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AI Governance in the Business World: Legal Standards and Management Practices

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ABSTRACT
Technological breakthroughs in artificial intelligence (AI) facilitate the creation of human-like computers capable of autonomous operation and the imitation of cognitive behaviour. The enthusiasm and advancement among managers, scholars, and the general populace have generated considerable excitement across various sectors, prompting several organisations to spend significantly in leveraging technologies via business model innovation (BIM). Managers get less help from academics while attempting to integrate AI into their firm's operations, resulting in a heightened chance of unsuccessful projects and undesirable outcomes. This research seeks to elucidate AI's role as a driver for BIM. Technological improvements and developments in AI research have generated greater curiosity across many sectors and companies. Nonetheless, inadequate comprehension of the use of AI deployment results in restricted commercial benefits. This article aims to enhance comprehension of AI deployment by examining studies in AI, BMI, and digitisation.
Keywords: AI, Business, Legal, Management, regulation, ethics

1. Introduction:

Disruptive breakthroughs, including artificial intelligence (AI), are altering the competitive dynamics across sectors worldwide. The possibilities linked to AI are regarded as the paramount technical advancement due to its significant capacity for enhancing productivity and competitiveness [1]. AI refers to sophisticated systems designed for utilising information, reasoning, and insights to execute specific operations autonomously, without requiring explicit programming. The prospect arises from chances of automating processes for making choices using resembling logic, generating considerable enthusiasm in various sectors and companies. AI may classify as a capital-labour hybrid, having capacity for self-learning, continual enhancement, and rapid scalability [2-3]. AI often establishes a basis for a tool by generating significant insights and outcomes derived from extensive and intricate data sets, which are condensed into a digestible format. Others emphasize that technology and company success are interconnected via the business model (BM). This elucidates the significance of user interaction and transparency about business models to facilitate technological advancement, underscoring the need of considering business models throughout AI implementation [4-6]. The value creation process is a fundamental component of BMI which is distinctly linked to AI due to its capacity to address complicated issues using extensive data sets. BMI enables the enhancement or diversification of existing product lines and facilitates greater operational efficiency to save expenses. Alternatively, it indicates a disparity between technology improvements and the manner in which organization's implement value generation via their business models. This indicates that business models must be continuously adjusted to the operational environment. Alongside value generation, value capture and delivery are essential components of the business model [7]. The core of a BM delineates how a firm provides

value to clients, motivates them to compensate for that value, and transforms those payments into profit. Advancements in AI technology have generated heightened interest among many enterprises [8]. The AI Global Executive Study and Research Report indicates that 90% of respondents acknowledged that AI presents prospects for the organisation. Nonetheless, 40% of those polled said that substantial investments did not provide commercial benefits [9]. Obstacles to the effective adoption of AI are linked to technical, cultural, and political domains. Political issues are deemed essential, since technical advancements do not guarantee success in the implementation of AI applications. This underscores the significance of well-organised business models to adapt and use current technical resources. AI is seen as an inspiration for BMI and hence a facilitator of industry upheaval. Research on AI in business settings is expanding; nonetheless, the existing expertise in this field remains restricted, necessitating relevant and thorough investigations. Managers get less help from academics while attempting to integrate AI into the company's activities, resulting in a heightened chance of unsuccessful projects and undesirable outcomes [10]. The enthusiasm for AI and its immense scope necessitates large expenditures across many sectors and companies. Nonetheless, some companies fail to see financial advantages upon the implementation of AI applications, and the scientific comprehension of the subject remains constrained. Research in BMI and digitisation is quite general, indicating that some discoveries are relevant to all technological developments, including AI.

2. AI BMs

There are clear conceptions of AI to be a driver for BMI have yielded four principal discoveries. Notions pertain to studies in artificial intelligence, brain-machine interfaces, technological change, and business ecosystems. Thus, the principal conclusions are identified as the necessity to: (1) comprehend AI and the organisational competencies required for the digital shift; (2) analyse the existing BM, possibilities for business model innovation, and the role within the business ecosystem; (3) cultivate and enhance the capabilities essential for AI implementation; and (4) achieve organisational acceptance and foster internal competencies. Specified insights ought to be consistently integrated throughout the implementation and development of AI applications and are unable to be addressed in isolation. These findings will be associated with the stated issues, including transparency, insufficient confidence in AI among workers, analogue procedures, and misconceptions around AI. Furthermore, the work in [1] elucidate how these problems and dangers might be alleviated by the implementation of our proposed roadmap. The correlation between the four-step plan and specified issues is seen in Figure 1.

