



UNIVERSITÀ DI PAVIA

DEPARTMENT OF ECONOMICS AND MANAGEMENT

MASTER PROGRAMME IN INTERNATIONAL BUSINESS & ENTREPRENEURSHIP

Regulating Artificial Intelligence: Implications for International Business Strategy

La regolazione dell'intelligenza artificiale e le implicazioni per la strategia delle imprese
internazionali

Supervisor:

Prof. Fabio Marazzi

Student:

Trevor Kare

Acknowledgements

This thesis was made possible with the patience and guidance of my supervisor, Professor Fabio Marazzi, whose course and ongoing feedback inspired the direction of this work. I would like to also thank the faculty of the University of Pavia for the support given to me throughout the MIBE program.

To my family and friends who offered encouragement during what proved to be of the most challenging periods of my life, thank you for putting up with me.

Trevor Kare

June 2026

INDEX

Acknowledgements	2
Abstract (Italiano)	4
Abstract	5
Chapter 1 – Introduction	6
1.1 Background and Motivation	6
1.2 Research Objective	7
1.3 Methodology	7
Chapter 2 – Regulatory Background	9
2.1 Applications of AI in Business	9
2.2 Regulation of AI	11
2.3 EU Approach	12
2.4 US Approach	23
2.5 Chinese Approach	30
Chapter 3 – Firm Response Under Regulatory Divergence	36
3.1 Analytical Framework: International Business Theory	36
3.2 Investment Decisions and Capital Flows	40
3.3 Market Entry: Rollout Decisions	52
3.4 Compliance Cost and Organizational Structures	58
3.5 Case Studies	64
3.6 Comparative Analysis: Regulatory Divergence and Firm Strategy	84
Chapter 4 – Conclusions	88
4.1 Summary of Findings	88
4.2 Theoretical Contributions	90
4.3 Limitations	92
4.4 Implications and Future Business Research	95
References	98

ABSTRACT (Italiano)

Questa tesi analizza l'evoluzione dell'intelligenza artificiale e le relative risposte regolatorie, con particolare attenzione agli effetti sulle operazioni delle imprese attive a livello internazionale. Con l'accelerazione dell'adozione dell'IA, le risposte regolatorie si sono intensificate, creando sia sfide che opportunità per le attività aziendali.

La tesi esamina i quadri normativi esistenti e in via di sviluppo, i conseguenti modelli di comportamento delle imprese, i costi previsti e gli approcci alla gestione strategica. In particolare, verifica l'ipotesi che una maggiore severità dei regimi normativi, come quella che caratterizza l'UE, riduca il vantaggio competitivo e ostacoli l'ingresso nei mercati internazionali rispetto alle condizioni prevalenti nei sistemi generalmente più frammentati degli Stati Uniti e nel sistema cinese basato su meccanismi di approvazione.

La metodologia si basa sulla revisione della letteratura pertinente e sull'analisi comparativa della legislazione vigente e proposta. Attinge inoltre ai quadri esistenti della letteratura di strategia aziendale internazionale per valutare gli effetti a livello di impresa sulle operazioni e sui costi di conformità.

I risultati contribuiscono alla comprensione dei modi in cui le imprese multinazionali e le piccole imprese possono rispondere a condizioni di crescente incertezza in un ambiente internazionale in rapida evoluzione.

ABSTRACT

This thesis analyzes the evolution of artificial intelligence and associated regulatory responses, with an emphasis on the resulting effects on operations of internationally active firms. As AI adoption accelerates, regulatory responses have also intensified creating both challenges and opportunities for business operations.

It examines existing and developing regulatory frameworks, resulting patterns of firm behavior, expected costs and approaches to strategic management. In particular, it tests the hypothesis that greater stringency of regulatory regimes, such as exists in the EU, reduces competitive advantage and impedes entry into international markets relative to conditions prevailing in the generally more fragmented systems in the US and approval-based China.

The methodology is based on review of the relevant literature and comparative analysis of current and proposed legislation. In addition, it draws on existing frameworks from international business strategy literature to evaluate firm-level effects on operations and compliance costs.

Results contribute to an understanding of ways in which multinational firms and small businesses can respond to conditions of increasing uncertainty in a rapidly evolving international environment.

CHAPTER 1 – INTRODUCTION

1.1 Background and Motivation

The use of AI represents an unavoidable component of technological progress that produces major changes in daily life and in patterns of business operations. This is a totally integrated process affecting virtually all firms. Similar to the rapid increases in computational capacity achieved through application of Moore's Law, there is an equally dramatic acceleration in the capacity of AI systems to exceed human capabilities in areas of reading comprehension, image recognition and language processing.

This results in substantial opportunities for business operations, but also leads to major effects on strategies for international operations. Because of limited experience with capabilities of AI systems, firms must also deal extensively with problems of regulatory compliance and with requirements for both short-term and long-term investment decisions. Some observers have argued that artificial intelligence may produce economic disruptions of sufficient magnitude to undercut existing regulation and the labor market. Anthropic CEO Dario Amodei, for instance, recently warned that AI could eliminate up to half of entry-level white-collar jobs within the next one to five years, and that unemployment could rise to between 10 and 20 percent over the same period (VandeHei & Allen, 2025). Broader discussions of universal basic income, large-scale investments in infrastructure and labor displacement have increased substantially to influence the regulatory environment in which businesses operate. Whether existing systems of regulation, especially more reactive systems such as that of the United States, are adequate to respond to disruptions of this magnitude remains an open question this thesis returns to in its concluding analysis. Due to the pervasiveness of this technology and its economic impact, governments across Europe, Asia, and the US have enacted and proposed various pieces of legislation in an attempt to establish responsible guidelines.

A key question is how markets are responding and what individual firms can do to succeed in this increasingly complex environment. In particular, in the globalized business environment, firms have numerous decisions regarding market entry strategy, compliance differences, and both technology and human capital investments. This creates a core tension between supporting innovation while navigating the regulatory, financial, and social challenges.

1.2 Research Objective

This thesis examines whether stricter AI regulation, such as the EU's, reduces firms' competitive advantage and creates barriers to international market entry compared to the more flexible regimes of the United States and China. These regions account for the majority of investments in AI, development of AI models and regulation of AI technologies. As a result, they represent the three most important analytical settings for assessing international AI strategies. Specifically, it examines the effects of these regulations on investment decisions, strategies of market entry and management of firm resources. The results include a comprehensive assessment of regulatory approaches for the EU, US, and China, and ultimately contribute to a better understanding of how firms can manage regulatory complexity without sacrificing competitive performance.

1.3 Methodology

This thesis employs a qualitative research design based on an extensive review of the relevant academic literature, policy documents and reports of institutional activities. The analysis compares existing and emerging systems of regulation for AI with particular emphasis on the European Union, United States, and China. Analysis of firm-level responses in Chapter 3 draws on selected frameworks from the international business strategy literature including Wach's

entry-mode typology, Ghemawat's CAGE distance framework, and Levitt's standardization-adaptation dilemma.

In addition, it uses secondary data to evaluate responses of firms to different regulatory regimes. Of particular interest is the assessment of responses with respect to investment decisions, strategies of market entry and management of firm resources. Availability of additional data from government sources and reports of corporate activities further supports the interpretation of these results.

Finally, the overall objective is to obtain a well-structured view of the effects of the evolving technological and regulatory environment on behavior of firms.

CHAPTER 2 – REGULATORY BACKGROUND

2.1 Applications of AI in Business

Before discussing the regulatory environment, it is necessary to provide context to better understand how AI is transforming businesses. According to the OECD, AI is increasingly considered a general-purpose technology (GPT) due to its pervasiveness, continuous improvement over time, and ability to generate innovation. As GPTs transform business processes, they are expected to increase productivity and spawn innovation across sectors. Similar to earlier GPTs like the steam engine, electricity and information and communication technologies, AI has the potential to lead to rapid advancements in many areas as it continues to evolve (Calvino, Haerle, & Liu, 2025). This suggests there is significant potential business relevance, some of which is already observable in firm-level adoption.

Artificial intelligence is increasingly being incorporated into core business processes in response to organizational demands for greater efficiency, reduced costs and improved quality of decision making. According to IBM, AI technologies are being applied to an expanding array of functional activities, including customer service, where chatbots and virtual agents provide high volumes of transaction processing and substantially improve overall response times. Use of AI also facilitates analysis of large data sets to generate highly individualized recommendations and achieve more effective and targeted methods of customer service.

In operations and supply chain management, AI supports processes of demand forecasting, inventory optimization and logistics planning. Application of AI to financial and risk management activities provides firms with substantially greater capacity for detection of fraudulent transactions and identification of statistical irregularities. In addition, processes of credit evaluation benefit from rapid analysis of large volumes of transaction data.

Overall, these applications reflect a general movement toward more data-based methods of decision making, and represent increasing reliance on automated systems to improve both strategic and routine operations. The examples presented are by no means exhaustive, as technology continues to evolve and expand to additional areas of application. Furthermore, as a broadly applicable technology, AI is being adopted by virtually all major industrial sectors. (Holdsworth & Finio, n.d.).

According to data from the U.S. Census Bureau Business Trends, sectors such as finance, healthcare, information and tech, report the highest adoption of AI technologies, while manufacturing and retail also show meaningful levels of adoption. In contrast, adoption is lowest in industries such as construction and agriculture, suggesting an uneven implementation across the economy. Overall, a notable share of firms reports using AI in at least one core business function, indicating that the technology is widespread and not limited to a select number of firms or early-adopters. This signifies a broad, cross-industry transition that is likely to remain a pillar of modern economic systems (Smith, 2024).

These industry trends are driving rapid investment in AI technologies. Recent evidence shows that corporate spending on artificial intelligence has increased significantly and is projected to continue. Total corporate investments in the United States alone rose from USD 92 BN in 2022 to 142.3 BN in 2023, a year-over year increase of 55 percent. Similarly, AI-related venture capital startups followed a similar trajectory, raising over USD 100 BN and accounting for 37 percent of all global venture financing. Forward looking estimates indicate that global spending on AI technologies will reach USD 632 BN by 2028, reflecting a long-term commitment from both firms and investors. A significant portion of this investment is directed towards infrastructure to support AI systems, including data centers, advanced semiconductors,

and cloud computing capacity. As a result, this emerging focus on AI is not simply an advancement in technology but a capital-intensive transformation impacting how firms allocate spending and view the long-term competitive environment in this increasingly digitalized economy (Avezov, 2025). While these figures highlight the scale of recent investment in the U.S., they do not reflect the global nature of this technological revolution, including major regions like Europe and Asia. The extent to which regulatory differences across these regions will influence future investment patterns remains an open question, which will be discussed in subsequent sections.

2.2 Regulation of AI

As AI expands rapidly across industries and attracts large investments, governments have attempted to control its development and application. Although public debate primarily focuses on ethical concerns such as privacy, bias and misinformation, regulation also reflects an important practical effort to manage economic risks associated with adoption of these technologies. AI applications reduce costs and inefficiencies, but generate new risks associated with reliability, accountability and control of data. For firms considering investment, the challenge is not merely to decide whether or not to adopt AI, but also to evaluate whether its use incurs additional costs of compliance, legal risk or damage to reputation. Consequently, AI regulation provides an important basis for achieving greater predictability, capacity for audit and control of AI applications within legal and market constraints.

Despite growing demands for regulatory oversight, governance of AI remains a difficult task largely due to rapid technological change and difficulty in defining clear boundaries for application. AI evolves more rapidly than laws can be drafted, while the definition of the technology itself continues to shift as models, applications, and capabilities develop, requiring

policymakers to continually adapt regulatory approaches (Calvino et al., 2025). Another difficulty in AI regulation is due to “black boxes” within technology, which make validating outputs and determining failures from most large language models (LLMs) difficult. Finally, difficulties of enforcement are greatly increased by the transnational nature of AI, in which systems may be developed in one regulatory jurisdiction and deployed within another. This creates fragmentation and possible inconsistencies in regulatory oversight.

Nevertheless, governmental authorities have implemented widely different approaches to regulation of artificial intelligence. Policymakers in the European Union have developed a highly centralized and precautionary system of regulation with special attention to classification of risks and requirements for formal compliance. By contrast, regulatory measures in the United States have been of a substantially greater degree of fragmentation, and have relied primarily on combinations of executive orders, agency guidelines and laws enacted at the state level to replace a single, comprehensive system of regulation. China represents a third approach entirely with state-directed commercial and social policy emphasizing restricted market access, political content control, and national interests.

2.3 EU Approach

The EU is the first governing body to adopt a comprehensive regulation for artificial intelligence. Following several years of discussion initiated in 2020, it was approved by the European Parliament in March 2024 and adopted by the Council in May 2024 to take effect on 1 August 2024, with implementation over subsequent years. The European Commission describes it as the first comprehensive legal framework on AI worldwide, meaning it covers all industries rather than a single sector. Under the Artificial Intelligence Act (AI Act), AI applications are categorized according to their potential to cause harm and subject to requirements appropriate to

four levels of risk ranging from unacceptable to minimal (Regulation (EU) 2024/1689, 2024). Since this act is the most comprehensive, it is a good test for the claim that stricter laws reduce firms' abilities to maintain a competitive advantage, innovate, and easily enter international markets.

The European Commission began early proposals for the AI Act in 2021, predating the public release of ChatGPT in late 2022. It reflects continuation of the EU's overall strategy for digital regulation, which already includes the General Data Protection Regulation (GDPR), the Digital Services Act (DSA) and the Digital Markets Act (DMA). The clearest precedent is the GDPR, a horizontal regulation on data privacy that has become the global standard followed by several governments.

The remainder of this section looks at the AI Act in four parts. First, it covers the four-level system of risk classification that is central to the regulation. Second, it describes compliance requirements for high-risk systems and for providers of general-purpose AI. Third, it discusses the structure of penalties and mechanisms for enforcement. Finally, it will evaluate the strategic basis for the EU approach and the resulting trade-offs for firms operating in international markets. Each risk category contains corresponding compliance obligations. The strictest treatment applies to systems classified as posing unacceptable risk.

Article 5 covers prohibited AI practices that are considered forbidden in the market and have no compliance pathway, except in narrow cases (e.g., law enforcement). These include AI systems that deploy subliminal techniques that distort decision-making, exploit a person's vulnerabilities related to age, disability or socio-economic status, and social scoring systems that unfairly treat people based on behavior or personal characteristics. Also banned are systems that expand facial recognition databases via untargeted scraping and real-time biometric

identification systems in public spaces, except in specific law-enforcement scenarios such as human trafficking and prevention of terrorist threats. The article lists a few more prohibited conditions, as well as describes the permissible conditions under which law enforcement may engage in the aforementioned practices. These banned practices were among the first to go into effect, showing the EU's prioritization of the most fundamental human rights of AI deployment (Regulation (EU) 2024/1689, 2024, art. 5).

In contrast to Article 5's prohibited practices, high-risk systems are covered in great detail throughout the act. Chapter III Article 6 provides definitions for what constitutes high-risk AI systems. Precisely an AI system is considered high risk if two conditions are met. The first condition applies to AI systems that are components or products covered by existing product-safety legislation including medical devices, toys, machinery, and automobiles, among other things listed. The second condition applies to products that are required to undergo a third-party conformity assessment covered under Annex I. An additional path to be considered high-risk is detailed in Annex III, which lists eight standalone domains. Examples of these include biometrics, critical infrastructure (i.e., AI systems used in operation of critical digital infrastructure or in the supply of core utilities), education and vocational training, and migration or border control management. With regard to the examples in Annex III, the act states that AI systems that fall under these categories are not considered high-risk "where it does not pose a significant risk of harm to the health, safety or fundamental rights of natural persons, including by not materially influencing the outcome of decision making." (Regulation (EU) 2024/1689, 2024, art. 6(3)). Article 7 continues with additional classification information, giving the EU Commission power to modify, expand, or remove cases mentioned in Annex III (Regulation (EU) 2024/1689, 2024, art. 7).

Chapter III (Section 2, Articles 8-15) go on to outline the requirements for high-risk AI systems. Article 8 establishes compliance with subsequent sections outlining that compliance is mandatory for covered products. Article 9 describes the requirement for a risk-management system that is documented and maintained throughout the entire lifecycle of the AI system. More specifically the risk management framework must accomplish four things: identification and analysis high-risk systems' impact on health, safety, or fundamental rights, estimation of emerging risks from intended and foreseeable use, evaluation and post-market monitoring data (per Article 72), and the adoption of appropriate and targeted risk management measures. An additional obligation is for firms to test prior to market entry against pre-defined performance metrics and assess whether the prospective AI system is likely to have an adverse impact on certain vulnerable groups (Regulation (EU) 2024/1689, 2024, arts. 8-9).

