Fiscal Year AI Strategy: Leveraging Responsible AI for Diplomacy" underscore the nation's elevation of AI development to the level of a national strategy, the support provided by the government to enterprises has facilitated rapid progress (Dunjko and Briegel, 2018) in the related research and development of artificial intelligence in recent years. Apart from technological development, One other essential factor is that enterprises have responsibilities and obligations to be commercially sustainable in order to deliver ongoing social impact (Chell, 2007), This point has also laid a foundation for the development of enterprises, particularly in the current downturn of the world economy, in a climate of both decreasing public funding and rising expectations regarding the role that social ventures can play in society, the development of sustainable social enterprises becomes an increasingly important issue (Jenner, 2016). Consequently, this paper poses two pertinent questions regarding risk control and the enhancement of enterprises' sustainable development capabilities within the context of artificial intelligence globalization:

Q1: What risks may artificial intelligence pose in light of recent AI trends?

Q2: How can risks be mitigated to fulfill corporate social responsibility and foster sustainable development?

3. Literature Review

In the 21st century artificial intelligence (AI) has become an important area of research in virtually all fields

(Oke, 2008), the business scope and R&D investment of AI are also experiencing a gradual augmentation. Which possess the capability to provide a host of benefits but can also give rise to a variety of harmful, unintended consequences (Cheatham et al., 2019), either directly or indirectly (Nadimpalli, 2017). Since its emergence, a prevalent perception among the public has been that AI poses a risk of becoming uncontrollable, Scherer (2015) elaborate that may be difficult to regain if the AI is designed with features that permit it to learn and adapt. These are the characteristics that make AI a potential source of public risk on a scale that far exceeds the more familiar forms of public risk that are solely the result of human behavior. This will indeed result in serious consequences, yet it is not the most fundamental issue (Bostrom, 2016), at its core, the gaps in policies (Calo, 2017) and legislations (Cobbe & Singh, 2021) pertaining to artificial intelligence merit significant attention, Atabekov and Yastrebov (2018) state that AI as subject of law introduced into national legislation without prior background is difficult to achieve comprehensive coverage, nevertheless, the forthcoming regulations on AI and related topics in legislation may

generate new challenges for the existing ethical and legal framework (Peschke and Peschke, 2022). Hence, in scenarios where the rules and regulations are not comprehensive or optimal, the advancement of AI will indeed pose risks, while the prototype of AI can be traced back to the 1960s, its potential only started to emerge in the last decade (Schmidhuber, 2015), plus there was a lengthy “legal lag” between the widespread adoption of the new technology and the development of modern products liability (Rustad and Koenig, 2003), in the process of exploration and development (Muggleton, 2014), the risks and challenges posed by artificial intelligence will become more intricate and diversified. From a comprehensive societal perspective. The prevalence of AI-assisted decision-making functions (Ma et al., 2024) in the market is notably high, yet it remains uncertain whether they are devoid of any negative impacts (Zhao, 2023), rendering issues pertaining to responsibility attribution and adherence to ethical principles even more intricate. Furthermore, as every individual gains access to AI for enhancing efficiency, large institutions, enterprises, or governments (Lundvall and Rikap., 2022) are prone to developing efficient technologies to augment their performance, potentially exacerbating the differentiation within social structures and strata. Additionally, the possession of advanced technological products by governments and enterprises may inevitably lead to some extent of excessive monitoring of individuals and privacy violations (Bavli et al., 2024). Seizov and Wulf (2020) point out that in consideration of this intricate situation, the extant rules and regulations remain in need of further refinement. On the other hand, from the perspective of sustainable development of enterprises, Hi-tech tries a double-edged sword, the impact it has caused is not limited to traditional financial risks but also ESG (environmental, social, and governance) risks (Teng et al., 2023), an intuitively cognition of the current influence is that some traditional jobs have been replaced because of the intervention of AI (Reabciuc et al., 2023), from a deeper perspective, the widespread adoption of high-tech products, particularly AI, will also introduce challenges such as data privacy concerns (Tom et al., 2020), ethical regulations (Wong, 2021), algorithm bias (Panch et al., 2019), and the like, which pose significant obstacles to the sustainable development of enterprises. In light of the aforementioned issues, as well as the factors that the coverage of related literature review is not comprehensive, this paper employs a methodology of literature review and analysis, systematically examining the pertinent literature from recent years, synthesizing the associated risks and solutions, strive to present novel perspectives and recommendations based on the consolidation of existing research. The aim is to make academic contributions to the field of AI and enterprise management development and sustainability, while also offering insights for fellow scholars.