An examination of the literature on business model conceptualisation reveals that three primary features often link the BM to various business scenarios [11]. The first part pertains to the investigation and exploitation of opportunities. The second part pertains to value generation. The 3rd component pertains to the approach and leadership focused on developing competitive edge. This study [11] delves into the notions of network and ecosystemic BMs. The platform BM delineates the methods for coordinating contacts, activities, and transactions via the formation of the network effect; the platform's value may fluctuate dynamically based on levels of engagement.

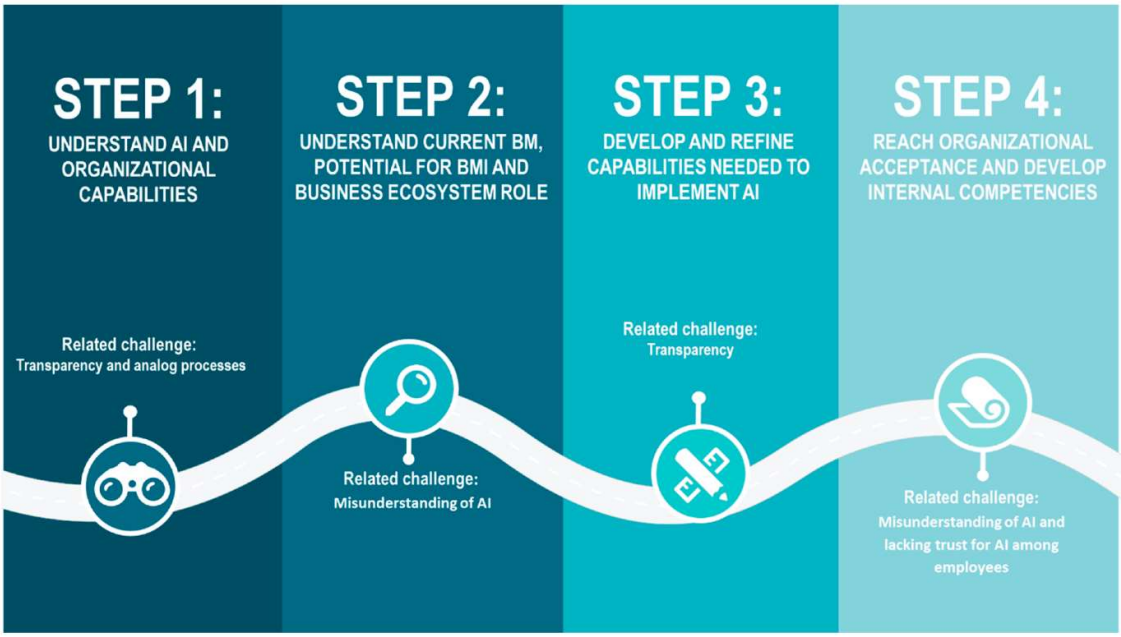

Figure 1: Framework for the execution of AI BM [1]

A group of participants may investigate and/or generate possibilities and assist in optimising costs and profits for the platform's efficiency. The platform BM exemplifies ecosystemic thinking by (1) broadening a firm's organisational boundaries to jointly develop value at outer entities and different business entities; and (2) enabling connections and interactions among various organisations, ecosystems, and individuals for collaborative innovations, particularly within an ecosystem context. The 4C paradigm for ecosystems is deployed to investigate many phenomena of digitalisation, particularly in extensive and intricate sectors like energy and telecommunications. This study [11] adopts and enhances the framework by including the AI component. The 4C framework delineates a BM typology grounded on 4 features: Connection, Content, Context, and Commerce (refer to Table 1).