Articles 10 through 15 detail the requirements firms must carry out for high-risk AI systems before placing them on the market. To briefly summarize, Article 10 covers data governance requirements including training, validation, and testing of AI models. Datasets must be reviewed for biases that negatively affect fundamental rights, and measures must be implemented to mitigate against them. Datasets must be relevant, representative, and as free of errors as possible in view of the system's intended purpose. Article 11 requires providers to prepare technical documentation demonstrating compliance with system requirements as specified in Annex IV, before placing them on the market. Simplified documentation is available for small and medium enterprises (SMEs) and start-ups. Article 12 is largely a record-keeping requirement that allows for the automatic recording of logs over the lifetime of the system. Article 13 requires that high-risk systems be sufficiently transparent for deployers to interpret outputs and have clear instructions for use covering capabilities, limitations, and accuracy.

Article 14 mandates that high-risk systems be designed to allow effective human oversight that are commensurate with the risks posed. Lastly, Article 15 requires that high-risk systems achieve appropriate levels of accuracy, robustness, and cybersecurity in light of their intended purpose, and that these levels be declared in the instructions for use (Regulation (EU) 2024/1689, 2024, arts. 10-15).

Section 3 describes obligations applicable to providers, deployers, importers and distributors of high-risk AI systems. The obligations of providers under Article 16 largely reinforce those of Section 2 and include requirements for maintenance of a quality management system, completion of conformity assessment procedures, affixation of Conformité Européenne (CE) marking and registration of the system with the EU database prior to market placement. Many of these requirements rely on procedures common to broader EU regulations on product safety. Conformity assessment refers to the process by which providers demonstrate compliance with the requirements of section 2 and thereby justify market introduction. For most systems, this assessment is performed internally by the provider or by an independent third party notified body. Application of the CE conformity mark indicates to regulatory authorities and to consumers that the requirements for conformity assessment have been met. Finally, as covered in Article 49, all high-risk systems must be documented in a publicly accessible EU database prior to market introduction to facilitate awareness of systems operating in EU markets.

Responsibility for compliance with these requirements may be transferred along the AI value chain: Importers, distributors or deployers making substantial modifications to a high-risk system or marketing the system under their own name shall assume the responsibilities applicable to providers under the regulation. The obligations of deployers under Article 26 require organizations using high-risk systems to comply with instructions of the provider,

provide appropriately trained human supervision, monitor the performance of the system and inform affected employees of its use in the workplace. In addition, public authorities and private entities providing public services or operating in essential service sectors (e.g., credit scoring and insurance pricing) must conduct a fundamental rights impact assessment prior to system deployment and evaluate the risks to affected individuals (Regulation (EU) 2024/1689, 2024, arts. 16-27, 43-49). The remainder of Chapter III (Sections 4 and 5) addresses the designation of notifying authorities and harmonized standards, which together form the institutional backbone of high-risk system oversight.

To this point, the AI Act has primarily focused on unacceptable risks and requirements for compliance by high-risk applications. Chapter IV Article 50 provides transparency requirements for limited-risk AI applications instead of pre-market conformity requirements. Developers of AI systems that interact directly with natural persons (e.g., chatbots or virtual assistants) must inform users of their interaction with an artificial intelligence system, except where the nature of the interaction is readily apparent from context. Providers of systems that generate synthetic audio, image, video, or text must mark outputs in a machine-readable format so they are detectable as artificially generated. Developers using emotion recognition or biometric identification must notify the affected individuals, and developers of deepfake content must indicate the artificial origin of the information produced. Limited exceptions apply to artistic, satirical or fictional works, and requirements for disclosure must not impair the integrity of the artistic work (Regulation (EU) 2024/1689, 2024, art. 50).

AI systems that do not qualify as unacceptable, high-risk or limited-risk are considered to present minimal risk and are therefore not subject to the primary obligations under the Act. This residual category covers the majority of commercial AI applications currently in use. Examples

include spam filters, recommendation algorithms, inventory management systems and AI components of video games. The Act encourages, but does not require, voluntary adoption of codes of conduct consistent with requirements applicable to high-risk systems (Regulation (EU) 2024/1689, 2024, art. 95). As a result, the regulatory burden is concentrated on a small subset of high-risk applications, a point which will be revisited in the firm-level response portion of this thesis.

Distinct from the macroeconomic concept of AI as a GPT introduced in Section 2.1 of this paper, Chapter V of the Act uses the term general-purpose AI (GPAI) in a narrower sense to refer to foundation models that have significant generality and can perform a wide range of tasks. Unlike the risk-tier framework applied to AI systems, the GPAI classification refers specifically to models, regardless of intended use. That said, the two frameworks can be applicable simultaneously (i.e., a GPAI may be integrated into a system that falls under the high-risk category). Article 51 further considers GPAI models with “high impact capabilities” to pose systemic risk and subject to stricter regulation. Models are said to have such capabilities when their total compute used for training exceeds 10^{25} floating point operations, which captures only the largest frontier models (i.e., the latest, most advanced models with machine-learning capabilities that are capable of complex reasoning). The Commission may apply a formal assessment to classify models below this threshold as posing systemic risk. To keep pace with algorithmic and hardware advances, the Commission maintains the power to adjust the threshold as necessary (Regulation (EU) 2024/1689, 2024, art. 51).

Article 52 establishes the procedure for GPAI models classified as presenting systemic risk. Providers of such models must immediately notify the Commission, who may also initiate the designation from its end. The Commission must also maintain an updated public list of GPAI

models with systemic risk, with appropriate protections for intellectual property rights, confidential business information and trade secrets. More broad obligations for providers of GPAI models are listed in Article 53. These include maintaining technical documentation concerning the model's training and testing process, providing relevant documentation to downstream providers that use said models, adopting a policy to comply with EU copyright law, and publishing a detailed summary of the content used for training. The Act provides a limited exception for free and open-source models from certain documentation, though this exception does not apply to GPAI models with systemic risk.

Article 54 extends the regulatory reach of the Act beyond the EU geographically, requiring non-EU providers to appoint an EU-based authorized representative before placing a GPAI model on the EU market. Additional obligations under Article 55 include model evaluation, systemic-risk assessment and mitigation, serious-incident reporting, and cybersecurity protection (Regulation (EU) 2024/1689, 2024, arts. 52–55).

Finally, Chapter XII closes out the remaining pertinent provisions of the AI Act by establishing a system of tiered penalties. The highest category of fines for noncompliance with Article 5 are EUR 35 million or 7 percent of total worldwide annual turnover, whichever is higher. Other infringements including violations applicable to providers, deployers, importers, distributors and transparency requirements, may lead to fines of up to EUR 15 million or 3 percent of worldwide annual turnover. Providing false, incomplete or misleading information to notified bodies or national authorities may lead to fines of up to EUR 7.5 million EUR or 1 percent of worldwide annual turnover. For SMEs and startups, the lesser amount applies to the aforementioned fines to reduce financial impact on smaller firms. (Regulation (EU) 2024/1689,

2024, arts. 99–101). This tiered penalty structure mirrors GDPR enforcement, which similarly issues fines as a flat rate or percentage of annual revenue (GDPR, 2016, art. 83).

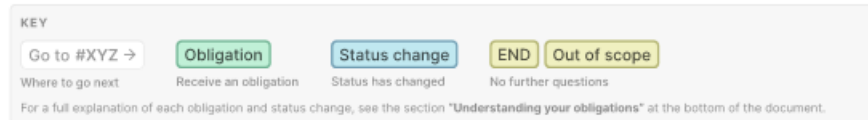
Despite its implementation, which is currently ongoing, it could be several years before the macro and microeconomic impacts of this legislation become clear. However, what is evident is the EU's posture, particularly towards the elevated risk categories including unacceptable and high-risk, as well as widespread general-purpose models. While the compliance requirements are detailed and potential penalties significant, much of the legislation does not apply to AI systems deemed to be limited or minimal risk. This also raises the question of how willing firms will be to navigate in this framework or whether they will decide to avoid investment in the region altogether. On the other hand, some firms may view the Act as providing a clear structure that reduces uncertainty relative to the more fragmented approaches taken elsewhere. And given the stakes of such a large piece of legislation, there remains the possibility of new industries developing to provide consulting and guidance. When looked at alongside the GDPR, DSA, and DMA, this act is the latest development in the EU's consistent approach to building an arsenal of digital oversight.

This pattern reflects what scholars have termed the *Brussels Effect*, the EU's ability to set global regulatory standards through the size of its single market. Bradford argues the mechanism consists of two parts: the *de facto* Brussels Effect and the *de jure* Brussels Effect. The former alleges that international firms find it cheaper operationally to comply with the strictest standard, which is frequently the one set forth by the EU. For example, an American firm is more likely to adapt to EU-compliance across its global operation rather than develop a multi-faceted approach for each market. The *de jure* effect observes that foreign governments tend to codify EU rules themselves as a result of firms' voluntary compliance with stricter standards (Bradford, 2020).

Further supporting this dynamic, a wide range of third-party tools have been developed to assist firms with AI Act compliance, including the compliance checker maintained by the Future of Life Institute (see Figure 1), which guides users through risk classification and obligation mapping. Other resources include compliance tools for small businesses, AI literacy programs, and guides for different business types. The availability of these resources potentially lowers the cost of compliance for firms operating across regions and reinforces the conditions under which the Brussels Effect operates.

Figure 1

EU AI Act Compliance Checker Interface



① Is my system an 'AI System' according to the EU AI Act?

An artificial intelligence system (AI system) is defined as: A **machine-based system** designed to operate with **varying levels of autonomy** and that may exhibit **adaptiveness after deployment** and that, for explicit or implicit objectives, **infers, from the input it receives, how to generate outputs** such as predictions, content, recommendations, or decisions that can **influence physical or virtual environments**.

#E Entity

Question #E1

Which kind of entity is your organisation?

Answers **1** Tick one option only

- | | | | |
|---|---|-----------------------------|-------------|
| ☐ Provider | → | AI Literacy + | Go to #E2 → |
| ☐ Deployer | → | AI Literacy + | Go to #E2 → |
| ☐ Distributor | → | | Go to #E2 → |
| ☐ Importer | → | | Go to #E2 → |
| ☐ Product Manufacturer | → | | Go to #E3 → |
| ☐ Authorised Representative | → | Authorised Representative + | END |

② Hint

Note: It is possible to be multiple types of entity at once, according to Recital 83. If you match the definition of multiple types, you must complete the questionnaire once for each type.

Provider: a natural or legal person, public authority, agency or other body that develops an AI system or a general purpose AI model (or that has an AI system or a general purpose AI model developed) and places them on the market or puts the system into service under its own name or trademark, whether for payment or free of charge;

Deployer: any natural or legal person, public authority, agency or other body using an AI system under its authority except where the AI system is used in the course of a personal non-professional activity;

Distributor: any natural or legal person in the supply chain, other than the provider or the importer, that makes an AI system available on the Union market;

Importer: any natural or legal person located or established in the Union that places on the market an AI system that bears the name or trademark of a natural or legal person established outside the Union;

Product manufacturer: places on the market or puts into service an AI system together with their product and under their own name or trademark;

Authorised representative: any natural or legal person located or established in the Union who has received and accepted a written mandate from a provider of an AI system or a general purpose AI model to, respectively, perform and carry out on its behalf the obligations and procedures established by this Regulation.

Source [Article 3 points 2-8, Recital 87](#)

Note. Reproduced from EU AI Act Compliance Checker, by Future of Life Institute, n.d.,

<https://artificialintelligenceact.eu/assessment/eu-ai-act-compliance-checker/>.

The AI Act may present a clear use-case for Bradford's arguments, in particular with respect to the GPAI framework. As providers cannot easily separate EU users from non-EU users

at the model level, EU rules tend to apply across global operations. As such, Bradford's theory is directly relevant to the central question of this thesis. If the AI Act's reach extends globally through these mechanisms, the regulatory burden becomes a question of international competitive consequence rather than a strictly European concern.

2.4 US Approach

Unlike the EU, the US has no single comprehensive AI law. This does not mean the U.S. shies away from regulation. Rather it tends to be more reactive, sectoral, and enforcement driven. Many of the most significant regulations in place today were established in direct response to a crisis or scandal. Looking at some historical examples, the Securities Act of 1933 and establishment of the Securities and Exchange Commission were established after the 1929 Black Tuesday stock market crash that saw margin buying and speculation cause the Dow Jones to lose nearly 90 percent of its value over the course of three years. More recent examples include the passage stricter accounting standards in the Sarbanes-Oxley Act in 2002 as a response to the Enron WorldCom scandals. The Dodd-Frank Wall Street Reform and Consumer Protection Act was enacted in 2010 and transformed the regulatory landscape after the 2007-2008 financial crisis also known as the Great Recession. This fits with the traditionally more capitalistic-oriented economy that prioritizes the power of the free-market principles without heavy state intervention compared its European counterparts (Bremmer, 2010). This pattern of regulation *following* crises prompts a question that is revisited in the conclusion regarding whether this technology's potential for large-scale disruption fits the current regulatory model or warrants something more. What exists in the US currently for AI regulation is a hybrid system of executive action, voluntary standards, agency enforcement under already existing authority, and state-level legislation examined in the following paragraphs.

In the absence of a comprehensive AI regulation, executive actions have served as an instrument of federal AI policy. An executive order (EO) is a presidential directive that controls operations of the federal government. Although having the force of law, it does not require congressional approval and may be rescinded or superseded by a subsequent administration or invalidated by the courts as exceeding executive authority (American Bar Association, n.d.). In this sense, EOs are legally binding but can be seen as weaker or less durable than traditional Congressional legislation.

President Biden signed the first of such actions on 30 October, 2023: EO 14110 titled Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. The order included general statements on safety, innovation, workers, civil rights, consumers, privacy and use of government resources, but its most relevant provisions were in Section 4 on AI safety and security. Specifically, it invoked the Defense Production Act to require developers of the most powerful dual-use foundation models to report to federal authorities with details on training activities, security of models, and results of red-team safety testing (i.e., the testing organizational defenses and systems against possible threats). Reporting was required for models trained with more than 10^{26} integer or floating-point operations, compared with the 10^{25} threshold for systemic-risk GPAI models in the EU AI Act. The order also required the National Institute of Standards and Technology (NIST) to establish standards and best practices for AI safety testing, evaluation and red-teaming. Additional sections dealt with issues of innovation and competition, AI workforce development, effects on the labor market, civil rights, consumer protection, privacy and federal procurement (Executive Order No. 14110, 2023). EO 14110 was the centerpiece of a broader Biden-era AI agenda that also included the 2022 Blueprint for an AI Bill of Rights and the 2023 Voluntary Commitments secured from leading AI developers (White

House, 2022; White House, 2023). As with many EOs, however, the framework proved short-lived.

When President Trump took office in January 2025, one of his first actions was to issue EO 14148, which broadly revoked many of the previous administration's directives. Days later he issued EO 14179 Removing Barriers to American Leadership in Artificial Intelligence. Unlike the Biden-era EO, which focused on safety, security, red-teaming and reporting obligations for powerful foundation models, the new order shaped AI policy largely around US leadership, economic competitiveness and national security. Its primary goal was to maintain and strengthen global leadership in AI, and to eliminate prior restrictions on innovation. Instead of imposing detailed compliance requirements, the order required preparation of an AI Action Plan within 180 days and mandated review of actions taken under EO 14110. Actions inconsistent with the new policy were to be suspended, modified or rescinded, as appropriate under the law (Executive Order No. 14179, 2025). The change highlights the instability of directive-based AI policy in the US: a complete federal system was dismantled and replaced within 15 months, in contrast to EU regulation, which is stable across political changes. As a result, firms subject to US regulation experience a potentially more flexible but less predictable regulatory regime than do firms operating under the EU AI Act.

Another important tool in the American approach to AI regulation is via the National Institute of Standards and Technology (NIST), a federal agency within the Department of Commerce that was founded in 1901. What started out as one of the country's oldest physical science labs has developed into an important organization for measurement science, technical standards and industrial competitiveness. In the context of AI, NIST functions neither as a legislative body nor as an agency for direct enforcement, but provides voluntary models and

technical assistance to enable identification, quantification and control of risks associated with AI (NIST, n.d.). NIST's involvement in AI policy began with the passage of the National AI Initiative Act of 2020 (National AI Initiative Act, 2021) to coordinate federal research and assign responsibility to NIST for development of voluntary guidance for risk management of AI systems. While this is evidence of federal legislation on AI, the emphasis is tailored towards coordination of research and funding rather than direct regulation of commercial use of AI.

In January 2023 NIST published the *AI Risk Management Framework* (AI RMF). This framework was designed to help organizations identify, measure, and manage risks associated with AI systems throughout their lifecycle. It applies to all organizations that design, develop, deploy or use AI, and is therefore applicable across all industry sectors rather than restricted to a particular industry. The framework contains four main functions: Govern, Map, Measure and Manage. The first refers to organizational culture, accountability structures and internal policies needed to manage AI risk. Map requires organizations to characterize the context, objectives, stakeholders and potential risks associated with a particular AI system. Measure involves assessing and tracking those risks quantitatively, qualitatively or via mixed methods. Lastly, Manage involves prioritization of risks, allocation of resources and implementation of actions to address identified problems over time. Although not legally binding, the AI RMF serves as a major reference for firms developing internal standards for AI governance (National Institute of Standards and Technology, 2023). NIST extended this framework in July 2024 with the Generative AI Profile (NIST AI 600-1), applying the four-function structure specifically to foundation models in response to Executive Order 14110 (National Institute of Standards and Technology, 2024). In contrast to the binding requirements for classified high-risk systems under

the EU AI Act, the AI RMF represents a voluntary, principles-based approach implemented at the discretion of each organization, which is a defining characteristic in the US regulatory system.

