Developing a Digital Governance Reporting Framework

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ABSTRACT

The development of AI applications such as agentic agents, and AI compute infrastructure has the potential to drive a broader economic transformation. With an economic transformation, there is uncertainty around the direction and the impact. Australian superannuation funds are heavily exposed to the digital economy; and the success, or failure, of digital investments will impact retirement savings of Australians. In this environment, there is a need for institutional investors to engage with companies to ensure they are managing digital risks and opportunities. The development of digital stewardship engagement practices has the potential to support the development of a harmonised disclosure reporting framework that would allow investors to make informed decisions around allocating capital to support economic transformation in a way that supports sustainable development outcomes.

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INTRODUCTION

From the development of punch card machines in 1890, to the early prototype computer Harvard Mark 1 in 1944, through to the development of Microsoft's Windows in 1983, digital innovations have shaped the modern era with each innovation unlocking new innovations[i]. Today's chapter of the digital transformation story is the emergence at scale of artificial intelligence (AI) applications in what has been described as a global AI arms race.[ii] According to the Stanford Institute for Human-Centered AI, corporate AI investment reached $252.3 billion in 2024.[iii] With discussion that markets may be exhibiting signs of a boom[iv], the rapid escalation in AI investments led the Australian Financial Review to warn that superannuation nest eggs could be impacted by AI exposed companies.[v] The AI investment boom presents both risks and opportunities to investors. For investors to unlock the opportunities from AI investments, there is a need to manage risks. Four specific risks are identified for AI exposed companies: energy and water risks, human capital risks, legal and regulatory risks and innovation risks. The paper briefly discusses the development of stewardship practices by institutional investors and notes global trends around the harmonisation of company disclosure, including through the establishment of the International Sustainability Standards Board. Through the development of stewardship engagement there is the potential to develop a harmonised Digital Governance Reporting Framework that would provide investors with information to make informed decisions allocating capital to AI-exposed companies.

THE DYNAMICS OF ECONOMIC TRANSITIONS

Digital transformation is not the first economic transition in the modern era, and it is not likely to be the last. Technology has played a significant role in economic transitions with examples including the role of canals, railways and even refrigeration. One case study on the role of technology in economic transformations is from Frank W. Geels[vi] who studied the evolution of steam ships from the first experiments occurring in the late eighteenth and early nineteenth century in Britain, France, and America, which took place in inland waterways that then led to market innovations including the first steamboat service in America established on the Hudson River in 1807. Critically, one of the long-term impacts of the transition from sail to steam was the focus on speed, which enabled further innovations ultimately resulting in a shift of cargo from commodities to migrants which benefited Australia. The key point is that the transformation of shipping, which ultimately changed societies by opening migration, could not have happened only through large scale investments in iron-hulled ships but required the development of a supporting ecosystem of businesses.

Today, investments in artificial intelligence (AI) are promising economic transformation. The trajectory and impact of economic transformation is uncertain. There are many unanswered questions including AI safety and the impacts on jobs.

One use of AI is the development of AI agents that not only converse with users but also perform actions on their behalf with minimal guidance, if any.[vii] The economic transformation potential of AI agents is uncertain with Microsoft researchers arguing that the more disruptive impact of generative AI is its potential to drastically reduce the communication frictions between (and among) consumers and businesses. This according to Microsoft could lead to a reorganisation of markets, shifts of market power, and the introduction of entirely new products and services. [viii]

Recognising concerns on the potential impact of AI technologies on work, Microsoft Australia and the Australian Council of Trade Unions have recently signed a Memorandum of Understanding (MOU) that sets a new benchmark for workers' rights in the tech sector.[ix] The agreement includes a focus on how workers can contribute to the design and implementation of AI in their workplaces.