Dynamically positioning layered business models [12-13] may provide more advantages and enhance advantages and values in the development of novel and unique digital BMs [14-16]. The primary topic of the article identifies the 4C ecosystemic framework as a crucial instrument for facilitating service circumstances [17], experience-based controlled feeding [18].

Table 1: The 4C ecosystemic BM and value structure [11]

Layer	Highlight
Commerce	Digital solutions and amenities which offer everyone involved a program or platform for exchanging alternate connection options, information, or contextual data.
Context	Digital applications and services offering contextually-based info and data offerings.
Content	offering any kind of data, knowledge, and content required by users.
Connection	Techniques and methods for interconnecting one or several networks.

Within the 4C architecture, the content and context levels are especially pertinent to the domain of AI, since data and contextual-aware offerings at these layers are fundamentally facilitated by the underlying technical framework. Diverse sorts and sources of data, including proprietary copyrighted data, may be used to develop novel statistics for prediction and immediately digital content and functionalities for smart structures to implement contextualised items [19-20].

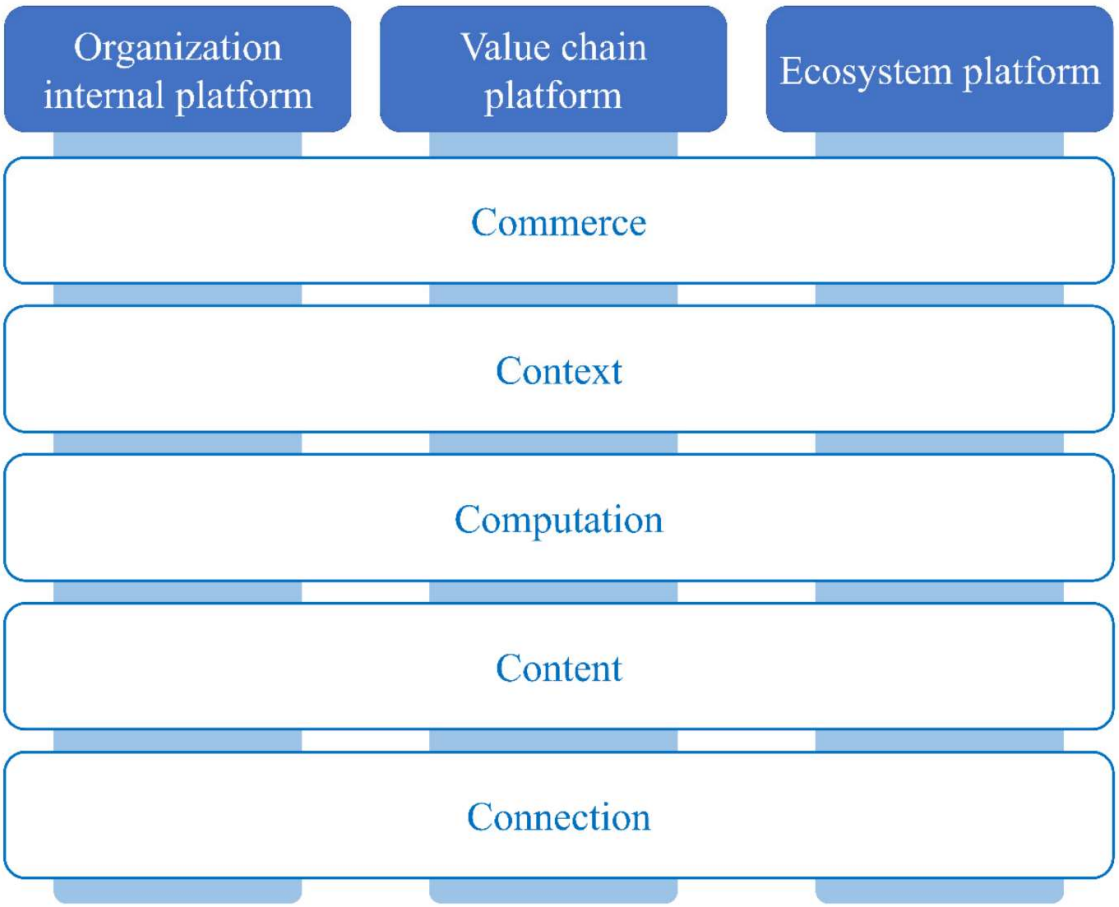

Figure 2: Model in [11]