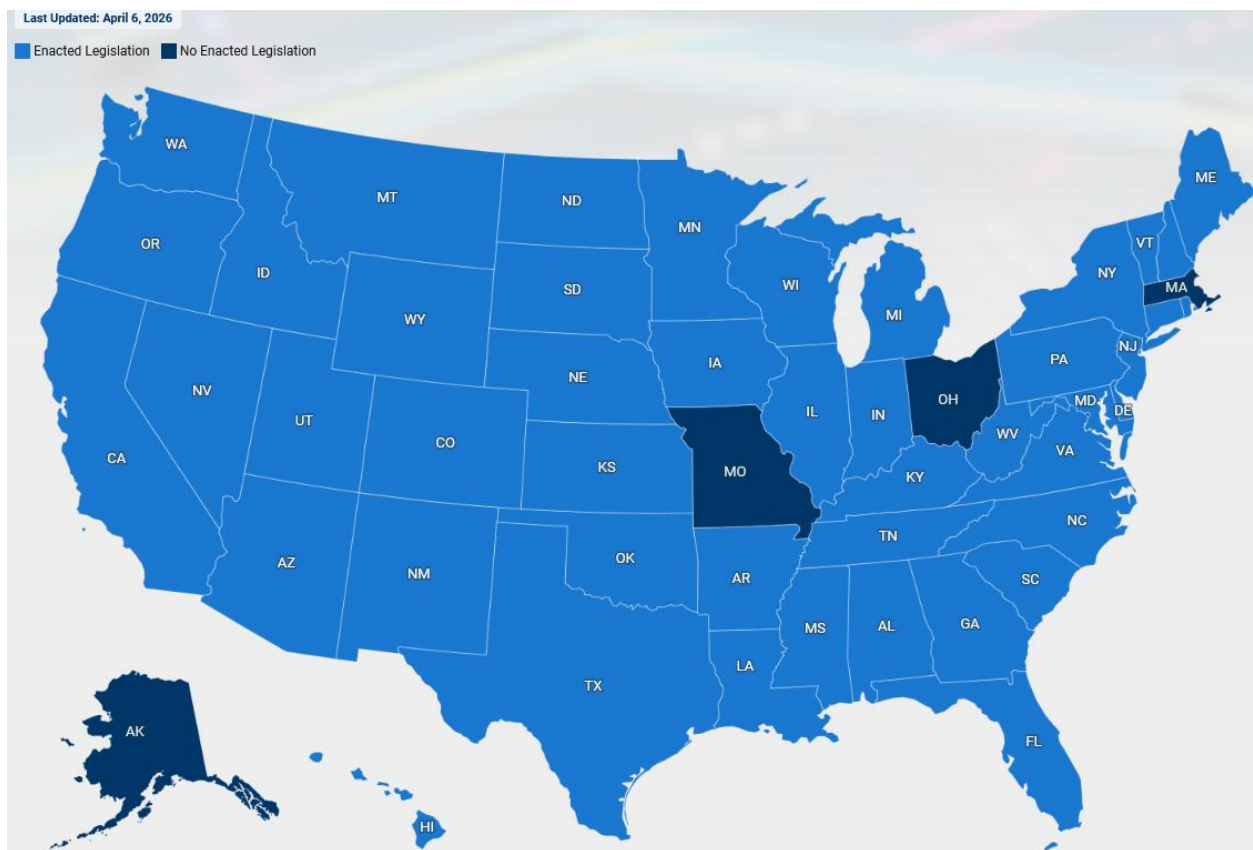
Another existing method in the American approach is through agency-level enforcement and already existing legislation to carry out legal mandates for potential AI-related misconduct. In particular, the Federal Trade Commission (FTC) has relied on existing authority under Section 5 of the FTC Act to address unfair or deceptive practices involving AI and automated systems. An example of this occurred in December 2023 settlement with Rite Aid, an American drugstore chain, in which the FTC limited the company's use of facial-recognition technology after concerns that it falsely flagged innocent customers as shoplifters and led to unwarranted surveillance and accusations. The order prevented Rite Aid for five years from "deploying or using" any system for facial recognition or analysis in its retail stores, retail pharmacies or online retail operations. In addition, it required future systems for biometric surveillance to incorporate procedures to detect risks of physical, financial, reputational or emotional harm that were disproportionately attributable to race, ethnicity, gender, sex, age or disability status (Federal Trade Commission, 2023). It is worth noting that had previously declared bankruptcy, and its reasons for failure are unrelated to AI enforcement. That said, the enforcement had significant operational effects that could have handicapped the firm should it have continued even without its existing legal and financial issues. The five-year ban on use of facial recognition eliminated a capability that had been extensively applied for purposes of loss prevention and shows how agency enforcements can negatively impact future investments decisions due to the legal and reputational risks of using AI systems. Similar enforcement approaches have been used at other agencies, including for AI applications in employment by the Equal Employment Opportunity Commission, for medical devices using AI by the Food and Drug Administration, and for

disclosures related to AI by the SEC, all based on existing legal authorities applied to AI-specific situations.

Beyond federal action, individual states have enacted AI-specific regulation, continuing to show the fragmented nature of the American regulatory framework. As shown in Figure 2, the patchwork of state activity spans the country, with varying degrees of scope and approach. While over forty states have introduced or passed AI-related bills, Colorado and California offer the most significant examples and are the focus of this section.

Figure 2

Map of U.S. State AI Legislation Activity



Note. Reproduced from *Loeb & Loeb AI Legislation Tracker*, by Allen, L., Pastore, G., & Red, R., Loeb & Loeb LLP, [2026]. <https://www.loeb.com/en/general/ai>.

Colorado is the clearest example of state-level efforts to achieve a more comprehensive approach to AI regulation. In May 2024, the legislature passed the Colorado Artificial Intelligence Act, making it one of the first US states to enact broad regulation of high-risk AI applications. The law targets systems used in “consequential decisions” in areas such as employment, education, financial services, healthcare, housing, insurance and legal services, using language similar to the risk-sensitive logic of the EU AI Act. The obligations apply to both developers and deployers to provide documentation, disclose known risks, conduct risk assessments, and notify customers when AI is used in consequential decisions. Implementation of the law was postponed until June 30, 2026 in recognition of the difficulty of achieving operational compliance with a comprehensive regime for AI regulation at the state level (Colorado Artificial Intelligence Act, 2024; Colorado General Assembly, 2025).

California’s approach has been slightly different: rather than one specific bill, there have been a series of targeted ones addressing specific risks as they emerge. California's regulatory decisions carry special importance: As the nation's largest state economy and home of the world's leading AI developers (e.g., OpenAI, Nvidia, Google, Salesforce), its actions directly influence firms at the forefront of the global industry. The most substantial effort at regulation was SB 1047, the Safe and Secure Innovation for Frontier Artificial Intelligence Models Act, which would have required safety obligations for developers of large frontier models and for some providers of computing resources. This was vetoed by Governor Gavin Newsom in September 2024, citing concern that application of compute-based thresholds to all large frontier models would fail to provide comparable oversight of small AI systems used in high-risk applications. However, the state did enact several additional smaller measures on AI-related issues, including AB 2013 on training-data transparency for generative AI, SB 942 on AI content disclosure and

detection, and AB 2602 on protections against unauthorized digital replicas in entertainment contracts (California State Legislature, 2024). This suggests that rather than a single horizontal AI framework, California has opted for a strategy of targeted risk regulation.

Overall, the American approach to AI regulation is better understood not as the absence of regulation but as an alternative model that relies on executive action, voluntary technical standards, agency enforcement, sector-specific regulations and experimentation at the state level. This generally pro-growth mentality gives firms greater flexibility and facilitates faster technological development, but also increases the complexity of compliance for firms operating across agencies and jurisdictions. Fragmentation allows for state and local governments to more quickly address emerging risks but can also hurt firms' ability to forecast compliance costs across markets. The contrast between the US and EU is not simply regulation against non-regulation but between a centralized horizontal framework and a decentralized adaptive one. Whether the US approach will stick with some sort of market-driven post-crisis intervention like in the past or shift toward more precautionary limits as AI advances remains to be seen. The next section looks primarily at China, which takes yet another approach distinct from the two already discussed.

2.5 Chinese Approach

To this point, this paper has focused on the different approaches between the EU and US. But as the world's second-largest economy and a major center of AI development, China's role warrants its own examination. China's approach can be viewed as a third regulatory model, distinct from the rights and risk-based European model and the fragmented, flexible American model. AI regulation in China is largely the responsibility of the central Cyberspace Administration of China (CAC), which reports to the Central Cyberspace Affairs Commission

under the direct political supervision of President Xi Jinping. In contrast to statutes requiring formal adoption by the National People's Congress, most rules governing AI are issued as administrative measures by the CAC, often in coordination with ministries such as the Ministry of Industry and Information Technology. This produces substantially faster cycles of regulatory implementation than the multi-year legislative process of the EU. In contrast to the regulatory goals of the EU or US, Chinese AI regulation prioritizes content control and social stability, industrial policy promoting domestic AI champions, and national security (Sheehan, 2023).

One advantage of China's administrative system is speed of regulation. Drafting and passing laws in the EU requires years of negotiation, and federal action in the US has been slowed by conflicting legislative priorities and constitutional limitations. In contrast, the CAC is able to promulgate and modify regulations for AI within months, resulting in a faster but less predictable regulatory regime for enterprises operating in China. This also provides further evidence that flexibility in AI oversight can take meaningfully different forms across jurisdictions.

China's first major step towards AI regulation was the Algorithm Recommendation Provisions, which took effect in March 2022. These rules apply to providers of internet information services that use algorithmic recommendation technologies within mainland China and include many routine functions of online platforms, such as personalized recommendations, ranking, filtering, search results and content feeds. Providers are required to disseminate information consistent with public order and with national policy and to avoid dissemination of information harmful to national security, economic or social order or to public morality. In addition, there are measures of consumer protection, including requirements to inform users of the use of algorithmic recommendation services and to provide users with options for disabling

personalized recommendations or for managing user tags. Lastly, the provisions target exploitative behavior by online platforms, including algorithmic methods that resulted in unreasonable disparities of treatment with discriminatory pricing (Cyberspace Administration of China, 2022). What is perhaps most interesting about this piece of legislation is not only that it targets potentially predatory AI algorithms to protect consumers, but it also contains messaging related to promoting “mainstream values”, “positive energy”, and carrying forward Core Socialist Values. This suggests that AI systems are seen by the Chinese government not just as an economic efficiency tool but also as way to promote social and political order.

The second major step in China’s AI regulatory framework went into effect in January 2023 with the Deep Synthesis Provisions, issued in November 2022 by CAC together with the Ministry of Industry and Information Technology and the Ministry of Public Security. The provisions pertain to deep synthesis services, or services that use deep learning, virtual reality or similar technologies to generate or modify synthetic text, audio, images, video, biometric information or virtual scenes. Providers must verify the real identity of users, establish systems for content review, data security, personal information protection and emergency response, and prevent the use of deep synthesis services to produce illegal information, false news or content that endangers national security, social order or the rights of others. Additionally, the rules require risk assessments and labeling where synthetic content may confuse the public (Cyberspace Administration of China, 2022). These rules actually predate the EU AI Act’s section on transparency, showing how quickly the Chinese system can respond to emerging AI risks compared with the EU's legislative process.

The third major piece of Chinese AI regulation is the Interim Measures for the Management of Generative Artificial Intelligence Services, which went into effect in August

2023. These measures deal directly with frontier generative AI development as they apply to any AI services that produce text, images, audio, video to the general public of mainland China. In contrast with earlier provisions concerning recommendation algorithms and deep synthesis, these rules directly apply to ChatGPT-style services and therefore govern providers of large-scale generative AI products to the public. Generated information must conform to Chinese law, reflect core values of socialism, safeguard national security and public interests, avoid discriminatory effects, respect intellectual property and protect personal information. The measures also impose requirements for lawful training data, data quality, content labeling, handling of user complaints, correction of illegal outputs and cooperation with regulatory inspections. Overall, they reflect an effort by China to combine political oversight with industrial development, using substantial control requirements and incentives for innovation, infrastructure development and domestic capacity for generative AI (Cyberspace Administration of China, 2023).

One concrete consequence of China's approval-based system is that foreign firms appear largely absent from the public-facing generative AI market. Analysis of CAC registration data reveals approximately 3,700 registered generative algorithmic tools in China through April 2025, including 3,234 records for deep synthesis services and 505 records for generative artificial intelligence or LLMs (Trivium China, 2025). However, foreign companies account for only 19 records, or approximately 0.5 percent of the total, and these registrations primarily concern tools connected to existing services rather than standalone public-facing foundation models (see Figure 3). The available registration data does not show approval of foreign-developed large language models marketed directly to Chinese consumers. This creates a different constraint for multinational firms, as this obligation extends beyond compliance obligations but represents a true market-entry barrier.

Figure 3

Top Chinese AI Players by Number of Approved CAC Algorithm Registrations

Chinese AI player	Number of associated GAT records
Alibaba / Ant	66
Tencent	52
NetEase	37
Inspur	28
Baidu	24
ByteDance	20
Sensetime	19
Zhipu AI	14
Kingsoft	11
iFlyTek	10
Huawei	10
JD	9
Baichuan Intelligence	9
Hikvision	8
Minimax	5
Meituan Dianping	5
Kuaishou	4
01.AI	4
DeepSeek	3
Moonshot AI	3

Note. Adapted from Trivium China, 2025. Data current to April 2025. Reproduced via Corvino, 2026.

Together, these three approaches to international business regulation represent substantially different regulatory environments for firms operating internationally. Each generates different conditions of compliance burden and predictability for the EU, flexibility and complexity for the US, and barriers to market entry and required political alignment for China. The chapter that follows examines how firms have responded to this regulatory variation through investment decisions, market entry strategies, and organizational adaptation.

CHAPTER 3 — FIRM RESPONSE UNDER REGULATORY DIVERGENCE

3.1 Analytical Framework: International Business Theory

Regulation is only one of many forces shaping the international business environment. Firm strategies also reflect differences in market size, cultural and institutional distance, availability of capital, capacity for technological innovation, competitive positions and internal resources. That said the effects of AI regulation on business activities cannot be assessed solely on the basis of regulation. Rather, they must be evaluated within existing frameworks for understanding how firms select markets, enter foreign jurisdictions, adapt products and organize international operations. For this purpose, it is important to understand theories of firm-level internationalization, strategies of market entry and positions of competitive advantage. These frameworks provide a lens for evaluating how regulatory differences between the EU, US, and China affects investment decisions, market-entry choices, and competitive positioning.

A useful starting point is the theory of firm-level internationalization. Wach defines internationalization in his *Theoretical Framework of the Firm-Level Internationalization in Business Studies* broadly as the process by which firms increase their involvement in international business activities. He then goes on to identify several approaches to firm-level internationalization, including stages models, the resource-based view, network approaches, international entrepreneurship theory and business strategy approaches. Additionally, he describes three levels at which internationalization can be analyzed: the macro (economy) level, the meso (industry) level, and the micro (firm) level (Wach, 2014a). This difference is important for the thesis because AI regulation is adopted at the macro level of national and regional legal systems, affects conditions at the meso level of industry competition, data infrastructure and sector-specific risks and ultimately influences patterns of behavior at the micro level via investment decisions, modes of market entry and mechanisms of organizational adaptation.

Within this framework, regulation can be understood as one external environmental factor that shapes the conditions under which firms internationalize, but not as the only factor influencing firm behavior.

With the understanding that regulation is a component of the external environment, the question shifts to how firms respond in foreign markets. Wach's discussion of modes of market entry relates international expansion to varying degrees of cost, control, risk and commitment. Modes of entry are classified into three major categories: exporting, contractual and investment modes. Resulting strategies reflect not only internal factors such as availability of firm resources, experience with international operations and product characteristics, but also conditions in the target market (Wach, 2014b). This is especially true for AI applications, in which legal requirements affect the attractiveness of different modes of entry. A firm that encounters high levels of regulatory complexity is faced with a number of possible choices: mode of entry (direct entry, partnership, contractual arrangement, or subsidiary) and the extent of commitment (full market participation, limited-service scope, delayed entry, or non-entry). The framework therefore helps explain how regulatory differences between the EU, the US and China may influence the decision to operate in one region but also the level of intensity.