4. Methodology

This paper employs the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology to conduct a thorough examination of the literature concerning AI-related risks and their repercussions for enterprise development. The research primarily targets the Emerald database (Utkm, 2024), meticulously screening articles utilizing search strings pertinent to AI risks and their impact on businesses. From an initial pool of 452 articles, 82 were meticulously chosen following a rigorous selection process, enabling a comprehensive analysis of the risks associated with AI and the proposed solutions to mitigate them.

4.1 Data Collection

This paper has conducted an investigation and summary of the literature available on the Emerald database, which is an academic resource platform distinguished by its abundant resources, high degree of internationalization, and assured content quality, offering focused international research across a range of fields (Utkm, 2024). In accordance with Di Vaio (2024), four steps are adopted to screen suitable articles:

- (1) the identification of published papers from repositories;
- (2) the screening of the papers;

- (3) the selection of relevant papers based on eligibility;
 (4) the finalization and inclusion of the papers for analysis.

Among them, the keywords of search strings include AI or artificial intelligence and industry or enterprise or company with risk or consensus or challenge or negative or impact or influence, due to the increasing popularity of AI in recent years, the time span is set to be 7 years from 2018 to 2024. Preliminary screening showed that 452 articles met the requirements. Subsequently, a rigorous screening process was initiated, entailing the exclusion of articles that were duplicative, irrelevant, or exhibited low relevance to the subject matter, non-English articles, as well as conference proceedings (Pasqualotto et al., 2024) and expert briefings, this reduced the number of articles to 146. Afterwards, in accordance with the research content of this paper, the ultimate search results were refined to concentrate on the risks associated with AI and its potential consequences for businesses. Articles lacking substantial relevant analysis or exhibiting low eligibility were excluded from the dataset. Articles whose titles and abstracts did not provide explicit indications but contained comprehensive explanations within the body of the text were retained. Eventually, a total of 82 eligible samples were obtained.

4.2 Results

A quantitative review of the selected papers is detailed in the following sub-sections (Assunta et al., 2023), Drawing upon the pertinent literature, we have conducted research with a focus on key words, publishing institutions, countries of publication, subject areas, and related risks.

4.2.1 Keyword Analysis

In the prevailing trend of AI's escalating prevalence, it becomes imperative for enterprises to identify the domains that are tightly intertwined with AI risks and to grasp the underlying knowledge context, so as to ensure their sustainable development capabilities. Upon a thorough examination and organization of the related keywords extracted from the literature, after filtering out irrelevant items, a total of n=138 multi-frequency keywords were collected, the statistical analysis reveals that the keyword law & legislation (n=11, 6.84), public awareness (n=9, 6.16), data science (n=7, 4.79), decision assist (n=7, 4.79), machine learning (n=6, 4.11), business & management (n=6, 4.11) emerges with the highest frequency.