This research [11] brings an extra dimension to the 4C idea by including a fifth "C," which represents the compute level of the ecosystemic BM. The computational value of an electronic environment is achieved via a combination of AI technologies and methods into current ICT systems. These are designed and taught using several methods such as TensorFlow, together with hardware and software computational resources. These are designed to construct significant designs that facilitate the working of resources at measure, relying on established network connections, collecting, and store of data. From an economic and business model standpoint, AI and computation as a novel layer not only facilitate the generation of additional value inside the structures and property and function as an independent technological stack for other application disciplines. The conceptual framework is shown in Figure 2. Three principal categories of varying sizes are shown; concurrently, the five C levels of the ecosystemic BM are positioned vertically and superimposed over the framework's typology [20-21].

The concept of the Great Reset (GR) was initially presented by the World Economic Forum (WEF) on June 3, 2020, via a systematic approach that entailed method designed to provoke world discourse and promote the implementation of innovative techniques to tackle the difficulties [19]. That project arose as a deliberate measure to address a notable deficiency in the international scope and to capitalise on the impacts as a chance to improve circumstances. The GR advocates for a thorough transformation of structures, using the benefits presented by the 4th Revolution. These problems include directing marketing techniques with more fair objectives, promoting sustainable development, and leveraging the momentum of digitalisation; overcoming these issues will need transformations in sectors and enterprises. In this context, it is essential to analyse the causes driving firms to adopt systemic digital advancements, particularly those associated with AI. Understanding the function of AI in the GR necessitates the use of Systems Thinking (ST) [4]. ST is understanding the interconnections and connections, acknowledging the way it affects and how they interact throughout the whole. This approach is essential for evaluating the extensive ramifications of incorporating AI into BMs, especially in the aftermath of the GR, as it enables enterprises to transcend short-term profits and contemplate long-term effects on the surroundings as a whole [8]. Disruptive techniques that establish or revolutionise the current one, altering the nature of markets and often eclipsing current technology, such as AI—redefine the competitive dynamics of numerous sectors. AI is described as the use of sophisticated methods and computational technology to facilitate intricate processes, improve efficiency, and provide additional importance for organisations. Artificial Intelligence

is acknowledged as a pivotal technological advancement owing to its substantial capacity to provide additional value and secure a competitive edge. Consequently, the research and application of AI have effectively used many human and material assets. It has the capacity for self-learning, ongoing enhancement, and quick scalability [12]. This potential arises from its capacity to streamline decisions that are made using resembling logic, which has generated considerable attention across many sectors and enterprises. The worldwide AI market is now valued at $150.2 billion, with a projected yearly increase of 36.8% until 2030. A recent 2023 report indicates that AI startups are attaining valuations exceeding $1 billion in a markedly shorter timeframe than those in other industries; in 2023 alone, 15 new AI companies reached unicorn status, collectively produce over $21 billion in market value, propelled by prominent Large Language Models (LLMs). Forecasts suggest a worldwide investment in AI will reach $110 billion in 2024, in contrast to a mere $2 billion in 2015 [15]. This phenomenon, termed the "AI revolution," is deemed essential for innovation in industries such as Fintech, medical care, and financial services. Ongoing advancement in AI may result in new types of businesses and market prospects. A PwC analysis highlights that AI is a crucial enabling technology for corporate innovation. In summary, in spite of ethical issues and possible hazards, the judicious use of AI in business presents many opportunities for beneficial results, operational enhancements, and an ongoing cycle of innovation. In recent decades, the study of BM evolution and its significance in innovation processes has been more pertinent in management research [17]. Academics characterise BMI as a systematic approach for organisations to design, execute, and maintain strategies that produce, offer, and absorb value [18,19]. In this context, innovation entails the reorganisation or amalgamation of elements and activities inside a BM [16,20]. Numerous authors assert that these technologies may profoundly impact BMI, particularly in relation to long-term sustainability and development [23,24]. AI may serve as a catalyst for BMI, providing organisations the chance to modify their existing strategy [25]. Moreover, AI is seen as an essential asset for firms to maintain competitiveness [26].