Entry mode, however, is just one of several patterns characterizing the internationalization process. Wach (2014a) identifies four central dimensions: entry mode, entry scope, entry pace, and entry strategy. Entry scope refers to the geographic extent of foreign operations and whether a firm concentrates on a limited number of markets or diversifies across many. Firms in the early stages of internationalization typically expand into nearby and familiar markets, while broader geographic reach is more common for multinational or global firms. Entry pace refers to the speed and timing of internationalization, including patterns of gradual

expansion, rapid internationalization and born-global (i.e., firms that pursue global markets since inception) strategies. Entry strategy refers to the overall manner in which firms compete in foreign markets, including their approaches to rivalry and to international business strategy. Together, these dimensions go beyond the simple *yes or no* decision to enter a market and add the considerations of how they enter, when, and with what scope. Differences in AI regulation influence each of them.

After entering a market, firms must also determine how to sustain their position in foreign markets. In international marketing strategy, this is often viewed as choosing between standardization and adaptation. Standardization involves providing largely the same products, services or methods of doing business in different countries, whereas adaptation involves modifying them to better satisfy the needs or preferences of people in each local market. Levitt popularized this argument by emphasizing the possibility of standardized global products and strategies, linking standardization to economies of scale, a unified brand image and coordinated competitive action across markets (Levitt, 1983). However, adaptation remains important when firms operate with large differences in legal, institutional, or competitive conditions. Standardization reduces costs and facilitates consistent operations worldwide, but adaptation allows firms to better satisfy local market requirements at the expense of greater complexity and difficulties with coordination. This is especially true for the application of AI, where differences in regulations among countries will often require adaptation of AI models, tools for providing transparency, methods of data management or procedures for implementation to different regional requirements, rather than application of a single global strategy.

In addition to choices concerning modes of entry and product strategies, firms must also evaluate differences among target markets. The CAGE distance framework of Ghemawat (2001)

gives an useful approach for describing these differences using four dimensions: cultural, administrative, geographic and economic distance. Cultural distance refers to differences in language, values, patterns of social behavior and consumer preferences. Administrative distance refers to differences in political systems, legal institutions, patterns of regulation, trade policies and conditions of institutional development. Geographic distance reflects physical distance, time zones, transportation links, and communication infrastructure. Lastly, economic distance measures differences in income levels, cost structures, infrastructure quality, and resource availability. Firms tend to underestimate distance when expanding internationally, and consequently make overly optimistic decisions about market entry. As such firms can use the CAGE framework to better assess how distance will impact costs and other hurdles prior to expansion. In terms of this thesis, administrative distance is the most directly applicable, as regulatory differences in AI fall under legal and institutional conditions. The EU AI Act, the fragmented US framework, and China's CAC approval system create different administrative conditions for firms operating internationally. Unlike geographic or cultural distance, administrative distance tends to vary rapidly as governments implement new regulations. Future sections will apply this framework at the firm-level, examining how administrative distance shapes investment decisions, market entry and product rollout, and organizational compliance choices, with case studies in Section 3.5 illustrating these dynamics for individual firms.

Finally, it is important how regulation impacts competitive positioning. Porter's theory of competitive advantage describes three generic strategies for competition within markets: three cost leadership, differentiation and focus. This is important for AI because regulatory difference between regions may influence each of these strategies in different ways. For example, firms with greater financial and technical resources may be better able to absorb compliance costs,

while firms with trusted brands, safer models or region-specific positioning may use regulation as a source of differentiation. Other firms might decide to pursue a focus strategy by emphasizing specific markets, industries, or customer types that are more suited to their philosophy with respect to compliance. So, while regulation does not replace the motivation for firms to seek competitive advantage, it provides an additional consideration that influences which generic strategy a firm may pursue.

With these theoretical frameworks in place, the next section turns to investment decisions and capital flows. This is necessary because firm behavior in the context AI cannot be understood solely as a legal or compliance matter. Perhaps even more relevant is the availability of capital, patterns of investment in infrastructure, venture capital, construction of data centers, access to semiconductor technology and to the overall geography of AI development.

3.2 Investment Decisions and Capital Flows

Investment decisions represent one of the most direct ways of observing the responses of firms and capital markets to evolving regulatory regimes for AI. As previously discussed, regulatory differences generate administrative distances between jurisdictions and influence patterns of market entry, adaptation of products and competitive strategies. However, they do not fully explain investment decisions, which also reflect availability of capital, technical expertise, supplies of semiconductors, costs of energy, infrastructure for cloud computing, capacity for data storage and expectations of future demand. This section will look at AI investment and capital flows at the macro and sector level before turning to specific firm case studies later in the chapter. Regulation here, while the focus of this thesis, is to be treated as just one of several economic conditions shaping investment.

AI investment cannot be narrowed down into a single category. It includes venture capital (VC) funding for startups, private equity (PE) investment in growth-stage companies and acquisition, corporate capital expenditures on data centers and information systems infrastructure, semiconductor investment, debt financing through commercial lending and bond issuance, R&D spending, and state-led investment. These different forms of investment reflect different dimensions of the AI economy. VC provides strong insights into expectations of how new firms, technologies and business models will emerge at early stages and with substantial risk. VC is a subset of PE, which more generally focuses on investment into more mature firms, whether AI-related or a different sector by growing profitability and investor returns within its portfolios. Corporate capital expenditures are another aspect of the AI boom, namely the enormous requirements for infrastructure to support large-scale training and deployment of AI models. Debt financing via commercial loans and bond offerings has also increased in importance with the growing scale and capital intensity of AI infrastructure projects. Large investments in data centers, energy systems and high-performance computing facilities exceed the capacity of internal financing to provide enough financial support. R&D spending captures the investment in talent, experimentation, and model development helps spur innovation and improvement of existing technologies. And state-led investment shows that AI is not exclusive to the private market, but it is seen as a crucial capability for national defense, sovereignty, and competitiveness of domestic firms. It is important to emphasize that investment is forward-looking and provides an insight into expectation of future returns, market access, regulatory risks, and the competitive landscape.

Whereas Chapter 1 singled out broad investment trends in AI and projections, this section expands upon those figures by describing where AI investment is actually occurring

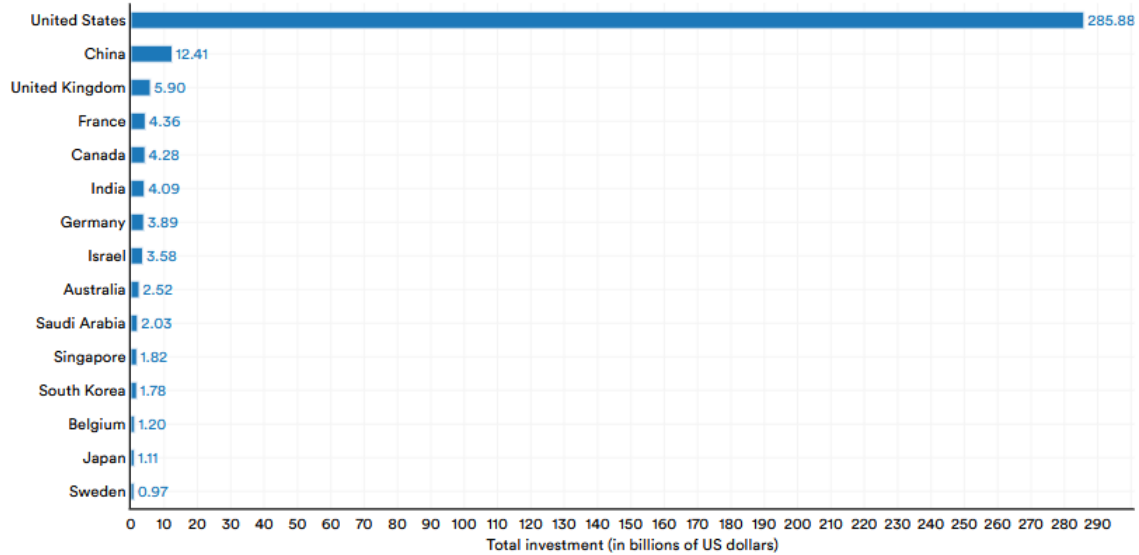
geographically. The Stanford AI Index 2026 shows that private AI investment remains heavily concentrated in the US. Private investment in the US led the way by a large margin in 2025, attracting about USD 285.9 BN compared with USD 12.4 BN for China and USD 5.9 BN for the UK. The same pattern is shown with startup activity: The US supported the creation of 1,953 newly funded AI companies in 2025, compared with 172 for the United Kingdom and 161 for China (Stanford HAI, 2026). While these results shown in Figure 4 highlight the dominance of American firms in terms of private capital investment and startup formation, they do not tell the full story as private investment should be treated differently from state-backed activity evident in places like China. For this reason, these investment patterns should be treated as evidence that the US leads in private sector development, rather than a complete picture of AI capacity or long-term competitiveness.

Figure 4

Global Private Investment in AI by Geographic Area, 2025

Global private investment in AI by geographic area, 2025

Source: Quid, 2025 | Chart: 2025 AI Index report



Note. Adapted from Stanford HAI, *AI Index Report 2026*, Figure 4.2.8. Figures are based on private investment data from Quid and exclude some state-backed investment activity.

The dominance of the US in private AI investment supports the view that it remains a more attractive environment for AI capital than other regions. However, this pattern is not necessarily a result of a less stringent regulatory environment. It points to a bigger structural advantage developed over many years, including deep VC markets, strong research networks, a large pool of tech talent, established cloud providers and semiconductor design capabilities. Because many of these advantages were in place prior to the EU AI Act or China's CAC measures, it is too simple to conclude that America attracts higher investment solely due to its less comprehensive regulations. Europe's low levels of private investment reflect its stricter regulation to an extent, though it is also due to smaller VC markets, fewer cloud providers and less access to late-stage capital. China is different again because private investment data does not reflect the scale government-financing, which can be difficult to separate from its private sector

in a state-run economy. Subsequent paragraphs review the specific channels through which AI capital flows, beginning with specific segments of private financing.

The first way in which global financing patterns can be analyzed is via VC and PE funding. Stanford's AI Index treats private investment as a one category that includes both types, making it a useful measure of how private capital is moving into AI firms. In 2025, global private investment in AI reached USD 344.7 BN, an increase of 127.5 percent from the previous year. Investment in generative AI firms accounted for USD 170.9 BN of this total, reflecting substantial allocation of private capital to the segment of the industry most closely associated with foundation models and leading AI technologies. The data also shows that AI financing is becoming more capital-intensive. Newly funded AI companies increased by 70.8 percent, while the average private AI investment increased to USD 66.5 million. The number of funding events above USD 1 BN also increased from 15 in 2024 to 28 in 2025 (Stanford HAI, 2026). The results support the view that private financing of AI is growing in two directions at the same time: more companies are receiving financial support, and substantially larger amounts of capital are being deployed to more mature and technologically advanced companies. This shift toward larger private financing rounds is shown in Figure 5, which compares global AI private investment events by funding size in 2024 and 2025. Because access to VC and PE financing is a major deciding factor for firms' ability to purchase computing services, hire technical and legal staff, incur costs of regulatory compliance and expand into multiple regulatory settings, these results confirm the importance of this particular aspect of AI financing.

Figure 5

Global AI Private Investment Events by Funding Size, 2024 vs. 2025

Global AI private investment events by funding size, 2024 vs. 2025

Source: Quid, 2025 | Table: 2026 AI Index report

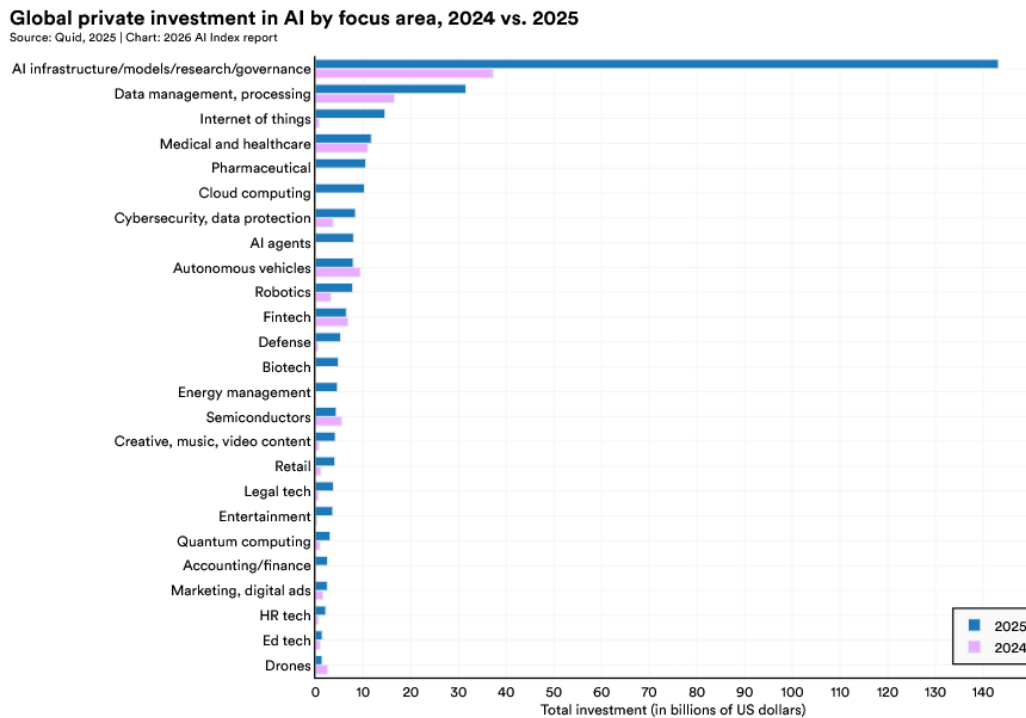
Funding size (US dollars)	2024	2025
Over 1 billion	15	28
500 million – 1 billion	20	30
100 million – 500 million	146	286
50 million – 100 million	197	373
Under 50 million	2,951	4,464
Undisclosed	209	324
Total	3,538	5,505

Note. Adapted from Stanford HAI, *AI Index Report 2026*, Figure 4.2.6. Data from Quid.

The expansion of large private financing describes the investment vehicle, but this trend also paints a broader picture of what AI investment is funding. Investment is increasingly directed not only to applications and software but also to the large-scale infrastructure, model development and research capacity. The Stanford AI Index 2026 shows that among AI focus areas, the largest category of private investment in 2025 was AI infrastructure, models, research and governance, with USD 143.22 BN in investment (see Figure 6). This category covers several of the investment channels introduced earlier: corporate capital expenditure on data centers and cloud platforms, semiconductor investment in the GPUs and specialized chips needed for model training, and R&D spending on the technical labor and experimentation required to remain competitive. This confirms that the AI industry is becoming increasingly capital-intensive and reliant on infrastructure. For international firms, this results in investment decisions that must consider not only regulatory conditions but also availability of computing capacity, energy, technical expertise and supply chain access to hardware components.

Figure 6

Global Private Investment in AI by Focus Area, 2018–2025



Note. Adapted from Stanford HAI, *AI Index Report 2026*, Figure 4.2.17. Data from Quid.

Figure 6 is important because it shows that private AI investment is not spread evenly across the sector. The largest category by a significant margin is AI infrastructure, models, research and governance, which reflects substantial investor emphasis on the foundational capabilities for advanced AI systems. This does not imply that investments are unrelated to consumer applications, because final deployment of foundation models ultimately may occur through chatbots, enterprise tools or other applications. Instead, it illustrates the large amount of investment devoted to development of underlying models, capacity for computation, levels of research activity and systems of governance required to develop and operate advanced AI systems on a large scale. The same pattern is visible in the cost of computation.

Stanford notes that reported annual compute spending (i.e., rented cloud capacity rather than owned data centers), is a useful way to estimate how much frontier AI companies spend to train and operate models at scale. OpenAI and Anthropic both reported large increases in compute spending between 2024 and 2025, reflecting the cost of meeting commercial demand while continuing to develop more capable systems. These costs are not borne solely by model developers. Major cloud providers also support the data center, servers and network capacity required to implement large-scale AI. As a result, annual capex spending by hyperscalers (large cloud providers) has more than doubled since the introduction of ChatGPT, with Google and Amazon leading total capex for 2025 (Stanford HAI, 2026). This confirms the growing importance of infrastructure ownership and access for AI investment. For internationally operating firms, it also represents an additional constraint on strategy. Regulatory restrictions on the locations where AI products can be deployed will ultimately limit the ability of firms to develop and scale these products.

The increasing importance of AI infrastructure also explains why debt financing is becoming more important. Large data centers, GPU clusters, energy systems and cloud infrastructures require such a large investment that they cannot always be financed by operating cash flows or VC/PE injections. CoreWeave is an example of this strategy as a specialized provider of AI cloud services, supporting laboratories, startups and enterprises. In March 2026, the company announced the availability of a delayed draw term loan facility of USD 8.5 BN to finance expansion of its AI cloud platform. This mechanism allowed the company to borrow roughly USD 7.5 BN initially, with possible increases of up to USD 8.5 BN. As opposed to traditional bond issuances, this represented a form of structured credit based on high

performance computing facilities and contracts with customers. It received an investment grade from ratings agency Moody's and is the first loan of its type to be secured by infrastructure and an associated customer contract (CoreWeave, 2026). This example shows how AI infrastructure shaping traditional financial markets around physical computing assets, expected cloud demand and long-term customer relationships. For international business strategy, it once again highlights the necessity of access to debt and private sources of credit. This will ultimately decide which firms will achieve the fastest infrastructure growth and which physical locations will become attractive sites for AI.