Table 2. Frequently used keywords

Keyword	Frequency	%
Law & legislation	11	7.97
Public awareness	9	6.52
Data science	7	5.07
Decision assist	7	5.07
Machine learning	6	4.35
Business and management	6	4.35
Customer awareness	5	3.62
Policy	5	3.62
Sustainability	5	3.62
Education	4	2.89
Information technology	4	2.89
Digital innovation	4	2.89
Emerging technology	4	2.89
Employee engagement	4	2.89
Future work	3	2.17
Human resource	3	2.17
Auditing & accounting	3	2.17
Supply Chain	3	2.17
Digitalization	3	2.17
Marketing	3	2.17
Chat-gpt	3	2.17
Unemployment	3	2.17
Discourse	3	2.17
Accountability	3	2.17
Governance	3	2.17

Organization relation	2	1.45
Security countermeasures	2	1.45
Privacy	2	1.45
Economic growth	2	1.45
Automation	2	1.45
Hospitality	2	1.45
Digital transformation	2	1.45
Public and social relations	2	1.45
Media	2	1.45
Smart products	2	1.45
Modeling	2	1.45
Fairness	2	1.45

It is evident that AI has exerted a considerable influence across multiple industries and obviously influences the way businesses are done today (Wamba et al., 2020), demonstrating revolutionary potential in augmenting both personal and professional domains. However, it is imperative to acknowledge that the pertinent legislations and regulations (Sekiguchi, 2020) remain in a nascent stage, necessitating further refinement. The public is gradually recognizing the transformative implications of AI's widespread adoption, while business managers are embarking on understanding novel approaches to AI management and gauging consumer attitudes towards this technology.

4.2.2 Publication Journals

For the literature included in this study, we have identified 12 publishers that have appeared more than once, with the aim of highlighting journals that have demonstrated high relevance to the research questions in recent years. The specific data pertaining to this analysis are recorded in Table 3. Notably, Emerald Publishing Limited, the International Journal of Law and Management, and Corporate Governance emerge as the publishers with the highest number of published articles. On an overall scale, the research conducted on AI risks and challenges exhibits a multi-domain and diverse nature (Preece et al., 2019), which indirectly reflects the significant attention given to the commercialization and productization of emerging technologies across various fields.

Table 3. Journals with the highest number of articles published

Journal	Frequency	%
Emerald Publishing Limited, Leeds	19	22.89
International Journal of Law and Management	3	3.61
Corporate Governance	3	3.61
Journal of Hospitality and Tourism Technology	2	2.41
Asian Education and Development Studies	2	2.41
Journal of Research in Interactive Marketing	2	2.41
Technological Sustainability	2	2.41
Transforming Government: People, Process and Policy	2	2.41
Journal of Information Communication and Ethics in Society	2	2.41
Journal of Property Investment & Finance	2	2.41
Strategic HR Review	2	2.41
Information and Computer Security	2	2.41
Others	40	48.19

4.2.3 Publication Authorship

The countries of the primary authors in the literature can offer insights into the regional focus on artificial intelligence and the current research status pertaining to associated risks. As evident from Table 4, it is discernible that nations such as India, the United States, the United Kingdom, China, and EU countries exhibit a heightened level of attention towards the advancement of high-tech domains.

Table 4. Nationality

Country	Frequency	%
India	9	13.04
USA	6	8.70
UK	6	8.70
China	6	8.70
Italy	5	7.25
Australia	3	4.35
Germany	3	4.35
Poland	3	4.35
Pakistan	3	4.35
Vietnam	3	4.35
Greece	1	1.45
Israel	1	1.45
Sweden	1	1.45
Tunisia	1	1.45
Hungary	1	1.45
Finland	1	1.45
Tanzania	1	1.45
Czech Republic	1	1.45
Romania	1	1.45
Korea	1	1.45
Colombia	1	1.45
New Zealand	1	1.45
Portugal	1	1.45
Norway	1	1.45
Malaysia	1	1.45
Switzerland	1	1.45
United Arab Emirates	1	1.45
Mexico	1	1.45
Brazil	1	1.45
France	1	1.45
Sri Lanka	1	1.45
Portugal	1	1.45
Algeria	1	1.45

4.2.4 Covering Realm

Distinct from keywords, the content presented in this section specifically focuses on the concrete domains where AI and its associated risks and challenges have surfaced, as elaborated in Table 5. The primary research domains encompass sociology, enterprise, legislation and policy, and marketing. The data underscores that considerable attention has been directed towards social impact, as well as enterprise and market impact, indicating not only the rapid progression of AI (Zhang and Tao, 2020) within these spheres but also the heightened concerns and apprehensions it has elicited among scholars and practitioners. Concurrently, research in other areas remains relatively limited, a circumstance that can be attributed to the pace of AI's development and underscores the need for continued exploration in the future.