3. Legal Framework

AI has undoubtedly integrated into reality, impacting both the economy and individuals' everyday lives [22]. The challenge's enormity is of global significance, prompting international authorities, notably the EU, to address the associated legal challenges. This fact enables the concrete identification of difficulties and areas requiring universal legal treatment, so helping to the creation of systematic and worldwide remedies, since conventional regulatory approaches are insufficiently relevant. Recent public discourse has particularly focused on the need of regulating the AI domain and establishing constraints to avert the emergence of artificial general intelligence, defined as an intelligent system similar to or surpassing human cognitive abilities. Furthermore, arguments indicate the need of imparting values to AI systems and incorporating the values acknowledged by society. The need for regulation intensifies when considering the substantial commercial volume that AI is now generating and will continue to create. According to the consulting company McKinsey, the rapid rate of digitalisation might result in an additional commercial turnover of two trillion euros in Europe across the forthcoming year. For Spain, the same estimate projects this effect to be 1.8% of the overall Gross Domestic Product by 2025. Figure 3 illustrates the rise in internet sales in Spain [22].

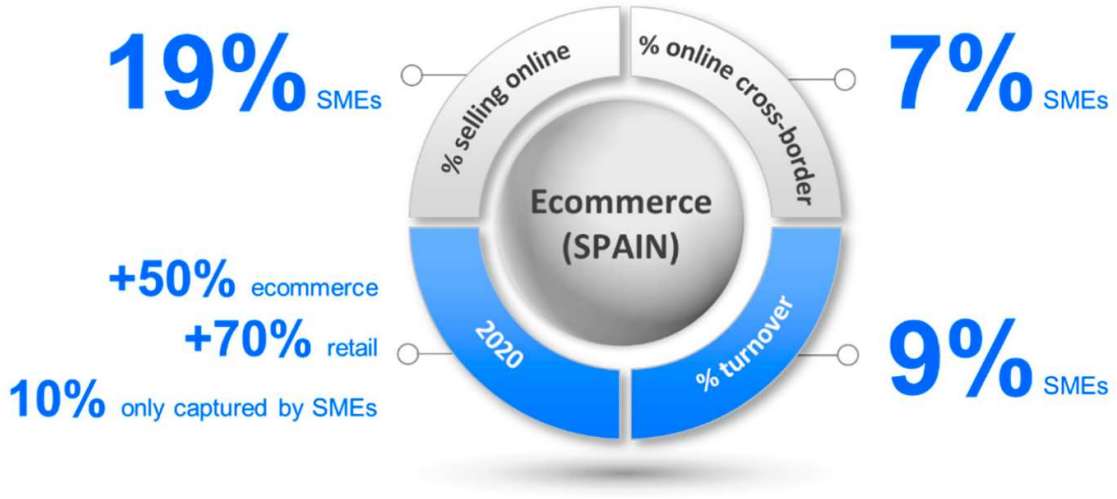

Figure 3: Surge in e-commerce transactions in Spain, 2020 [22]

A more accurate understanding of the impact of digital transitions encompasses two organisational dimensions: An effect pertaining to external factors of the organisation. This aspect enhances the consumer experiences and transforms the whole consumer-company interaction manage, from the initial economic interaction to post-sales servicing [23]. An effect pertaining to the internal structure of the organisation. This effect directly influences the structure and operation of organisations. The influence on company goals, emerging labour and authority dynamics, and hierarchical frameworks has resulted in a new dimension for all organisations. This new component has a crucial characteristic: it is a mandate rather than a choice. Organisations that fail in adapting to this new climate will struggle to survive.