In addition to financing, the location of AI infrastructure has become a topic of strategy and debate. Data centers, which often face local political resistance, cannot be built in any location even if the demand is there. Instead, they require large amounts of electricity, reliable access to the grid, large amounts of land, capacity for cooling, availability of fiber networks and favorable conditions for obtaining permits. Stanford's AI Index notes that the United States hosts 5,427 data centers, far more than any other country, while AI data center power capacity has reached 29.6 GW (Stanford HAI, 2026). These figures show that AI investment is more than a software development activity or a financial obligation. It also requires substantial development of physical infrastructure. In particular, energy requirements are especially important. The International Energy Agency reports that global electricity consumption by data centers was about 415 TWh in 2024 and is projected to more than double to about 945 TWh by 2030 largely driven by AI (IEA, 2025). For this reason, investment location depends not only on AI-specific regulation, but also on energy availability, grid capacity and infrastructure policy. The expansion of data centers has therefore not been without controversy. In Ireland, data centers accounted for 22 percent of metered electricity consumption in 2024, reflecting both AI-driven demand and the

country's long-standing role as a European data center hub (CSO, 2025). Specific projects have faced fierce resistance, including Google's proposed datacenter in Cerrillos, Chile. Initial plans showed the datacenter expected to use 169 liters of water per second in an area already stricken by droughts. After significant pushback, local courts reversed the original permit. This forced Google to scrap its original plans and redo its permit using air-cool condensers rather than groundwater (Reuters, 2024). These examples show the potential for this transformational technology to disrupt energy grids and exacerbate issues like climate change. It also shows that even comprehensive AI regulation like the EU Act does not capture the entirety of AI investment. International firms must also comply with regulations for energy use, zoning, and environmental permits when weighing decisions where to locate infrastructure.

Not only do AI infrastructure requirements influence investment patterns and strategic decision-making, but they influence governments as a matter of national security and sovereignty. This explains why governments have become more directly involved in AI spending. As computing capacity, data centers, national models and technical expertise grow in importance for competitiveness, artificial intelligence is increasingly viewed both as a private technology market and as a reflection of national capabilities. The Stanford AI Index calls this concept *AI sovereignty*, referring to the ability of states to gain more control over the infrastructure, data, models, applications, and talent needed to develop and use AI. Because AI infrastructure varies greatly by region, it is easy to understand how this can be of concern to domestic governments. The extent of state involvement varies across regions. Public investment exists in the US but remains relatively modest compared with private-sector investment. Stanford estimates approximately USD 20.4 BN in public contracts and grants related to AI from 2013 to 2024, versus USD 285.9 BN in private-sector AI investment for 2025 alone. In Europe and

Central Asia, public capacity for infrastructure is more apparent, with government-supported clusters of supercomputing capacity increasing from three to 44 over the 2018-2025 period. In China, the limited availability of private-sector investment data reflects the substantial role of state-directed financial support. The Chinese government guidance funds deployed an estimated USD 184 BN into AI firms between 2000 and 2023, helping explain why China's private investment totals appear comparatively modest compared to the US (Stanford HAI, 2026). These patterns show the different approach by region, as it relates to public vs. private spending on AI and how these regions view national competitiveness, industrial policy, and public infrastructure.

Recent infrastructure announcements provide an example of how AI sovereignty operates in practice. In January 2025 the US announced plans for the Stargate Project, a partnership between OpenAI, SoftBank, Oracle, and MGX, with an immediate deployment of USD 100 BN. The project provided for potentially USD 500 BN over four years to be invested in AI infrastructure. Although financed privately, the project was announced at the White House, has political backing, and is seen as a show of American power and leadership in AI development (OpenAI, 2025). Similarly, SoftBank recently announced investment plans of up to EUR 75 BN for development of 5 gigawatts of AI data center capacity in France. The first phase included EUR 45 BN euros for 3.1 gigawatts in the Hauts-de-France region. The announcement discussed France's pivotal role as a European AI infrastructure hub and emphasized technological sovereignty (CNBC, 2026). These examples illustrate the importance of AI infrastructure to a country's autonomy and blur the distinction between private and public investments. Although AI infrastructure is largely developed and operated by private firms, governments are increasingly recognizing the need to regulate, plan and protect their AI infrastructure.

One of the biggest challenges regarding AI sovereignty is platform dependence. Even when governments try to plan or nationalize AI firms, many digital services rely on platforms dominated by a select few global multinational corporations. This dependence can manifest at multiple levels, including cloud infrastructure, mobile operating systems, app stores, semiconductor supply chains and ecosystems for foundation models. This is the case particularly in the EU. The EU Digital Identity Wallet aims to provide secure digital identities for use in public and private services, but will ultimately rely critically on smartphones and operating systems supplied by large platform enterprises (European Commission, 2026). Similarly, the DMA lists several American firms such as Alphabet (Google), Apple, Amazon, Meta, and Microsoft as gatekeepers because of their control over core digital platform services (European Commission, 2023). This implies that technological sovereignty is not attained solely by implementing regulations or supporting domestic initiatives, but also requires reduction of reliance on platform infrastructure that is difficult for governments and for smaller firms to replace. This also raises questions of vulnerability in a geopolitical environment in which escalating tensions between the US and EU or China could expose security risks or disruptions due to overlapping infrastructure.

The investment patterns analyzed in this section show that capital used in the development of AI is shaped by more than just regulation. The US remains the dominant player in private AI investment due to its structural advantages of strong capital markets, tech talent, geography, cloud infrastructure and startup sector. These conditions pre-date AI-specific regulation, and as a result make it difficult to definitively state that regulation is the primary driver of investment decisions. That said, regulation remains a critical aspect that international businesses must weigh for strategic planning purposes. Stricter legal obligations, whether

environmental or AI-specific, directly impact market access, how firms allocate resources and approach international expansion. This section confirms the general belief that more demanding regulatory regimes impose additional costs on firms, in particular in Europe. But it does not prove that regulation is the sole determinant of investment flows. Investment in AI also depends on availability of computational capacity, energy, infrastructure, financing, public policy and access to platform ecosystems. As a result, the effects of regulation on firm strategies must be analyzed at the firm-level. The following section shifts the analysis from the general investment environment to decisions about market entry and implementation of products, and tests the ways in which firms accommodate regulatory differences in making decisions about where, when and how to operate internationally.

3.3 Market Entry: Rollout Decisions

The previous section described the overall investment climate in which AI firms operate, and illustrated how capital flows reflect patterns of regulation, infrastructure, financing conditions, availability of energy and priorities of governments. This section narrows the focus to from a macro-level analysis to specific decisions covering if, when, and how firms enter foreign markets. These decisions differ from aggregate data on investment capital because they show the precise effects of regulation on firm strategy. This discussion draws on frameworks developed in Section 3.1 to provide interpretations of market entry choices. The typology of entry modes illustrates different ways in which market entry may be achieved. The CAGE framework identifies administrative distance as a source of difficulty for entry across jurisdictions. Additionally, Levitt's standardization-adaptation dilemma captures the trade-off firms face when deciding whether to offer the same AI products across markets or adjust them to local conditions. For this section, three patterns are most relevant. Selective rollout or delayed rollout describes a

situation in which firms delay or modify features by jurisdiction. Exit threats occur when firms publicly raise the possibility of withdrawing from a particular market. Lastly, effective non-entry describes situations in which institutional or regulatory barriers make market entry difficult. These patterns are shown as examples rather than full case studies, which will be covered later in the chapter.

Apple Intelligence is a great example of how the same AI features be rolled out differently across regions. Apple describes the feature as a personal built-in AI system designed to streamline daily tasks, communication, writing across devices. These generative AI features are incorporated into iOS, iPadOS and macOS. They work across applications and include message summaries, image editing features, and improvements to Siri. In the US, Apple Intelligence unsurprisingly straightforward. Apple announced availability of the first features with release of iOS 18.1, iPadOS 18.1 and macOS Sequoia 15.1 in October 2024 (Apple, 2024). Being Apple's home market with the most familiarity and least regulatory resistance, this rollout represents a base-case scenario. However, the EU rollout was more complicated.

Apple delayed release of Apple Intelligence, iPhone Mirroring and SharePlay screen sharing enhancements to EU users in 2024, citing uncertainty caused by the DMA (Chee, 2024a). In particular, it objected to requirements for interoperability that would compromise product integrity, privacy and security. It is likely that this was at least partially defensive effort to maintain control of its proprietary ecosystem, but regardless it was a response to regulatory conditions. Apple Intelligence uses deep integration across devices, apps and personal data, so interoperability requirements mandating expanded third-party access weakened the company's competitive position. Even though the DMA is not an AI-specific law, its coverage applied to this product and ultimately impacted its design and deployment in the EU. Apple did eventually roll

out these features for iPhone and iPad users in the EU with subsequent updates (Apple, 2025). Rather than exit threat or effective non-entry, Apple chose a strategy of staying committed to the market but adjusted the timing and conditions based on regulatory uncertainty.

Of the three regions the China has been the most restrictive. According to Apple Support, Apple Intelligence features do not currently work on supported devices purchased in mainland China. And for devices purchased outside mainland China features are disabled should the user enter the region if Apple Account region is set to mainland China (Apple, n.d.). This has prompted Apple to partner Alibaba. Reuters reports that the two companies are collaborating to develop AI features for iPhone users in China, subject to the features approval by China's cyberspace regulator (Reuters, 2025). This represents an alternative strategy for market entry relative to the EU. By partnering with a Chinese firm, Apple has taken what would otherwise be an effective non-entry and found a way to enter the market.

Looking at the Apple Intelligence rollout, it becomes clear how a firm can produce different market-entry outcomes for the same product family. With respect to Wach's entry modes, the US shows a direct rollout, the EU shows a delayed direct entry or selective rollout given the platform regulation, and China shows a contractual partnership-based approach. In terms of the CAGE framework the administrative dimension is most relevant here. Each jurisdiction has a different regulatory environment and subsequent distance level for the same technology. This example also shows the challenges in choosing between standardization and adaptation, as Apple cannot rely on a single rollout strategy across all major markets.

Meta offers another example of selective rollout, but in a different manner than Apple. Meta AI is the generative AI assistant used Facebook, Instagram, WhatsApp, and Messenger. The company first launched the assistant as a beta feature to users in the US in September 2023 and

provided real-time information, answered questions and generated images based on text prompts (Meta, 2023). While Apple Intelligence was embedded deep in each device's operating system, Meta AI was deployed primarily within the existing social media apps and messaging platforms. Because of this, the regulatory concern with the DMA was less relevant. However, there were still concerns regarding data use, model training, and the integration of AI across social platforms.

Similarly Meta AI's rollout in the EU was delayed, though in this case the eventual rollout was also less extensive. Meta postponed its launch in the EU after the Irish Data Protection Commission asked the company to pause plans to train large language models using public content shared by adult Facebook and Instagram users. The company argued this would inhibit the ability to offer European users the same quality of experience without using local data, and it delayed the launch entirely (Chee, 2024b). As a consequence, implementation of the service throughout the region was substantially slower and more limited than elsewhere. Meta eventually did launch the service in March 2025, including 41 European countries and 21 overseas territories. However, the rollout began with a more simplified text-based chat function that did not at the time match the fuller capabilities as in the US (Meta, 2025). This statement shows that not only was there delayed entry but also a narrower scope at the time of market entry.

Whereas Apple's response focused primarily on delaying the timing of launch, Meta's included both a delayed introduction and limited initial product. While both can be considered a form of selective rollout, these different approaches show how regulatory restrictions drive changes in international business strategy. Meta continued to pursue direct entry with its existing platforms but adapted its product rather pursue standardization of product features: resulting in

fragmented experiences across regions as opposed to identical AI assistants for all users. The comparison between Apple and Meta illustrates that firms subject to overlapping requirements of EU regulation do not always respond in the same manner. Instead, their patterns of response depend on the type of AI product, the underlying business model and the requirements for data necessary to achieve competitive performance.

Lastly, OpenAI provides a contrast from both of the aforementioned firms, as its rollout included the possibility of market withdrawal. In May 2023, before final negotiations of the EU AI Act, CEO of OpenAI, Sam Altman, indicated that the company would consider ceasing European operations if it could not comply with the final regulations. The primary concern at that time related to the treatment of general-purpose AI systems and of generative models such as ChatGPT, and possible requirements for disclosure of copyrighted training data (Reuters, 2023). This statement did not lead to an actual exit, as shortly after Altman stated that OpenAI had no plans to leave the market following discussions and criticisms from EU lawmakers (Mukherjee & Coulter, 2023). This is a prime example of an exit threat rather than effective non-entry. The firm continued to operate in the European market but the possibility of withdrawal sparked concern stemming from the proposed EU framework.

In contrast to Apple and Meta, which implemented delayed rollout and feature-specific adaptation, respectively, the response of OpenAI was direct and overtly political. The extent to which the initial statement of the firm influenced the final text of the AI Act remains uncertain, but illustrates clearly the importance of firm-level strategies and requirements for market viability. This case is less about entry modes from Wach's framework and more about a hurdle to continuing market participation. It confirms the continuing relevance of the administrative component of the CAGE framework, because uncertainty regarding regulation of general-

purpose systems represented a substantial risk to existing conditions of operation and to compliance with requirements for target markets. Regulatory pressures clearly influence patterns of strategic behavior, but should not be interpreted as reflecting an inevitable trend toward market withdrawal. The fast change in statements from Altman also shows the commercial and strategic importance of the EU, even in the face of a stricter regulation.

OpenAI's operations in China, however, show a concrete example of effective non-entry. The company's official website lists supported countries on web and mobile and warns that trying to access ChatGPT services not listed may lead to suspension or termination of the account. China is not listed as a supported country (OpenAI, n.d.). Rather than a delay or threat, this example shows an effective non-entry in one of the world's largest AI markets. As discussed in Section 2.5, China's approval-based system creates a major obstacle for foreign providers. While geopolitical and economic tensions between the US and China undoubtedly play a role in the high CAGE distance between countries, AI regulation appears to be a driver of OpenAI's absence.

This situation illustrates the importance of "home-field advantage" and goes beyond the entry modes framework. As described in Section 2.5, China has a highly developed AI market, in which domestic firms such as DeepSeek and Baidu enjoy significant competitive advantages. LLMs developed abroad have been effectively excluded from direct commercial application within mainland China. This results in an asymmetric market. Firms such as OpenAI are effectively banned from the Chinese market, whereas domestic firms continue to develop internationally oriented products, including English-language versions available outside China. Obviously domestic Chinese firms still have to comply with international regulations if they want to expand, but market access is not equal across regions. The protection of domestic firms

in China is greater than in Europe and the US. OpenAI's absence in China confirms the importance of regulation, but perhaps more importantly, the issues that can arise from geopolitical circumstances in the global economy.

This section illustrates the multiple ways in which regulatory divergence influences market entry, product implementation, and overall decision-making. Apple and Meta used strategies of delayed and selective product implementation. Both remained committed to the European market but modified the timing, scope of features or degree of product integration in response to uncertainties about regulatory requirements. OpenAI threatened withdrawal by publicly signaling its willingness to leave the European market during negotiations of the AI Act but ultimately continued to operate there. The Chinese market shows the highest barriers to entry, given its prioritization of domestic firms. These examples show the continued importance of CAGE distance and entry modes in international strategy. The next section shifts from concern with the conditions under which firms enter markets to the requirements for developing internal systems of regulatory compliance once a decision to participate in a regulated market has been made.

3.4 Compliance Cost and Organizational Structures

While the preceding section addressed whether and how firms enter regulated AI markets, market entry represents only the initial stage of regulatory exposure. Once firms commit to operating within a particular jurisdiction, they must also modify internal organizational structures to satisfy continuing requirements for compliance. For AI applications, these requirements generally include documentation, risk assessment, data governance, human supervision, model monitoring, security controls and legal review. As a result, firms incur direct costs and are faced with decisions related to managerial direction, technical staff and product

development functions. This section will look at compliance and organizational structures as another channel through which AI regulation affects international business strategy. The analysis covers several related issues: direct and indirect AI compliance burdens, internal governance structures, and the emerging market of outsourced AI compliance. This section will look at the EU, US, and China, though the availability of cost data differs significantly across these regions.

Compliance costs for AI systems are difficult to estimate precisely because they depend on firm size, complexity of systems, risk classifications and existing infrastructure for compliance. Quantitative information is most extensive for the EU and UK, where requirements for documentation, monitoring and internal control are well defined by the AI Act and other digital regulations. In contrast, compliance with AI requirements is less centralized in US because firms rely on voluntary mechanisms, agency enforcement, state regulations and obligations specific to their industry, rather than on compliance with a single comprehensive law for AI. China represents an additional limitation to cost estimation, as expenditures for CAC approval, registration and content monitoring are not reported in an easily accessible manner. As a result, the discussion is largely restricted to cost data for the EU/UK, compliance trends in the US, and qualitative comparisons with China in later ecosystem discussion.