Table 5. Realm of research

Subject realm	Frequency	%
Sociology	14	15.38
Enterprise	11	12.09
Legislation and policy	10	10.99
Marketing	10	10.99
Human resource	8	8.79
Accounting	4	4.40

Education	4	4.40
Management	4	4.40
Product R&D	4	4.40
Economic and finance	3	3.29
Tourism	3	3.29
Hotel industry	2	2.18
Supply chain	2	2.18
Real estate	2	2.18
Bank	2	2.18
Philosophy	1	1.09
Medical industry	1	1.09
Organization	1	1.09
Media	1	1.09
Public services	1	1.09
Healthcare	1	1.09
Government	1	1.09
Library	1	1.09

4.2.5 Risk Identification

Through a systematic classification process based on the relevance and research direction of each literature, we have grouped those sharing the same primary research questions into the same category, ultimately resulting in 11 distinct clusters as detailed in Table 6. It is noteworthy that a significant portion of the research focuses on the related risks in the domains of workplace application, social ethics, laws and regulations, and professional support. Furthermore, some literature encompasses more than one research area and has been appropriately categorized under additional options in this paper to reflect its multifaceted nature.

Table 6. Risks and Challenges

Cluster	Study
Health, equity and unemployment in the workplace	Cebulla et al (2023); Seagraves (2024) Ma et al (2023); Trabelsi (2024) Hughes et al (2019); Ore and Sposato (2022) Arias-Pérez and Vélez-Jaramillo (2022) Mohapatra et al (2023); Abu et al (2024) Lichtenthaler (2020); Hamarat et al (2024) Costa et al (2022); Masoud (2024) Tharkude (2023); Wheeler and Buckley, (2021)
Cybersecurity	Schreiber and Schreiber (2024); Carvalho, I. and Ivanov, S. (2024)
Prejudice	Lauterbach (2019); Davis (2024) Rasheed et al (2024); Griffiths et al (2024)
Social and ethical	Feher and Veres (2023); Andreas (2024); Jebar and Lundborg (2019); Chari (2023); Staszkievicz et al (2024); Kaplan (2020); Kumar and Suthar (2024); Banerjee (2021); Davis (2024); Zhai et al (2020); Rezaei (2024); Verma and Garg (2023); Trail et al (2024) Hocken and King (2023); Kumar et al (2024) Tiron-Tudor and Deliu (2022);

	Mahmoud et al (2020); Sýkorov et al (2024) Chatterjee and Hussain (2022) Peltz and Street (2020) Bormida (2021); Labrecque et al (2024) ElHassan and Arabi (2024)
AI security and technical challenges	Bracci (2023); Kalodanis et al (2024); Mambile and Mwogosi (2024) Mogaji and Nguyen (2022); Sales de (2024) Kalodanis et al (2024); Sedkaoui and Benaichouba (2024) Khan and Mer (2023); Agnese et al (2024) Jafari and Keykha (2024) Shadbad and Biros (2021)
Data and privacy	Lauterbach (2019); Barari et al (2024) Nayal (2023); Seagraves (2024) Gladysz et al (2023); Mogaji and Nguyen (2022) Kamila and Jasrotia (2023)
Corporate governance	Trabelsi (2024) De Villiers et al (2024)
Regulation, enforcement and misuse	Yeoh (2019); Pagallo et al (2022) Chatterjee and N.S (2022); Lopez and Garza (2023); Khan and Mer (2023); Lao and You (2024) Qadir et al (2022); Leszkiewicz et al (2022) Masakowski (2020); Pagani et al (2023) Dewasiri et al (2023)
Lack of coordination between market and consumers	Morosan and Dursun-Cengizci (2024) Shi et al (2024); Hao and Demir (2024) Megaro (2023); Rahman et al (2023) Szumilo and Wiegelmann (2024) Wang et al (2023); Lopez and Garza (2023)
Lack of funds, policies and talent support	Chen et al (2022); Shang et al (2023) Ali et al (2023); Uluç (2022) Zerfass et al (2020); Pagani et al (2023) Vishwakarma and Singh (2023) Sharma et al (2023)
Environmental and sustainable development	Pagallo et al (2022)