AI tools such as agentic AI may lead to an economic transition, but that doesn't necessarily mean that companies leading the transition will deliver investment returns to their shareholders. The historic case study in this regard is the development of railways which transformed economies. In the 19th and 20th Centuries, U.S. railroad companies suffered repeated financial crises that were caused by a combination of high debt levels and strongly procyclical revenues and profits.[x] The railways delivered

economic transition, but the companies themselves didn't always profit. Australian superannuation funds are exposed to AI transformation in several different ways through:

- Investments in technology companies including the so called *Magnificent Seven* companies (Apple, Microsoft, Alphabet, Amazon, Meta, Nvidia, Tesla) that are driving investment in AI technologies.
- Direct investment in data centres including NEXTDC, Vantage Data Centres, DataBank, Stack Infrastructure, AirTrunk, CDC Data Centres.
- Exposure to technology enabled businesses that include banks and supermarkets that are users of AI technologies.

AI transformation involves so many aspects of the modern economy. It is not possible for investors to avoid exposure through their investment portfolios. Four specific risks are identified for AI exposed companies that investors can seek to manage through stewardship approaches.

1. Energy and Water Risks

The growth in demand for AI applications drives demand for data centres which have significant impacts on demand for energy and water

An independent report prepared by Oxford Economics Australia developed for the Australian Energy Market Operator (AEMO) forecasts that under AEMO's Step Change scenario, electricity consumption by data centres in Australia is forecast to grow at an average annual rate of 25.1% to reach 12.0 TWh by FY30 and 34.5 TWh by FY50. [xi]

Data centre energy load is concentrated in Sydney and Melbourne. Data centre energy consumption has grown in Sydney at an average growth rate of 14% per year whilst Melbourne has grown at 11%. Melbourne is expected to increase its share of data centre related energy consumption from 20% currently to 30% by FY30.[xii]

According to the Water Services Association of Australia[xiii] the current water use of data centres is low but as investments in data centres grow so will demand for water. Demand will be influenced by the type of data centre as well as commitment by operators to being water positive. Several US based technology companies have made water positive commitments.[xiv] Microsoft recently re-stated its water positive commitment to replenish more water than it withdraws.[xv]

2. Human Capital Risks

AI transformation has the potential to significantly impact employment. AI automation may lead to workforce dissatisfaction and backlash as roles are replaced.[xvi] AI demands new skills to manage the quality and ethical implications of outputs, creating challenges in workforce upskilling. [xvii] Some employees are using Generative AI (Gen AI) tools without the knowledge of their employer.[xviii] The presence of a data literacy gap in organisations raises risks such as uploading company data to a GenAI model, that exposes a company's intellectual property, and increases cybersecurity risk exposures. The cost of digital skills and capability gaps is illustrated by high profile cases where the transfer of data has had significant consequences. An example in the United Kingdom is where the Ministry of Defence inadvertently released data on 18,000 asylum applicants who had worked with or for UK military forces in Afghanistan. A corporate example is a retail chain that used AI facial recognition technology without customer consent, which led to regulatory intervention and the destruction of collected data. Employees are increasingly the means through which AI-technology is deployed. An example is the increasing use of body cameras, also known as Body Worn Video, by retail chains including Swedish retailer H&M[xix], UK supermarket chain Tesco[xx] and Australian supermarket retailers Coles[xxi]. The presence of digital skill and capability gaps also raises the question on the role of corporate boards and the importance of appointment of directors that have the skills to manage digital and data risks and opportunities."[xxii] Employees are themselves exposed to damaging content through social media platforms that employ content moderators through outsourcing arrangements. Evidence is that moderators experience depression, post-traumatic stress disorder, suicidal ideation and severe mental health consequences because of this exposure to graphic content, often without adequate support or breaks.[xxiii]

3. Legal and Regulatory Risks

AI transformation has the potential to significantly impact an organisation's operations. For the banking sector the Bank of International Settlements (BIS) identifies third-party privacy and information security as key risks. According to the BIS if a vendor/provider has access to personal or sensitive information, there are additional risks that must be considered, such as intentional or unintentional misuse of data. Third-party vendors that store or transmit data through unregulated systems and networks, or process and host data in certain countries, can expose the organisation to compliance risk. In addition, the BIS identify that dependency on a single or a few suppliers can create significant risks and exposes the organisation to security and compliance risks if the supplier fails to meet required standards. Any issues on the side of the supplier could affect the operations of organisations that depend on it. BIS identify that the absence of

public and detailed knowledge about the programming of AI models can lead to governance and accountability issues for those who design or operate them. This includes a lack of understanding or inappropriate controls of databases and information used to "train" the algorithms of AI applications.[xxiv]