Forecasts indicate a substantial rise in the use of AI-driven algorithmic learning in the next years. In 2023, 40% of design organisations will utilise ML-based solutions to create models that integrate AI functionalities into their apps, in contrast to 2% in 2019 [23]. By 2025, 50% of tasks accomplished by data scientists will be performed by AI. [24]. The rise in the utilisation of services built on AI is evidenced by market projections from the IDC study (2021), that projects that global revenues for intelligence and AI solutions, encompassing software, hardware, and services, reached $327.5 billion in 2021, with a yearly expansion of 16.4%. In 2021, the market surpassed $500 billion, with a five-year compound annual growth rate (CAGR) of 17.5%. Consequently, the proliferation of technologies based on AI indicates that expenditures on AI will quadruple within four years. The elements constituting this expenditure include: AI programs, which learn, discover, and generate ideas or predictions; AI software devices, which are tools developed from AI fundamentals facilitating AI-based use cases; AI assistance, encompassing involving and setup support for AI technologies offered to businesses; AI hardware; and AI data storage and computing capacity.

Artificial intelligence has the potential to enhance corporate efficiency and significantly impact the global economy's GDP. The PWC report (2017) [25] indicates that the most significant economic benefits from AI would be realised in China (26% rise in OIB by 2030) and the US (14.5% increase), amounting to a total of $10.7 trillion and constituting over 70% of the global economic effect. Building on previously mentioned research in this paper [22], which surveyed over 2,300 registrants in June 2020, 22% of those polled indicated that at least 5% of their firms' EBIT was already linked to the influence of AI [26]. The persistent decline in corporate profitability poses a risk that affects investment and the innate worth of their shares. Artificial intelligence is seen as a novel productive factor that mitigates this danger, with the capacity to enhance profitable rates by averaging of 38 percentages scores, suggesting a potential increase of $14 trillion in gross value added (GVA) by 2035 [27]. The industries with the greatest potential effect, over USD 300 billion, are represented in Figure 4.

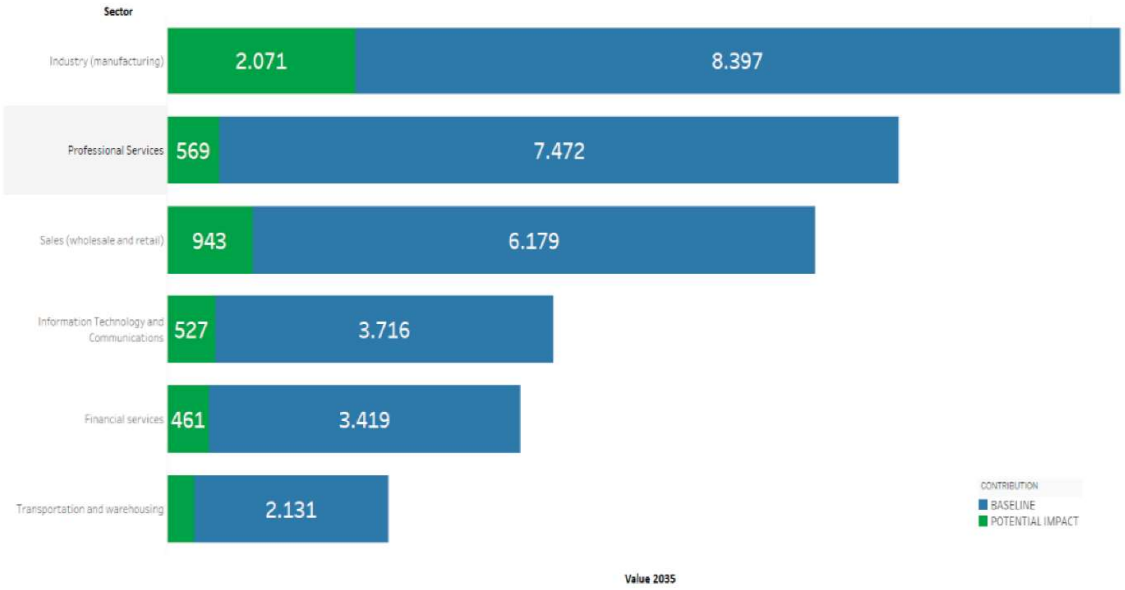

Figure 4: Baseline GVA including anticipated AI effect by 2035 (US$B) [22,27]