4.2.5.1 Technical Risks Related to AI

The aforementioned 11 issues and risks can be broadly categorized into three macro-level groups. The first category pertains to the inherent problems of AI system itself, which refer AI algorithm decision-making could generate loopholes (Bracci, 2023) while dealing with massive amounts of information (Sedkaoui and Benaichouba, 2024), thereby leading to a data crisis. Tom et al (2020) state that one of the main limitations of

machine learning and deep learning approaches is their requirement for large datasets for development and testing, data privacy and security concerns are crucial because AI tools often need access to sensitive data (Owan et al., 2023), in consideration of violations of user privacy can lead to significant damages and may also bring unforeseen consequences, thus it is necessary to ensure strong data security protections and promote openness (Kamila & Jasrotia, 2023). Moreover, it is imperative to emphasize the necessity of developing algorithms that are not only efficient and accurate but also capable of fulfilling practical application requirements. This entails selecting appropriate machine learning algorithms, performing rigorous feature engineering, and diligently adjusting model parameters. Failure to meet these stringent requirements or encountering issues related to data quality can result in compromised model performance or even erroneous outcomes, Mambile and Mwogosi (2024) pointed out that AI systems can perpetrate existing biases if trained on biased data. Additionally, the inherent black-box nature of AI models (Von, 2021) presents further challenges, as the intricate decision-making processes of these models are often difficult to interpret and explain. To effectively address these multifaceted issues, it is crucial to ensure robust software and hardware support, to ensure the robustness which augment the ability of AI systems to cope with errors during model learning or inference (Wei and Liu, 2024). Consequently, enhancing model robustness has become a pivotal topic of research and development in the field of AI. However, the tasks of efficiently harnessing these resources and optimizing software architecture to achieve superior overall performance remain formidable challenges that necessitate further investigation and innovation.

4.2.5.2 Man-Made Related Risk Factors

The second category of risk is intimately associated with human and social factors, although the ultimate impact is still attributed to AI, the underlying factors of this type of risk can be significantly attributed to man-made factors. Given that AI is an outgrowth of technological research and development, it is susceptible to triggering social issues stemming from human activities, irrespective of whether its quality is deemed impeccable within a specific domain. Pagallo et al (2022) elaborate that confront the illicit uses of the technology and overuse or misuse of AI, regulatory efforts of legislators should be understood as a critical component of the Green Deal of the EU institutions, Similarly, Yeoh (2019) has also elaborated on a comparable viewpoint, the greater attention on artificial general intelligence could generate profound impacts, and depending on how it is deployed, it could help solve the world's problems or cause further problems, even if it does not escalate to the level of criminality, there may still exist loopholes and latent hazards within the realm of ethics, due to AI systems can perpetuate existing biases if trained on biased data (Mambile & Mwogosi 2024), therefore, in the context of rapid scientific and technological development, the ongoing enhancement and refinement of outdated fundamental laws, as well as the clarification of responsibilities and obligations, hold paramount importance. However, given the premise of the high efficiency of AI popularization, our supervision of artificial intelligence technology cannot be confined merely to post-event measures, rather, it is of paramount importance to preemptively prevent and supervise its potential risks (Ma & Xu, 2018). Consequently, it is imperative that we not only contemplate this from a legislative perspective but also enhance the oversight mechanism to minimize potential losses as much as feasible. A prototypical instance of this phenomenon can be observed in the workplace. In the absence of a robust security system, the deployment of AI is liable to exacerbate the issue of structural unemployment (Trabelsi, 2024), leading to its proliferation, Hamarat et al (2024) Explained that in the future, machines managed by AI will be able to do the current job of an actively working human being and replace him or her, this will also be manifested in whether the company's system and AI model exhibit equitable treatment and respect towards candidates within the progressively diversified AI-driven recruitment process (Sýkorová et al., 2024) in the forthcoming era. These contents are intricately linked to social and ethical considerations, necessitating extensive attention from diverse sectors to effectively fulfill the role of artificial regulation and mitigate the risk of perpetuating unsustainable logics akin to those underlying Exploitative Surveillance Capitalism-based Economics (Qadir et al., 2022).