So far, much of the thesis has focused on examples with large firms. Using data from small firm surveys is a good indicator of how regulation impacts an important backbone of the economy. Large tech firms often have an easier time absorbing fixed compliance costs given dedicated compliance departments and legal teams, which can minimize costs in proportion to revenues. Whereas small firms are more likely to perceive requirements for compliance with regulations as a restrictive constraint, because resources compete for various uses among departments. Consequently, small firm survey results reveal where regulatory pressure is felt

most and provide an important basis for the thesis: compliance burdens differ among firms, restricting some while potentially strengthening large firms better able to absorb costs.

A survey of EU and UK small technology firms in 2025 revealed that most firms expected moderate annual compliance costs of USD 5,000 to 25,000 or 50 to 200 hours of staff time. Additional costs of USD 25,000 to 100,000 or 200 to 500 hours of staff time were expected by 26%, and very high costs exceeding USD 100,000 and requiring 500 hours of staff time were expected by 5% (TechnoMetrica, 2025a). These results represent firms with 1 to 250 employees and revenues below USD 35 M. As a result, they reflect the segment of firms for which compliance represents a substantial operational constraint. These estimates are lower than some general estimates of compliance costs for the AI Act because most small firms do not implement high-risk systems and thus face substantially less regulatory obligation than providers of high-risk or general-purpose AI systems. Nevertheless, the study confirmed that regulatory requirements affect firms beyond direct legal compliance. Delays in product development were attributable to requirements for regulatory approval, data security and privacy, uncertainty about regulatory requirements, documentation and audit procedures and costs of compliance. In addition, more than one-third of developers eliminated or reduced the degree of certain technical features in order to comply with EU regulations (TechnoMetrica, 2025a). This shows that compliance costs are just one factor among many including staffing, product development, and internal capacity for compliance.

The US study from the same association confirms that firms operating in the US are subject to more fragmented requirements covered in Section 2.4. Among small technology firms, regulations remained a substantial barrier to adoption: 21 percent reported major impediments to the use of AI, 25 percent reported moderate effects and 24 percent reported no effect

(TechnoMetrica, 2025b). Major concerns associated with delays in implementation included requirements for compliance and approval, protection of privacy and security, uncertainty about regulatory requirements, and requirements for transparency, ethical behavior and integration of AI applications across employees and products. That said many firms are pre-emptively adapting internally to comply with expectations for AI use. A formal written policy for the use of AI was reported by 38 percent of firms, by 34 percent in an informal manner, and by an additional 17 percent with plans to develop a policy (TechnoMetrica, 2025b). This shows that even in the absence of comprehensive AI regulation, firms are already adopting internal governance structures. AI policies in the US are not simply a compliance obligation but a strategic response to mitigate operational risk, reputational risk, satisfy consumer demand, and facilitate AI integration across departments and products.

These sentiments and pre-emptive changes prove that firms adapting to AI regulation undergo some degree of organizational change. Compliance is not just a cost related to market entry or one-time legal fee, but it represents an ongoing commitment that encompasses management, policies and procedures, and coordination among information systems, legal, and senior management teams. The Stanford AI Index referenced in earlier sections describes responsible AI as involving not only technical goals such as safety, fairness, transparency and privacy, but also governance mechanisms, accountability and enforcement (Stanford HAI, 2026). This speaks to the corporate culture that firms should adopt in the current climate. Senior leaders must delegate parties responsible for risks associated with AI including how systems are documented, how results are monitored and how flags are escalated. This falls in line with the NIST AI Risk Management Framework discussed in Section 2.4 that requires firms to Govern, Map, Measure and Manage functions. It is also similar to the formal AI Act obligations in the

EU, which require documentation, risk management, transparency, human oversight and post-market monitoring for high-risk systems. The key difference being that the US governance frameworks are more voluntary and are often viewed as business-risk management.

As AI regulatory compliance continues to shape firm structures, its emergence has also sprouted an off-shoot industry in outsourced compliance. As organizations develop policies for AI applications, allocate responsibility for AI risk and implement mechanisms for governance, demand increases for specialized expertise. AI governance thus represents a developing professional specialty for which many organizations already are implementing programs and seeking additional capacity (IAPP, 2025; Credo AI, 2025). Large organizations respond primarily by developing internal functions for AI governance, risk management or responsible AI. Small organizations, in contrast, rely predominantly on external legal counsel, consultants, auditors and specialized software to interpret obligations and implement operational procedures. This establishes a secondary market for AI regulation. These firms offer services such as AI Act readiness assessments, model-risk inventories, documentation systems, bias and transparency audits, employee training and monitoring tools (Credo AI, 2025). This industry development adds nuance to the notion that regulation exists only as a burden to firms. While it's true that firms deploying AI systems are likely to experience increased costs and development different governance practices, it also creates commercial opportunities for specialized advisory, technical, and legal services. It also provides firms with strategic alternatives to dealing with compliance only in-house. Rather than build governance systems from scratch, firms have the option to streamline the process with outside providers. Though it does not relieve them of compliance obligations, it can eliminate a potential drain on internal resources by shifting costs from variable

to fixed. Once again, firm size may influence the decision to contract a third-party, as larger firms may have the capacity to handle compliance obligations in-house.

China's compliance environment differs from both the European and US patterns discussed above. In contrast to the other regions, Chinese businesses must operate within an approval-based system governed by CAC registration, content review, and security evaluation requirements described in Section 2.5. This makes compliance more a matter of domestic market access. Non-conformance with approval requirements does not necessarily increase costs, but limits opportunities for operation. While Western-style consulting firms exist in China, the lack of publicly available data makes it difficult to observe trends related to third-party engagement and cost structures. This lack of transparency makes China an interesting case as it relates to analyzing global compliance patterns and is a possible avenue for research should survey or other data become more accessible.

In addition to influencing market entry and rollout decisions, AI regulation has a clear impact on compliance structures and related costs. The survey evidence shows compliance obligations create significant challenges, particularly for small businesses. These challenges include not just direct costs but also decisions about product design and personnel. Many firms have developed internal policies, procedures and systems of risk management, whereas others are considering outsourcing some of these activities. Control over costs of compliance and of organizational structure represents an additional important component of international business strategy. The following case studies will illustrate the ways in which particular firms approach these changing conditions.

3.5 Case Studies

The previous sections examined AI regulation with respect to investment flows, patterns of market entry and costs of compliance. Here the analysis shifts to firm-level case studies illustrating the experience of regulatory divergence for firms in different positions along the AI value chain. The selected firms – AMD, Mistral, DeepSeek, SAP and xAI – provide a look at firms using AI in different ways, across different regions, functions, and competitive positions. They include an American semiconductor firm subject to export controls, European and Chinese developers of foundation models operating under different regimes of regulatory control and industrial policy, a European enterprise software provider, and a major AI company recently acquired by SpaceX. The aim is not to provide a historical overview but to use this firm-specific evidence to apply the analytical frameworks introduced in prior sections. Section 3.6 then compares the cases to assess how far regulatory divergence affects competitive advantage, market access and strategic flexibility across firms.

Advanced Micro Devices, Inc.

Advanced Micro Devices, Inc. (AMD) is a US based semiconductor company headquartered in Santa Clara, California. The company was founded in 1969 as a Silicon Valley startup and is publicly traded on NASDAQ under the symbol AMD. It has since become a major supplier of high-performance computing and AI-related semiconductor products (AMD, 2026a). The company employed approximately 31,000 people at the end of fiscal year 2025 and operates in three reportable segments: Data Center, Client and Gaming, and Embedded. The Data Center segment represents the direct implementation of AMD's AI strategy and includes server processors and specialized chips that power cloud computing and AI workloads for hyperscale customers. The Client and Gaming segment produces chips for personal computers, laptops, and

gaming consoles, including newer processors designed to run AI applications. The Embedded segment serves industrial, automotive, and aerospace customers with chips used in specialized applications. CEO Lisa Su has lead the company since 2014, and AMD has evolved from a weak competitive position to becoming a direct challenger to firms such as NVIDIA in the growing AI accelerator market (i.e., market for microprocessors that are specifically designed for AI tasks).

Internationalization in this case is less about entry into local consumer markets and more about global product availability via semiconductor supply chains, customer relationships and export controls. Consequently, the strategy of AMD is most appropriately evaluated in terms of interactions between US export controls, demands of Chinese and international customers and indirect influences of regulations on AI technologies via customers operating AMD equipment in regulated markets.

Table 1

AMD selected financial and AI-relevant indicators, 2023–2025

Metric	2025	2024	2023
Total Revenue	34,639	25,785	22,680
Cost of Sales	16,456	12,114	11,278
Gross Margin	49.5%	49.4%	46.1%
Data Center as % of revenue	48.0%	48.8%	28.6%
Client & Gaming as % of revenue	42.0%	37.4%	47.9%
Embedded % of revenue	10.0%	13.8%	23.5%
R&D total	8,091	6,456	5,872
R&D as % of revenue	23.4%	25%	25.9%
China revenue as % of total revenue	22.4%	24.2%	15.1%
International revenue as % of total revenue	67.2%	66.3%	65.4%

Revenue growth year-over-year	34.3%	13.7%	(4%)
----------------------------------	-------	-------	------

Note. Data are taken from AMD's Form 10-K for the fiscal year ended December 27, 2025. Figures are reported in USD millions unless otherwise stated. Percentage shares of revenues are calculated by the author using reported figures. Fiscal years refer to AMD's fiscal reporting periods.

Table 1 trends show that AMD's financial growth is accelerating and increasingly shifting towards AI infrastructure. Total revenues increased by approximately USD 12 BN over the past three years with year-over-year growth of 34.3 percent from 2024 to 2025. The most apparent structural shift is the rise in Data Center revenue which increased from 28.6 percent of the firm's revenue in 2023 to 48 percent in 2025. Notes from the 10-K attribute this rise to strong demand for EPYC processors and Instinct GPU accelerators, which are central to cloud and AI infrastructure (AMD, 2026a). Client & Gaming, while decreasing as a percent of total revenue have increased from the weaker demand in 2023. The Embedded segment has continued to decline in both gross revenue and as a percentage. Gross margin figures represent a stable, gradually increasing trend, though 2025 figures are bolstered by approximately USD 440 M in net inventory and related charges stemming from US export controls on AMD Instinct MI308 Data Center GPU products (AMD, 2026a). The above table also covers geographic trends, which reveal AMD's international exposure. International revenue excludes the US but includes China, Taiwan, Singapore, and other regions and accounts for roughly two-thirds of total revenue. China (including Hong Kong) is a major part of this exposure, increasing from 15.1 percent in 2023 to 22.4 percent in 2025. This indicates that financial performance is increasingly tied to international demand and markets affected by trade restrictions.

The company is projecting to continue its AI infrastructure shift as the Q1 2026 investor presentation showed strong growth in Data Center segment (AMD, 2026b). The presentation bases future growth expectations on continued leadership in data center products, cloud and rack-scale solutions, open software platforms and broad capabilities for AI applications across all product lines. The technical specifications of each product are not the focus of the thesis but reveal AMD's overall strategic direction. Rather than compete at the component level, AMD seeks to become a leading provider in AI infrastructure. The subsequent analysis will look at this growth in the context of international expansion and regulatory exposure.

Although not formally AI-specific regulation, US export controls serve as the primary regulatory vehicle by which government policy influences global competition for AI hardware. The geographic data shows that while AMD generates a large share of revenue from China, it is affected by trade restrictions on certain products. While these restrictions do not bar AMD from selling on the Chinese market, they have the potential to disrupt one of the company's most strategically important segments. In October 2022, the US Department of Commerce Bureau of Industry and Security implemented new export controls on advanced computing and semiconductor manufacturing equipment to limit China's access to and development of advanced semiconductor capabilities. These were later expanded to include additional advanced chips and equipment (Bureau of Industry and Security, 2022). For AMD, this became relevant in 2025 when new licensing requirement affected one of the company's Data Center GPU product lines. AMD recorded inventory and related charges, subsequently reversed in part as licenses for product sales to China were issued, and stated that future sales to China will be determined by customer demand, Chinese import regulations and availability of US licenses (AMD, 2026a).

AMD's approach to regulation differs from that of companies offering consumer-facing AI or enterprise software. Instead of adapting to AI-specific regulations or frameworks via procedural change, modifying features, or adjusting rollouts, the company focuses on export compliance, product planning, customer management and decisions about inventory holdings. The 2025 GPU inventory notes in the 10K show how regulation can impact international operations. A product developed for a particular market can be subject to new licensing requirements, requiring re-evaluation of shipments, inventory, commitments to customers and future designs for the product. As a result, export licenses have become a part of the AMD's strategic planning, as opposed to a one-time legal issue. The firm must ensure both the technical and commercial viability of its products under evolving conditions of US and Chinese regulations.

This further shows that AMD's adaptation is more supply-chain oriented than focused on organizational restructuring. Unlike firms that apply AI directly to end users, AMD's primary objective is not to redesign end-user AI capabilities or to establish rules for model governance. Instead, it relies on its capacity to control export compliance, commitments to customers, product eligibility and integration of supply chain operations in the face of evolving regulatory requirements. As a result, AMD's internationalization is more consistent with export-oriented participation in global value chains than with access to local consumer markets. While specific entry mode is less relevant, the administrative dimension of the CAGE model is still applicable given the varying requirements between the US and China.

This case study supports the thesis in a nuanced way. AMD continued to generate strong international revenues, including from China, despite restrictions on certain advanced data center products. However, export controls, at least temporarily, limited participation in one of the most

valuable sectors of the Chinese AI market. This highlights the understanding that AI regulation may not merely block market access but lead to reduced availability of products in a strategically important market. For AMD, the financial effects may be acceptable at a firm-level given its size and strong market positioning. But it shows that regulation can limit access to markets, reduce flexibility, and affects companies different depending on where they fall in the AI value chain.

Mistral AI SAS

Mistral AI is a French AI company based in Paris and founded in April 2023 by Arthur Mensch, Guillaume Lample and Timothée Lacroix. Mensch serves as CEO, Lample and Lacroix share titles of co-chief science officer (CSO) and co-chief technology officer (CTO). The startup company is privately held and does not publish audited annual financial statements. As such the case study will base financial information on publicly released company documents, disclosures, and analyst reports. Mistral's product offering officially includes foundation models, developer tools, enterprise applications, model customization services and compute infrastructure for training and inference. Among the user-facing products is Vibe (formerly Le Chat), which functions as a conversational interface for tasks and projects (Mistral AI, n.d.). As such, it represents Europe's biggest attempt to build a generative-AI company capable of challenging dominant American and Chinese model providers. In addition, Mistral's business model plays into the region's regulatory and political environment. For European businesses and public-sector customers facing stricter regulation, Mistral's ability to exercise greater control over data residency, customization and infrastructure represents a possible competitive advantage.

Table 2

Mistral AI selected financial and strategic indicators, 2023–2026

Indicator	Reported Figure
Series C funding round	EUR 1.7 BN (approx. USD 2 BN)
Valuation after Series C	EUR 11.7 BN (approx. USD 13.8BN)
ASML investment	EUR 1.3 BN, (approx. USD 1.5 BN)
ASML ownership stake	Approx. 11 %
Debt financing for Paris-area AI infrastructure	USD 830 M
Nvidia chips for Paris-area data center	13,800
Planned Paris-area data center capacity	44 megawatts
Planned Sweden data-center investment	EUR 1.2 BN (approx. USD 1.4 BN)
Planned Sweden data-center capacity	23 megawatts
Target European compute capacity by end-2027	200 megawatts
Annualized revenue run rate (mid-2026)	> USD 400 M
Prior-year annualized revenue run rate	Approx. USD 20 M
Enterprise customers	>100
Share of revenue from Europe	Approx. 60%
Reported ARR target for end-2026	> USD 1 BN

Note. The table combines confirmed financing and infrastructure announcements with reported revenue indicators from financial press sources. Figures have been converted to USD where applicable using the exchange rate at the time of Series C funding.

While Mistral's financial performance cannot be assessed in the same manner as publicly traded firms, the presented evidence in the above table showcases the firm's rapid capital accumulation, commercial growth and strategic shift in asset mix. The Series C financing completed in September 2025 (Table 2) resulted in the highest level of capitalization for any European foundation model company and ASML, a European semiconductor equipment firm, the largest shareholder (Lo Nostro, 2025). The 2026 debt financing for Paris-area data center capacity ties to Section 3.2 and represents a desire for European firms to reduce dependence on US cloud infrastructure by building EU compute capacity (Mukherjee & Marchandon, 2026). Financial Times reporting confirms annualized has grown significantly over the past year with approximately USD 20 M in 2025 to a projected USD 1+ BN for year-end 2026 (Financial Times, 2026). Together these indicators point to the startup's financial strategy combining capital raises, infrastructure investment, and leveraging European demand to compete as a full-stack AI provider rather than as a model-only company.