ASIC analysed 624 AI use cases in the banking, credit, insurance and financial advice sectors in December 2023 and observed that whilst there was a rapid acceleration in the volume of AI use cases, not all licensees are well positioned to manage the challenges of their expanding AI use. Issues identified by ASIC include that the maturity of governance and risk management did not always align with the nature and scale of licensees' AI use and in some cases, governance and risk management lagged the adoption of AI. ASIC identified that in some instances, licensees were focused on business risk and did not fully consider and manage the effects of their models on consumers. ASIC identified that more mature licensees developed strategic, centralised AI governance approaches and had a clearly articulated AI strategy, included AI explicitly in their risk appetite statement, demonstrated clear ownership and accountability for AI at an organisational level, reported to the board about AI strategy, risk and use, had AI-specific policies and procedures that reflected a risk-based approach, incorporated consideration of AI ethics principles and were investing in resources, skills and capability.[xxv]

One of the ways in which AI transformation is different to other technology transformations is the interest that nations have in developing their own AI capabilities. AI transformation is leading to both different regulatory approaches as well as investments by nations to build their own infrastructure to support AI capabilities In addition to national AI initiatives the United Nations established the Global Digital Compact as a "comprehensive global framework for digital cooperation and governance of artificial intelligence".[xxvi] Other initiatives include the G20 *Task Force on AI, Data, Governance and Innovation for Sustainable Development*[xxvii] and the OECD Principles for responsible stewardship of trustworthy AI.[xxviii] AI transformation has raised national security risks in the context of heightened geopolitical tensions including the potential that a foreign government could restrict access to AI services or data, using this as leverage in trade or circumstances where information that US companies gather outside of US borders can be obtained by intelligence agencies.[xxix] The U.S. CLOUD Act (Clarifying Lawful Overseas Use of Data Act, 2018) allows U.S. law enforcement to compel U.S.-based tech companies to provide requested data, even if stored overseas, and permits foreign governments to request data from U.S. providers under specific agreements, enhancing data access for serious crimes.[xxx] This is particularly important for Australia to consider in our AI and Digital Sovereignty policies.

4. Innovation Risk

The risk of inaction is now a material issue. There are many examples of companies that failed to understand the implications of technology transformations including Cobb & Co which was unable to manage the transformation from horses to mechanised vehicles and Kodak which was unable to transform from film to digitised photos, and even Dick Smith Electronics here in Australia, that digital ASX darling Kogan acquired for $1.

While Australian innovation has been stifled for many years, the AI era requires rapid shifts in thinking. If AI drives outperformance, then failing to adopt it almost guarantees "underperformance". Australian companies will need to pivot to the financial opportunity (Revenue/New Business). AI is the new "specialised middleman", it circulates information to create new markets and efficiencies. Moving the conversation from the Audit Committee (Risk) to the Strategy Committee (Growth) requires a mindset shift.

In a traditional risk matrix, "doing nothing" is often seen as the safest path (zero risk). However, in a rapid economic transition (like the steam/information era discussed previously), stagnation is an existential threat. There is a need to broaden our definition of 'AI Safety' to include the safety of the business model itself. A company that is 'safe' from AI errors but bankrupt because it was outcompeted by AI-enabled rivals has failed its fiduciary duty. AI-first market entrants are coming, Ryt Bank in Malaysia is an AI-first bank that was launched in mid-2025. Directors must treat the failure to explore revenue-generating AI opportunities with the same severity as they treat operational failures. To not transform is to accept a slow erosion of market share.