4.2.5.3 Risks from Interaction between Human and AI

The third type of risk, from a categorical perspective, resides in an intermediary position between the two poles. It is not an inherent defect of AI technology and cannot be exclusively ascribed to human factors. Rather, it surfaces when humans endeavor to interface with AI, ultimately precipitating subsequent risks. Among them, common contradictions will emerge between two types of users: one is the institutional group represented by enterprise (Kaddoumi & Tambo, 2021) and government entities, and the other is the customer group (Rohden & Zeferino, 2023) represented by ordinary users. Chen et al (2022) indicate there is a lack of industrial AI maturity models to enable companies to understand where they are and plan where they should go, enterprises may not fully understand the capabilities of these technologies, include but not limited to smart data acquisition and analysis, big data quality, security and management, smart decision making etc. Concurrently, the extent of

development among different enterprises in these aspects exhibits significant disparity. While some enterprises have successfully integrated mature AI models into diverse departments to facilitate interdepartmental collaboration, others may remain entrenched at the nascent stage of exploration. Investigation of the reason is that some enterprises are faced with a

funding constraints (Shang et al., 2023), the initial construction of AI systems is often burdened by the substantial upfront investment typically required, as well as the necessity for continuous research and development expenditures, more than that, lack of expertise in advanced computers and programming skills (Ali et al., 2024) will also hinder the orderly development of the organization, this can be attributed to the lack of relevant policies, Vishwakarma and Singh (2023) revealed that when management fails to provide adequate attention and support to intelligent transformation, it can exert a negative influence on the development of AI. These detrimental effects may further undermine professional technical training and talent support at the grassroots level, eventually perpetuating a vicious cycle, even if an organization has the intention to develop AI. On the other hand, despite possessing well-established AI systems, some organizations still encounter objections from their customer groups regarding the services rendered by these AI systems at the market side, Rasheed et al., 2024 depicted that user will encounter usage barrier when interacting with AI, which in turn leads to incompatibility of the products or services with the consumers' earlier experiences, habits, workflow and acceptance standards. Besides, when customer perceives no or a lesser value of product or service than an existing alternative's value, will lead to a value barrier (Laukkanen et al., 2008), affected by this, individuals may experience a negative impact on their willingness to use AI when expectations are disproportionately high compared to the actual returns. In addition, the application of AI also introduces a certain degree of uncertainty and risks (Ram and Sheth, 1989) to users, and those improperly handled risk barriers could reduce user expectation level and the benefits of AI applications, thus increase the associated challenges for organizations.