Mistral's regulatory exposure is primarily within the EU, where it incurs obligations under the AI Act and benefits from regulatory alignment. As a provider of foundation models, the company is subject to the requirements for GPAIs discussed in Chapter 2. This is important because GPAIs are subject to different regulatory requirements than risk categories applied to specific AI systems. To recap, GPAI providers must prepare technical documentation, convey relevant information to downstream providers, implement policies for compliance with EU copyright laws and provide a summary of content used in training. Additional requirements apply if the model is classified as presenting systemic risk, including requirements for evaluation of risk, implementation of risk mitigation measures, reporting of serious incidents and application

of measures to ensure cybersecurity. This is an instance where the AI Act applies directly to a company's core activities.

Mistral has positioned itself to succeed in this regulatory environment. The company's regulatory exposure is closely linked to its model-release strategy. It has released several models with open weights, allowing users to deploy and use the fully-trained model parameters rather than relying solely on a closed API, which in other words is a software interface where users or developers send requests to the model. This provides an attractive option for enterprise and public-sector customers seeking greater control over implementation, adaptation and use of data. In addition, it is consistent with requirements for transparency, compliance with copyright laws, documentation and control of downstream applications under European conditions of regulatory oversight. This open model design represents a strategically important aspect of Mistral operations. It reflects both technical design choices and efforts to distinguish the firm from more-closed US providers of large-scale models. Finally, it supports the development of a business model consistent with European preferences.

Overall, Mistral illustrates that AI regulation is not merely a compliance burden but can also help define a firm's strategy. As a provider of GPAI, Mistral faces compliance obligations related to documentation, transparency, copyright and risk management. Simultaneously, its European origins, open-weight strategies and emphasis on controlled deployment mirror the concerns of the local customers. This is not necessarily proof that EU regulations help provide a sustainable differentiated competitive advantage, since the company is still young and has yet to develop a lasting presence in either the American or other markets. However, this case study does indicate that at least one firm is well-positioned in a more tightly controlled market.

Hangzhou DeepSeek Artificial Intelligence Basic Technology Research Co., Ltd.

DeepSeek, which officially goes by Hangzhou DeepSeek Artificial Intelligence Basic Technology Research Co., Ltd, is a Chinese foundation model company based in Hangzhou. The company was established in 2023 by Liang Wenfeng, who also founded the hedge fund High-Flyer that supported early development of DeepSeek (MIT CSAIL Alliances, 2025). DeepSeek arose from AI research activities at High-Flyer and became a separate entity as a dedicated AI company in 2023 (Cusumano, 2025). It became more internationally known in January 2025 with the release of DeepSeek-V3 and DeepSeek-R1, LLMs popular for their open-weight distribution, low reported costs of training and superior performance relative to leading US models. For this thesis, DeepSeek is important because it combines several themes already discussed: Chinese state-regulated AI development, US export controls on advanced chips, open-weight model distribution and the idea that regulatory pressures can shape international competition.

Table 3

DeepSeek selected cost, scale and market indicators, 2023–2025

Indicator	Reported Figure
Estimated employees	Approx. 200
Reported DeepSeek-V3 training cost	Approx. USD 5.6 million
Reported training hardware for V3	Approx. 2,000 Nvidia H800 GPUs
Estimated broader GPU access	Up to 50,000 Hopper-class Nvidia GPUs
Estimated broader development cost	Approx. USD 1.3 BN
DeepSeek-V3 API pricing, input tokens	USD 0.07 per million tokens
DeepSeek-V3 API pricing, output tokens	USD 0.11 per million tokens

DeepSeek-R1 API pricing, input tokens	USD 0.55 per million tokens
DeepSeek-R1 API pricing, output tokens	USD 2.19 per million tokens
OpenAI GPT-4o API pricing comparison	USD 15 per million input tokens; USD 60 per million output tokens
Nvidia market reaction after DeepSeek release	Approximately 17 percent share-price decline and USD 589 BN in market value loss
Model distribution	Open-weight release; MIT license

Note. Data compiled primarily from Cusumano (2025), with support from MIT CSAIL Alliances (2025). All estimates are reported by third-party research and should not be interpreted as actual expenditures or profitability.

Once again, DeepSeek proves to be another firm to analyze financially due to being a Chinese startup with nondisclosed revenues and margins. The most useful financial information relates to cost structure, pricing and market effects, rather than to measures of profitability. Training DeepSeek-V3 required about USD 5.6 M on roughly 2,000 Nvidia H800 GPUs. By comparison development of ChatGPT-4 is estimated to have cost OpenAI more than USD 100 M (Cusumano, 2025; MIT CSAIL Alliances, 2025). These comparisons should be interpreted cautiously, because the figures reflect only costs for a reported period of training and not for total company expenditures on hardware, engineering labor and prior research. Cusumano (2025) notes that outside estimates place DeepSeek's broader resources much higher, including possible access to as many as 50,000 Hopper-class Nvidia GPUs and approximately USD 1.3 BN in broader development costs. Nevertheless, the strategic message is important. Training of a frontier AI model did not require the same level of investment in infrastructure and expenditures on research as are typical for leading US firms.

Another indicator of DeepSeek's relatively lower cost structure can be seen in its model pricing. DeepSeek provided access to its models at prices substantially lower than American competitors. API pricing reflects the cost incurred by developers or firms for submitting text to a model and obtaining generated output in return. Generally speaking, these input tokens represent pieces of text supplied to the model, and output tokens represent pieces of text generated by the model for return to the user. DeepSeek priced V3 at USD 0.07 per million input tokens and USD 0.11 per million output tokens, compared with a cost for input tokens of USD 15 per million input tokens and USD 60 per million for OpenAI's GPT-4o (Cusumano, 2025). This seemingly absurd price difference does not prove DeepSeek is more profitable, but it points to a significantly lower cost structure that rattled markets at the time. Upon DeepSeek's release, shares of NVIDIA plummeted nearly 17 percent, erasing USD 589 M in market value. This represented the worst single-day loss in market cap in history, briefly allowing Apple to overtake NVIDIA as the world's most valuable firm. The prevailing analysis for this decline came from investor belief that demand for expensive AI infrastructure would be significantly weakened if lower cost models became more scalable (Cusumano, 2025; MIT CSAIL Alliances, 2025). DeepSeek's entry into the global market is a prime example of how cost and pricing strategy can disrupt market assumptions for AI models.

DeepSeek's regulatory exposure starts in China, which as previously stated, requires registration and approval from the CAC. Compliance with national security, content controls and political-alignment provides a basis for protected access to the home market that is difficult for international competitors to achieve. This leads to a structural capacity for taking strategic risks abroad, including the release of open-weight models internationally with no immediate

requirement for financial returns. Such a position would be comparatively different for a firm in the US or EU to achieve given the relative lack of state-sanctioned market protection.

Internationally, DeepSeek is exposed to export controls on advanced AI chips, particularly from the US. These measures were intended to limit access to the most powerful computing hardware, but ultimately demonstrated that blocking Chinese firms from competing had an unintended consequence. The restrictions stimulated a greater emphasis on efficient methods of model development, including lower costs of training, open distribution of weights and aggressive pricing of APIs. This raises concerns about the effectiveness of US trade restrictions, leading some observers to argue that the restrictions forced Chinese AI firms to emphasize optimization of available resources (MIT CSAIL Alliances, 2025). In this case, regulations apparently did not limit DeepSeek but spurred innovation, efficiency, and shifted commercial strategy.

Within the EU, DeepSeek's regulatory standing is a bit more ambiguous. CSIS describes DeepSeek as both an opportunity and a regulatory concern for Europe. It provides an approach for lower-cost frontier models to compete with American ones, but there are also concerns regarding privacy, safety, security and dependence on Chinese technology (Caroli, 2025). These concerns are already reflected in enforcement actions. European data protection authorities in several countries obtained information from DeepSeek, and Italy blocked access to the application as it deemed information provided by the company was inadequate. CSIS has stated the firm's privacy policy does not comply with GDPR regulations, as it is unclear if data stored in China conforms to requirements. This shows that the firm's international reach and cost advantages do equate to regulatory adaptation internationally.

In terms of organizational adaptation, DeepSeek is a challenge to assess. It discloses little about its internal systems of governance, staffing or compliance procedures. More is known regarding its operational strategy of efficiency and lower-cost access modes. It has a small reported workforce and is designed to compete with larger US firms despite potential capital and hardware constraints. This model points to DeepSeek's ability to expand internationally.

This case study shows how regulation shapes international competition in unforeseen ways. Chinese regulation provides domestic firms with a protected market, while some controls like in the US seem to have backfired and encouraged foreign competition. DeepSeek's low-cost open-weight model has allowed the firm to expand internationally without relying on large-scale operations. In the face of challenges in the EU over data protection, DeepSeek as a case study provides a clean look at how a non-Western firm operates strategically in the AI regulatory environment.

SAP SE

SAP SE is a German enterprise software company headquartered in Walldorf, Germany. Founded in 1972, the company has become one of the world's largest providers of business software with more than 110,000 employees and operations in more than 180 countries (SAP, 2026). Its major products provide support for critical financial, procurement, human resources, supply chain and customer relationship management activities. In recent years, CEO Christian Klein has pursued AI as a fundamental component of its enterprise software strategy, rather than as a stand-alone product for consumer applications. As a result, the company is substantially more highly regulated than providers of foundation model technology. Its exposure is based upon practices, which include embedding AI into enterprise workflows, customer data systems and

regulated business operations. This makes SAP a relevant case study for how AI regulation shapes a large, well-established enterprise software company relying on AI to maintain its competitive edge.

Table 4

SAP selected financial metrics, 2023–2025

Metric	2025	2024	2023
Total Revenue	36,800	34,176	31,207
Total cost of revenue	9,986	9,243	8,674
Gross Margin	72.9%	73%	72.2%
Cloud revenue	21,023	17,141	13,664
Cloud revenue as % of total	57.1%	50.2%	43.8%
Software licenses revenue	990	1,399	1,764
Software support revenue	10,525	11,290	11,496
R&D total	6,633	6,514	6,324
R&D as % of revenue	18%	19.1%	20.3%
Revenue outside Germany	30,972	28,809	26,289
Revenue outside Germany as % of total	84.2%	84.3%	84.2%
Operating margin	26.1%	13.6%	18.6%

Note. Figures are reported under IFRS and are in millions of euros. For rough comparability with USD case studies, SAP’s 2025 total revenue of €36.8 BN was approximately USD 43.2 BN using SAP’s reported December 31, 2025 exchange rate of 1.1736 EUR/USD. Percentages are calculated by the author. The outside-Germany figure is author-calculated from the regional revenue table. Data from SAP Annual Report 20-F.

The financial metrics above confirm SAP as a large, profitable, highly international enterprise software company. In 2025, total revenue of EUR 36.8 BN included approximately EUR 31.0 BN (84.2%) generated outside Germany (SAP, 2026a). This international exposure makes it particularly important that SAP products conform to regulatory requirements across jurisdictions. The revenue mix provides a snapshot into the company's direction. Revenue from cloud services increased from EUR 13.7 BN in 2023 to EUR 21.0 BN in 2025 (representing 43.8% and 57.1% of total revenue, respectively), whereas revenue from software licenses declined from EUR 1.8 BN to under a billion over the same period. This reflects the general shift from perpetual-license software to cloud-based models of service delivery and exposes SAP to requirements for data residency, security and compliance in each jurisdiction where customers operate. In addition, gross margins remained high (approximately 73%) and R&D expenses continued a stable trend totaling EUR 6.6 BN in 2025. This suggests the firm has ample funds to comply with regulations while integrating AI into its existing and future enterprise systems. Whereas other case study firms' AI strategy centered around hardware and GPAI development, SAP has used AI in a different way: integrating it into its cloud ERP, business data, workflow automation, and regulated business products.

SAP's regulatory exposure reflects its role as an enterprise provider of AI and cloud software, rather than as an independent developer of foundational models. As discussed in Chapter 2, compliance obligations depend on the firm's role in the AI value chain. SAP may serve as provider, deployer, purchaser, integrator or developer of AI systems, while its customers may also serve as deployers using SAP AI tools for their own regulated operations (SAP SE, 2026d). This is important because the AI Act's deployer-side obligations impact what enterprise customers need to obtain in part from SAP, including human oversight, monitoring, logging,

documentation and data governance. Products like SAP's Joule AI assistant and embedded AI features in SAP Cloud ERP and SAP Business Technology Platform are exposed to both SAP's own requirements and customers' compliance expectations.

In contrast to newly emerging AI companies that must develop regulatory governance procedures for AI from scratch, SAP already complies with extensive requirements for data protection, cybersecurity, audit and certification. Its Responsible AI page emphasizes aspects of ethics, security and compliance, including evaluation of AI applications, risk classification and implementation of internal procedures (SAP SE, 2026d). Likewise, its Trust Center and Joule Agents compliance disclosures show internal AI governance consistent with auditability, regulatory compliance and human oversight, specifically in compliance with the AI Act for its agents (SAP SE, 2026b; SAP SE, 2026c). The end-result is that new AI regulatory requirements do not dramatically shift the organizational structure. Given that most of the company's revenues are generated outside of Germany, this depth of regulatory experience positions SAP to succeed in other compliance environments.

SAP's organizational adaptation is best shown with its branded AI assistant and enterprise agent layer, Joule. Rather than delivering AI as a public chatbot, SAP integrates AI into many business processes. This creates a design-for-compliance approach because it integrates AI into systems that customers already expect tighter controls. SAP's implementation includes a strategy for sovereign cloud operations. In 2025, the company announced partnerships with Mistral AI, Bleu and Capgemini at the Franco-German EU summit on digital sovereignty, to provide secure and scalable AI-based solutions for sovereign cloud services. This includes a full-stack model for sovereign cloud services based on data centers, trusted European infrastructure or on-site management (SAP SE, 2026a). This shows that SAP is not only meeting compliance obligations

but leveraging concerns about data sovereignty, residency and control into competitive advantages for product development.

SAP provides an additional example of the competitive and strategic effects of AI regulation. As an incumbent of enterprise software, it encounters regulation largely in the customer data environments and business processes for which its products operate. Compliance with the AI Act increases costs but also enhances its value as a trusted provider of enterprise software capable of helping customers fulfill compliance obligations. Its long experience with GDPR, cloud-based compliance, and providing services to highly-regulated enterprise customers provide SAP with a competitive advantage over new entrants that must develop these capabilities. In this case, regulation does not impede market participation but increases the competitive value of incumbent firms with robust systems.

X.AI LLC (Dissolved)

xAI was a US-based frontier AI company founded in March 2023 by Elon Musk. The company produced Grok, a frontier large language model and real-time information-access AI assistant integrated with the X (formerly Twitter) social media platform (xAI, 2023). Its independent corporate lifespan was brief. In March 2025, the company acquired X and merged its AI model business with a social media infrastructure and real-time data sources. In February 2026, xAI was acquired by SpaceX, another Elon Musk-founded company. SpaceX valued the company at approximately USD 250 BN. And Reuters reported that xAI was spending cash at a rapid rate, burning through USD 7.8 BN in cash in the first nine months of 2025 (Reuters, 2026). Ultimately in May 2026, xAI was dissolved as a separate company and incorporated operationally into the AI activities of SpaceX (Root, 2026). Although xAI is no longer an

independent entity, its three-year existence from startup to SpaceX division is well-documented in corporate announcements, financial press reporting, and regulatory proceedings

Table 5

xAI selected corporate, financial and regulatory indicators, 2023–2026

Indicator	Reported Figure
Founded	March 2023
Main product	Grok, a general-purpose AI assistant integrated with X
Acquired X	March 2025
Acquired by SpaceX	February 2026; all-stock transaction valuing xAI at approximately USD 250 B
Dissolved	May 2026
Current status	AI division of SpaceX
Total funding raised before acquisition	More than USD 12 B
Key assets	Grok, X social platform, Colossus supercomputer, data centers
Main regulatory dimensions	EU AI Act, EU DSA, data protection, infrastructure/environmental regulation and US government procurement

Note. Data compiled from Reuters reporting, SpaceX S-1/A filings, and press sources. xAI was dissolved as an independent entity in May 2026 and now operates as SpaceXAI, the AI division of SpaceX.

The corporate and financial indicators in the table above reveal xAI’s main challenge was not necessarily market demand but the cost of sustaining frontier AI development without a

strong corporate backing. The reported cash burn illustrates the speed at which capital can be consumed for model training, data center construction, purchase of GPU computing capacity and integration of technology. But it also points Elon Musk's philosophy when it comes to business strategy. His acquisition of Twitter/X was not only a financial transaction, but also an effort to control a speech platform, source of data and distribution channel for future AI products. CNN reported that financial analysts later marked down the value of X substantially after the acquisition, showing that the platform's strategic value to Musk did not depend only on short-term financial performance (Egan, 2024). Similarly, the absorption of xAI into SpaceX represented an extension of a strategy to integrate AI infrastructure into long-term objectives. Aside from the ideological reasons of absorbing xAI into SpaceX, the financial component shows the difficulty smaller frontier AI firms have in remaining solvent and points to potential consolidation for other firms in the future.