4. Ethical Considerations

It is becoming evident that advanced AI systems provide substantial hazards to civilisation. Models for language such as GPT-4 and Llama 2 may generate outputs that are racist and sexist, while image generating models like Midjourney and DALL·E 3 can be used to create detrimental material. Malicious entities use AI systems to initiate misinformation campaigns and execute cyber-attacks. Terrorists or authoritarian regimes may use them to engineer new diseases and develop chemical weapons. Academics and professionals are more worried about the detrimental capabilities of AI. To mitigate these and additional threats to a satisfactory standard, AI firms need a

robust risk management approach. To detect hazards, managers may use risk classifications or incident datasets. To evaluate hazards, they may do model assessments or engage in red-teaming events. To reduce hazards, companies may refine their models using reinforcement learning from human feedback (RLHF) or enhance their cybersecurity. They could also adopt a risk management standard such as the NIST AI risk control framework or ISO/IEC 23894. Furthermore, they need robust risk governance. For instance, they may form a board risk committee, designate a chief risk officer (CRO), and implement an internal audit role. This study examines an additional method for AI businesses to enhance their risk governance: the establishment of an AI ethics board. The phrase "ethics board" remains inadequately explained in the available research. Initially, it might be characterised as a collective entity aimed at fostering an organization's ethical conduct. To clarify this notion, it is essential to delineate the function that ethics boards may serve in the business governance of AI firms. A firm is owned by its shareholders, overseen by the board of directors, and administered by the president or CEO, together with other top executives. In [28], the board of directors, having a legal responsibility to work in the company's best interest (known as "fiduciary duties"), is especially significant. The board establishes the company's strategic aims, oversees risk management, and wields considerable authority over management, including the ability to change top executives. Boards often assign some of their essential duties to designated advisory committees (e.g., the audit group, risk committee, and pay committee). Many members serve on many boards and work part-time [29-30], hence they need independent expert counsel to effectively execute their responsibilities [31]. In this context, we propose that a primary role of ethics boards is to counsel and oversee the group of directors and its committees about ethical norms and problems pertinent to the board's obligations. Ethics committees are prevalent in several different fields [32]. Most research institutions possess Institutional Review Boards (IRBs), alternatively referred to as Ethics Review Committees (ERCs) or Research Ethics Committees (RECs), which evaluate the methodologies of proposed research involving human subjects to safeguard them from physical or psychological harm (e.g., during clinical trials) [33]. They are notably prevalent within health investigations and social psychology, although seldom in computer science. Nonetheless, there are growing demands for AI businesses to form Institutional Review Boards (IRBs) as well. Several AI businesses have established an AI ethics board. For instance, Meta's Oversight Board renders enforceable decisions about material on Facebook and Instagram [34-35]. The AETHER Committee at Microsoft provides counsel to leadership on the problems and possibilities associated with AI advances. The Responsibility and Safety Council (RSC) of Google DeepMind is tasked with maintaining their AI rules and supervising its creation and installation processes, whereas the AGI Safety Council concentrates on potential extreme risks associated with future artificial general intelligence (AGI) systems [36-38]. These instances demonstrate that AI ethics boards have considerable practical significance. However, there was also some failures. Google's Advanced Technology External Advisory Council (ATEAC) encountered substantial opposition with the appointment of Kay Coles James, head of a conservative think tank, and Dyan Gibbens, CEO of a drone enterprise, as board members. Consequently, the board was terminated within one week after its release. Axon's AI and Policing Techniques Ethic Board was essentially dissolved in June 2022 after three years of existence. Nine of the eleven members left after Axon's announcement of intentions to create taser-equipped drones for use in schools, which occurred without prior consultation with the board [39-40]. These instances demonstrate that establishing an AI ethics board may be complex. They emphasise the demand for more investigation.