5. Discussion

The inexorable global expansion of enterprise AI necessitates a robust framework for risk management, extending beyond mere technical malfunctions to encompass an array of complex issues, including legal frameworks, liability concerns, corporate governance, and public perception. Achieving effective AI governance demands a multifaceted strategy that harmonizes prudent development policies, rigorous oversight, and transparent feedback mechanisms. This delicate equilibrium empowers enterprises to align internal efficiencies with societal expectations, thereby fostering both business prosperity and societal advancement. A cornerstone of this balance lies in the seamless integration of social responsibility within AI projects. Enterprises must transcend traditional business objectives to embed ethical considerations at the heart of AI deployment. This entails establishing comprehensive AI ethics guidelines, fostering stakeholder engagement, and championing transparency across all facets of AI utilization (Camilleri, 2024). By doing so, AI development is not only propelled by operational efficiency but also resonates with sustainable development aspirations. From a legal perspective, compliance management holds paramount importance in mitigating AI risks, acting as a bulwark against potential violations and fostering adherence to regulatory benchmarks. In tandem, companies must cultivate social response mechanisms that harmonize their operations with broader societal interests. These mechanisms catalyze internal momentum for corporate social responsibility (CSR), particularly in the realm of AI, where ethical challenges are exacerbated by technology's rapid evolution. Clearly defining the scope of CSR in AI, encompassing ethics and governance, is crucial to ensuring responsible deployment and minimizing societal disruptions. For enterprises, dynamic innovation must be synchronized with evolving AI regulations, ensuring that ethical considerations do not unduly hinder technological advancement. Optimizing internal governance structures facilitates the effective integration of CSR, thereby promoting both the global adoption of AI and robust risk management. Legislative engagement and proactive policy recommendations further augment this process, ensuring that corporate demands and societal needs are harmoniously balanced within AI laws and regulations (Le, 2016). Furthermore, voluntary group standards can bolster CSR endeavors, enabling enterprises to implement customized ethical frameworks while adhering to global standards. This fosters independent, socially responsible AI deployment that is responsive to both legal mandates and stakeholder expectations. Collaborative initiatives between governments and enterprises are pivotal in managing AI risks, as joint ventures not only fulfill social responsibilities but also expedite widespread AI adoption. Internally, companies must establish exhaustive regulatory frameworks, whether single or multi-tiered, to address both internal and external risks (O'Sullivan, 2019). This encompasses ensuring administrative compliance, proactive risk prevention, and continuous post-deployment monitoring. Swift identification of AI-related risks and prompt corrective actions are imperative for maintaining compliance and ensuring the stability of AI systems on a global scale. Ultimately, the sustainable development of enterprise AI hinges on government-enterprise collaboration, supported by

advanced technology and data systems. This cooperation promotes the responsible utilization of AI technologies, ensuring they contribute to both business growth and societal welfare. Simultaneously the pivotal importance of CSR practices in AI risk management underscores their forward-thinking significance, intimately tied to the long-term sustainable development prospects of enterprises (Shkalenko & Nazarenko, 2024). By actively anticipating and effectively mitigating the societal and environmental hazards posed by AI, organizations demonstrate profound foresight into emerging trends, thereby bolstering their resilience in navigating the intricate and dynamic market landscape. Specifically, a strategic investment in AI ethics education and professional development not only elevates the ethical awareness of personnel but also fosters a corporate culture deeply rooted in ethical principles. This ethically grounded culture serves as a catalyst for uninterrupted innovation, ensuring enterprises adhere to moral boundaries amidst progress. Furthermore, collaborative endeavors with research institutions, universities, and other relevant stakeholders facilitate the joint exploration of sustainable AI development trajectories, thus ensuring that technological advancements harmoniously coexist with societal responsibilities. Consequently, such forward-looking strategies and actions not only fortify a globally recognized image of corporate accountability but also establish a robust ethical framework and societal trust, laying the groundwork for enterprises' expansive market penetration and international expansion endeavors.

6. Conclusion

The decision for enterprises to adopt AI technologies or invest in AI products represents a crucial step in their development journey. Consequently, this paper poses two fundamental questions pertaining to the risks inherent in AI and the directional path of enterprise development. Through a comprehensive statistical analysis of 82 pertinent literature sources, detailed responses are formulated in sections 4 and 5, providing valuable insights for the sustainable growth of enterprises. In summation, there is a growing emphasis on the application of AI within businesses, and its continued integration into enterprise development is poised to become a prevalent trend. Nonetheless, it is important to acknowledge that AI still harbors risk vulnerabilities, including technological deficiencies, legal and regulatory blind spots, compatibility challenges, and low levels of recognition. These issues presently lack definitive and effective solutions, necessitating ongoing refinement and amelioration in the future.

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Obtained.

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The Publication Ethics Committee of the Canadian Center of Science and Education.

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Data sharing statement

No additional data are available.

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