DIGITAL STEWARDSHIP

The potential for AI transformation requires institutional investors to develop stewardship practices to manage risks. When Georg von Siemens, the founder of Deutsche Bank, was criticised for spending too much time on a troubled client he responded "If one can't sell, one must care"[xxxi] James P. Hawley and Andrew T. Williams developed the concept of the universal owner which articulated that institutional investors effectively have ownership of the whole economy.[xxxii] Over the last twenty years, stewardship engagement has developed as a way that institutional investors seek to improve the long-term risk adjusted returns of the companies in which they invest. Stewardship engagement has principally focused on engaging with companies on environmental, social and governance (ESG) risks. Stewardship is not just about guarding assets; it is about growing them.

Recently we have seen the development of harmonised standards for climate related financial risks and opportunities with the IFRS Foundation announcing the formation of the International Sustainability Standards Board (ISSB) on 3 November 2021.[xxxiii]

Without the development of governance standards for reporting of digital risks and opportunities, based on the previous experience of climate-related financial disclosures, it is likely that a range of reporting approaches will develop that will make it difficult for investors to understand the risks that their portfolios are exposed to.

Establishing a harmonised Digital Governance Reporting Framework would build institutional investor confidence to invest in companies at the frontline of digital adoption. The first step to establishing a framework is for investors to incorporate digital governance into their stewardship practices. A Digital Governance Stewardship Checklist is proposed to provide guidance to institutional investors.

DIGITAL GOVERNANCE STEWARDSHIP CHECKLIST

Risk	Stewardship Engagement Questions
Strategic Viability & Opportunity Risk	**Risk of Obsolescence:** Has the Board quantified the competitive cost of not integrating AI while peers do? (the "Do Nothing" cost). **Revenue Transformation:** Are AI initiatives evaluated not just on efficiency ('cost-out') but on their capacity to generate new revenue streams or business models? **Capital Allocation:** Is there a clear distinction in the budget between "Defensive AI" (Compliance/Security) and "Offensive AI" (Growth/Market Share)? **Speed to Insight:** Does the organisation have the "informational infrastructure" (data circulation) to deploy AI rapidly, or is technical debt creating a strategic latency risk?
Energy and Water Risks	**Energy:** Has the organisation established strategies and initiatives to minimise and reduce the energy consumption from digital technologies including AI? **Scope 1-3:** How does the organisation report its digital energy exposure? **Water:** Has the organisation established strategies and initiatives to minimise and reduce the water consumption from digital technologies including AI? **Recycled Water:** Does the organisation seek to use alternative sources of water including recycled water? **Water Positive:** Has the organisation established a commitment to being water positive?
Human Capital Risks	**Digital Literacy:** Has the organisation established initiatives to build the skills and capabilities to build AI and digital skills of employees? **Digital Governance:** Do board members have directors that have demonstrated technology experience?
Operational Risks	**Digital Procurement:** Has the organisation reviewed its digital procurement practices in response to the evolution of AI? **Concentration Risk:** Does the organisation's selection of third party service providers create concentration risks that could impact on future service delivery? Has the organisation established strategies to recognise and manage the potential for concentration risks?
Legal and Regulatory Risks	**Protection of IP:** Has the organisation put in place strategies and initiatives to protect intellectual property that may be exposed during use of AI applications?

CONCLUSION

This paper argues that Australian superannuation funds cannot avoid exposure to AI exposed companies. Superannuation funds are exposed not only to technology companies that are making AI investments, but to data centre operators and technology enabled businesses that include banks, utilities and supermarkets.

An economic transformation, which is what investments in AI promise to unlock, does not necessarily mean that the companies driving transformation will succeed. The history of railroad investments in the US is a reminder that transformation can go hand in hand with business loss.

The Australian Financial Review concluded its editorial that warned that superannuation nest eggs could be impacted by AI exposed companies by stating that "the best way for super funds to navigate the uncertainty and potential volatility is to be transparent about the risks to our super nest eggs and to inform members about the possible ups and down of US technology."[xxxiv]

Establishing a Digital Governance Reporting Framework would provide a mechanism for harmonised disclosure of digital risks that would support institutional investor confidence to invest in companies at the frontline of digital adoption. The first step towards harmonised disclosure is for institutional investors to collaborate around the development of digital stewardship practices.

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