5. Cases Study

Governments and banks all around are now using AI to combat money laundering and fraudulent activities. HSBC and the AI company Ayasdi from Silicon Valley partnered to streamline the investigation of money laundering claims. The UK Financial Regulatory Authority (FCA) is evaluating the use of AI in Know Your Customer (KYC) and Anti-Money Laundering (AML) processes for compliance with law monitoring. The Securities and Exchange Commission of the United States (SEC) and the Monetary Authority of Singapore are using AI to enhance their countering money laundering efforts by identifying questionable transactions. AI is now used to oversee the cash flows and daily operations of publicly traded firms and financial institutions. The SEC utilises AI to analyse and analyse unstructured data provided by licensing prospective customers, to assess and foretell potential applicants' behaviours across various facets, and to integrate this data into the risk evaluation system [41].

AI is a broad phrase that encompasses the study of replicating human intellect, such as planning, strategising, and making complex judgements; it is increasingly characterised as the discipline of instructing computers to do activities analogous to those performed by humans. AI acquires knowledge by refining its "rationality" using a specific dataset. Although the data inside a data set can be as unreliable as the disorder of daily life, it contains valuable insights hidden within a collection of zeros and ones. Utilising statistics and mathematical insight, the computer systematically navigates through binary data, acquiring interpretative skills via a trial-and-error methodology. It provides this through utilising levels to associate inputs with corresponding outputs. It then assesses the proximity of these responses to the reality represented by the dataset. The procedure is thereafter

repeated by modifying the weights to progressively reduce the disparity between outputs and actual results. Artificial intelligence systems are being created to analyse extensive medical records, comprehend human circumstances, identify illness patterns, provide extremely precise diagnosis, and administer exact medical therapies. Diverse AI tools and approaches are being used in many environments, including healthcare facilities, laboratory settings, and research centres. This methodology is currently utilised in products such as AICure and Abilify MyCite, for modelling drug syntheses, determining genes associated with conditions, evaluating radiological images, prescribing medications based on medical data from patients, and even in everyday applications like health-code violation inspections. The COVID-19 pandemic underscored the significance of AI, which was employed in preliminary diagnosis, patient surveillance and treatment, substances and vaccine development, alleviating the work load of medical personnel, contact tracing, and forecasting the virus's spread, as well as providing early warnings of outbreaks. The dependence of AI on data necessitates the continuous influx of data into AI systems. The optimal method to do this would be via structured markets. However, the data trade encounters transaction costs that surpass the value of the communication itself, rendering the exchange of information and leasing of data untenable. In this lack of marketplaces, representatives must negotiate compensation directly with AI companies. This issue is mitigated when agents may negotiate with businesses of comparable standing. Nonetheless, healthcare AI requires interdisciplinary capabilities that extend into the scientific and pharmacological domains. Due to the high costs, only a limited number of companies have achieved success, particularly Google-Verily, Apple, Microsoft, IBM, Amazon, and Facebook. These businesses have achieved barrier crossing via their own research and cooperation. For instance, Google is partnering with Novartis, Sanofi, Otsuka, Pfizer, the US healthcare provider Ascension, and the UK's NHS. Furthermore, a patent search conducted in early January 2022 indicated that Google and Google-Verily own 244 patent-protected innovations under the A61 patent classification, which encompasses healthcare applications. Apple is partnering with GlaxoSmithKline, Janssen, and Aetna Life Insurance Co, and has a substantial portfolio of 350 A61 patents. Microsoft has formed a partnership with Novartis and has 298 A61 patents. In an established industry, agents must negotiate with monopolists who simultaneously act as monopsonists in a fragmented input market. In these marketplaces, the present rate is minimum and corresponds to the cost marginal of data generation.

6. Conclusion:

Technological advancements in artificial intelligence (AI) enable the development of human-like machines that can operate autonomously and replicate cognitive activity. The enthusiasm and progress among managers, academics, and the public have created substantial excitement across several industries, leading numerous businesses to invest considerably in using technology via business model innovation (BIM). Managers get little assistance from academics when integrating AI into their firms, leading to an increased likelihood of project failures and adverse results. This study aims to clarify AI's function as a catalyst for BIM. Advancements in technology and AI research have sparked increased interest across many industries and enterprises. However, insufficient understanding of AI implementation leads to limited business advantages. This essay seeks to improve understanding of AI implementation by analysing research in AI, BMI, and digitalisation.

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