Despite its turbulent corporate history, xAI is relevant because it experienced unusually broad regulatory exposure for a young company. General-purpose AI regulation exposed the firm to requirements of the EU AI Act described in Section 2.3. Acquisition of X provided additional experience with platform regulation, because X had already been designated as a very large online platform under the DSA (European Commission, 2023). The company added a physical infrastructure dimension with the Colossus supercomputer and datacenters, since frontier AI development required large-scale computing capacity, power use and data-center expansion. xAI also added government-facing AI products with a national-security and public-procurement dimension. This put xAI in the unique position among the few firms that combine model governance, platform regulation, infrastructure regulation, and government AI procurement within such a short corporate life cycle.

xAI's organizational adaptation is less documented given its short stint as an independent subsidiary of a public company, but it is clear that the compliance model differed from other previously mentioned firms. As a private American tech startup, its strategy was more aggressive and founder-driven rather than modeling itself on a conventional compliance-based organization. Its main adaptation was being absorbed into a much larger firm with the same founder, so its technologies could be applied across a greater range of business processes. A key takeaway from this case extends beyond just the financial and regulatory challenges faced by firms but the impact of corporate restructuring.

3.6 Comparative Analysis Regulatory Divergence and Firm Strategy

This section compares the five case studies to test the thesis hypothesis that greater regulation of AI reduces competitive advantage and impedes international market entry. Each selected firm in Section 3.5 reflects a different position on the AI value chain including hardware design, foundation model development, enterprise software, AI infrastructure and platform integration. In addition, they reflect different geographic origins and regulatory regimes for firms based in the US, the EU, and China. While no single case definitively proves the hypothesis, collectively the results support the view that differences in regulation influence patterns of firm behavior. In particular, regulation increases administrative distance between markets, shapes entry-mode decisions, and limits the capacity for standardization of AI products across jurisdictions. However, the effects are not uniform. In some instances, regulation impairs access to or reduces flexibility in international markets, as with AMD's experience with export controls or difficulties encountered by DeepSeek in Europe. In other instances, regulation can actually enhance the competitive positions of firms already adapted to the regulatory environment, as with the competitive advantages achieved by SAP with respect to its infrastructure for

compliance with regulations. The central finding based on the case studies is that regulation affects firms differently and changes the competitive landscape. Whether it becomes a barrier or advantage depends on factors including firm size, domestic market, product type, and ability to adapt.

For the firms covered, the CAGE model helps illustrate how regulatory divergence generates administrative distance between markets, though not evenly. US firms such as AMD experience relatively high degrees of freedom in their domestic market but encounter substantial administrative distance in China due to export restrictions, limits on imports and requirements for CAC approval. By contrast, the EU produces a different degree of administrative distance that rarely prevents market access, but instead requires extensive compliance with standards for risk management, transparency, and data protection. European firms like SAP and Mistral see these requirements as in-line with their home market expectations. The pattern is reversed for DeepSeek where China provides a protected home market while the increased administrative, geographic, and economic dimensions pose a challenge. However, administrative remains the most relevant dimension, as the AI environment is increasingly policy-driven and impacts cost and accessibility.

Regulatory divergence also influences patterns of entry mode decisions at different levels. AMD accesses international markets primarily via semiconductor supply chains and not through consumer-facing AI services, for which export licensing is critical. Firms that employ direct entry, such as Mistral for the European and US markets, are effectively excluded from the Chinese market. DeepSeek bypasses traditional entry modes with its open-weight models and low-cost API access. This has helped it expand internationally, despite lack of full regulatory compliance, with its economies of scale relative to its size. SAP instead has relied on long-

standing enterprise relationships and existing presence to integrate AI into its product and service offerings, reducing the need for market-entry. xAI's pattern for its short history was different in that it had direct exposure in the US and EU through Grok and X. China remained inaccessible. And US government contracting served as an entry mode into a more restrictive sector.

Another element of differences in regulation includes the degree to which firms can standardize AI products across markets. In Levitt's terms, AI firms may favor global standardization to achieve international scaling of the same model, product or infrastructure strategy. However, the case studies tend to show a pattern of adaptation. In these cases, adaptation is not necessarily changing or creating new products for each market but adapting models of governance, deployment, and infrastructure. For Mistral, adaptation is achieved in its open-weight models, European infrastructure and controlled deployment, which fit EU concerns over transparency and sovereignty. SAP's adaptation is more internalized with compliance systems built into the software itself. xAI's adaptation was less clear since Grok, X, Colossus, and government products exposed it to regulatory pressures that were eventually managed at the parent-company level. DeepSeek is the likely exception given that, despite its commercial viability, it has not yet conformed to European data-security standards among other concerns. As such, standardization is only possible to the extent a firm's business model conforms to local regulations.

Collectively, these case studies lend support to the hypothesis but with important caveats. Stricter regulatory regimes reduce flexibility, increase costs of compliance and impair access to markets, especially when operations span multiple countries and different products exist within the AI value chain. AMD's shows this through its limited access to selling advanced products in China due to export controls. For DeepSeek, the regulatory dynamic shifted to one of limited

access, as its successful low-cost open weight business model did not eliminate concerns with data protection and trust in international markets. At the same time, the cases show that firms do not operate in a vacuum. For firms operating in the US and EU, there is no preferential treatment as obligations apply equally when applicable. Thus, domestic location, firm size, strategy, and product type all influence competitive outcomes. SAP and Mistral appear to benefit from the Brussel Effect in that their adherence to comprehensive regulations has positioned them to succeed globally. For these firms, the takeaway provides a counterpoint to the hypothesis in that legislation such as the AI Act provides predictability for firms able to withstand compliance costs and make long-term investment decisions. Regulation does not uniformly weaken the firms covered in Section 3.5 but can change the competitive landscape, leaving some firms at an advantage and others at a disadvantage. It is important to note, however, that these selected firms do not represent macroeconomic environment or trends. They show how regulation impacts firm-level strategy, though broader investment data discussed in Section 3.2 provides concrete evidence for the hypothesis at a wholistic level. The final chapter discusses the theoretical and practical implications of these findings for international business strategy, their limitations and avenues for future research.

CHAPTER 4 — CONCLUSIONS

4.1 Summary of Findings

This chapter brings together findings from the prior chapters to assess the overall implications for the relationship between AI regulation and international business strategy. The key conclusion is layered: AI regulation directly affects international business strategy, but not in a simple or uniform way. Stricter regulation can raise costs, delay product rollout, reduce strategic flexibility, and make international expansion difficult. Simultaneously, it creates predictability, increases consumer confidence and gives competitive advantages to firms already adapted to operate in highly regulated conditions. The hypothesis is therefore best supported at the macro-level, where investment patterns and levels of firm concentration reflect the dominance of the US in AI development and commercialization under conditions of its more fragmented regulatory structure and pre-existing economic strengths. At the firm-level, however, the results are more complex. Case studies show that regulatory effects depend on a number of related factors. As such, the notion that regulation only weakens firms is too simplistic. A better takeaway would be that it changes the conditions under which firms compete.

The investment data from Section 3.2 best supports the claim that regulatory environment matters for competitive advantage and profitability. The high level of private AI investment, foundation model development, and infrastructure expansion among American firms points to its leadership position in AI development. The relatively lenient regulatory system has facilitated rapid experimentation and extensive capital deployment, especially in combination with the access to venture capital, cloud infrastructure and semiconductor design. However, China qualifies this conclusion. The course of AI development in China illustrates that rigorous political controls do not necessarily impede technological progress in the presence of state-directed investment, integrated industrial policies and protection of the domestic market.

DeepSeek further complicates raw financial trends, as it shows that low-cost innovation is possible: this challenges the assumption that investment volume alone translates to market viability and model quality. In summary, investment data supports the hypothesis, but competitive position depends on firm strategy.

The market-entry analysis in Section 3.3 shows that regulation generates observable and recurrent patterns of strategic approaches to internationalization. Three types of patterns were of particular importance: selective or delayed market entry, threats of withdrawal and effective non-entry. For firms operating within the EU, greater severity of regulatory requirements did not generally result in complete withdrawal from foreign markets. Instead, firms modified the timing of market entry, restricted the availability of features, suspended market expansion activities or used threats of withdrawal to negotiate expectations of future compliance requirements. The European market remained attractive and important enough to prevent complete abandonment by most large AI firms even under regulatory scrutiny. The Chinese market proved different. Major providers of foundation models based outside China experienced substantial barriers to direct market participation making effective non-entry more common. Market entry analysis shows that firm-specific factors play an important role, as one regulatory environment can produce different outcomes depending on product, data requirements, platform dependence, market size, and the firm's capacity to cover compliance costs.

The compliance analysis presented in Section 3.4 confirms that regulatory requirements influence not only decisions about market entry or investment but can lead to organizational changes and impact cost structures. Compliance costs exist, and they impact firms differently. Small firms tend to experience greater difficulty in adapting to requirements for legal review, documentation, risk assessment, monitoring, training of personnel and implementation of

systems of governance. Large firms are able to spread these costs across market operations and offerings. The emergence of AI compliance tools, consulting and advisory services, and other outsourced governance solutions, shows that regulation has created a secondary market. While this does not eliminate compliance responsibilities, it gives firms additional tools to best suit their needs. Together, the results demonstrate that AI regulation should be viewed less as a single barrier to firm performance and more as a structural condition that influences patterns of capital flows, modes of market entry and requirements for competitive capabilities.

4.2 Theoretical Value

This thesis contributes three modest extensions to the international business literature on AI regulation and firm strategy. While it does not create theoretical perspective, it instead extends existing approaches to demonstrate how AI regulation influences international strategy via administrative distance, regulatory conformance and controlled market access.

First, the thesis demonstrates that administrative distance in technology-intensive industries can be generated rapidly through policy decisions. Within the CAGE framework, administrative distance typically reflects the overall institutional differences between countries. However, in the AI sector, this distance emerges rapidly. Implementation of the EU AI Act, restrictions on US semiconductor exports and requirements for approval under China's CAC system all resulted in new barriers, obligations or requirements of compliance within a few years. As a result, firms seeking to expand internationally must not regard administrative distance as a slowly developing background condition. Rather, regulatory requirements can rapidly determine whether a market is accessible, which products can be marketed and what capabilities must be developed to achieve compliance.

Second, the thesis makes a distinction between regulation as a barrier and as an enabler. Regulation is generally viewed as a constraint on firm strategies, and our results largely confirm this perspective. Export restrictions limited access of AMD to portions of the Chinese market for AI hardware, whereas the approval process led to effective non-entry for model providers. However, the analysis shows that greater regulation does not always result in withdrawal. In the EU, firms responded with delayed rollout, narrower product scope or negotiation over compliance expectations. Apple and Meta both modified their strategies for market entry in Europe, but in different ways. Apple primarily delayed the timing of product introduction, whereas Meta delayed entry and introduced a substantially reduced version of its AI assistant. The threat by OpenAI to withdraw from the European market also served to delay market entry, rather than to trigger an actual withdrawal. These examples show that regulation affects internationalization not only through entry or non-entry, but with intermediate strategies. This further extends the discussion of standardization versus adaptation to include modifications of timing, product features, data practices and modes of public negotiation.

Third, the thesis demonstrates that caution is warranted when applying standard international frameworks to China. Wach's entry-mode typology, Ghemawat's CAGE framework and Levitt's standardization-adaptation theories are useful but were primarily developed for international business settings in which firms select among modes of market entry under transparent regimes. AI market access in China must balance state priorities, content control, security review and political alignment, which creates a barrier beyond ordinary compliance. As such, international firms do not decide on entry modes in the same way they might in the EU or US. Market access reflects the extent to which firms and technologies conform to the priorities of

the state. Traditional approaches to internationalization capture aspects of the strategic situation but need to be enhanced to cover markets such as China.

4.3 Limitations

One of the major methodological limitations of this thesis relates to the timing of analysis with respect to the regulatory cycle. The EU AI Act is the most comprehensive AI regulatory framework examined, but its implementation has not yet fully occurred and will take several years beyond this thesis to be fully understood. Rules for unacceptable practices and GPAI models are currently in effect, but additional provisions for high-risk systems are to be gradually implemented through late 2028. Much of the firm-level evidence reported here reflects anticipatory responses to expected future enforcement, rather than documented results achieved after full implementation of the regulatory system. Firm behavior is likely to differ substantially when guidelines are more well established, penalties are imposed and expectations of compliance are clarified by experience with regulatory enforcement or litigation. The assessment of early strategic effects does not represent final outcomes of the regulatory process. A more complete assessment will require long-term studies after completion of the implementation cycle to truly understand the effects. Similarly, in America there is no comprehensive AI regulation, meaning that such a system is an evolving target: a major incident or crisis that triggers a regulatory response could dramatically shift the current analysis.

A second limitation relates to difficulties in attributing firm behavior to regulation. International strategy decisions result from multiple interacting variables for which regulation is not the sole determinant. For instance, Apple Intelligence's delayed EU rollout, which was attributed to uncertainty under the DMA, was also a decision that incorporated platform strategy, resource allocation decisions, and commercial timing. OpenAI's brief threat of exiting the EU

was as much a negotiating strategy as it was a compliance response. Meta's EU feature limitations reflected data-protection concerns but also demonstrated the technical difficulties in providing a service where data-training a model is limited. So, while findings are consistent with the hypothesis, the definitive proof lies beyond regulation. Structural factors, including availability of venture capital, access to semiconductors, concentrations of skilled labor, capabilities for provision of cloud services and sizes of domestic markets, also influence competitive outcomes independently of regulatory effects. These dimensions are difficult to separate from the hypothesis and would require additional research.

The third limitation is the conclusions drawn from the case studies. These conclusions cannot be easily extrapolated to represent the market as a whole. The five firms covered attempted to provide a diverse geographic and functional spread throughout the AI value chain. However, they are not representative of all experiences of AI firms. The thesis does not include robotics firms, developers of autonomous vehicles, providers of health-related AI applications, users of financial services AI applications or developers of educational technologies, all of which encounter different types of sector-specific regulatory requirements. Certainly, some of these firms would fall under the high-risk category of the AI Act and face more demanding requirements than several of the firms examined here. In addition, while small and medium firms were covered with respect to compliance structures in Section 3.4, they are less represented than larger, more strategically important firms. As a result, the findings are more applicable for internationally active commercial AI firms, for which more information is available, as opposed to smaller, sector-specific firms for which obligations still apply.

Fourth, the thesis is constrained by the three-jurisdiction comparison characterized by asymmetry in availability of information. Firms in the US and EU are subject to financial

disclosures, communication with investors, and more transparency in terms of compliance and corporate strategy. Public firms that release annual reports and press releases provide a lens for which analytical conclusions can be drawn. Even private firms in the US and EU receive substantial media coverage and independent analytical assessment. Chinese and state-linked firms operate under different standards of disclosure. Data on financial performance, compliance costs, government support, and enforcement records are simply not as easily accessible. This creates a somewhat murky picture for firms like DeepSeek for which secondary analyses in academic literature cannot be easily compared to Western companies. This creates an unavoidable gap in analysis with respect to drawing conclusions about Chinese companies in a global regulatory environment.

Fifth, thesis focused primarily on AI-specific regulation and trade controls, but the analysis of investments and infrastructure also revealed an emerging dimension trend that was largely separate from the main regulatory framework. Environmental, energy and local planning regulations strongly influenced frontier developments of AI that increasingly relied on large-scale physical infrastructure, including data centers, GPU clusters, cooling systems, high voltage connections to the electricity grid, fiber optic links and access to land. These requirements often fall outside the specific authority of AI-regulation. The importance of these issues is already apparent with growing concerns about data-centers and their impact on environmental resources. Ireland has experienced strain on its electrical grid. Google was forced to readjust its strategy after planning to exacerbate water scarcity in drought-affected Chile. Legal challenges to unpermitted emissions delayed development of the xAI Colossus AI facility in the US. Recent disputes and media coverage over expansion of data centers in Texas illustrate the potential for AI infrastructure to generate conflicts, signaling a growing resentment towards the consequences

of AI and free-market. This indicates that the physical and environment repercussions of AI are of increasing concern and not fully captured in the analysis of existing regulation and firm strategy.

The sixth and last identified limitation of this thesis pertains to the difficulty of capturing moral, political and reputational dimensions of AI deployment with respect to the frameworks applied. International business theory applications are adequate to analyze viable commercial market strategies but fail to address greater concerns beyond market participation and profitability. Among the many concerns of the rapid development of AI systems include mass-surveillance, facial-recognition, social-credit scores, fear of unemployment, and freedom of speech. This multi-faceted concern may impact firms that have capacity to operate in a particular market but are unwilling due to ethical reasons. Or it could have a reverse effect of damaging a firm's reputation should it be perceived to be contributing to said concerns. Even comprehensive legislation that attempts to mitigate these concerns is often met with skepticism, as is the case with the EU Digital Identity Wallet, which raises fears of state overreach, platform dependence, and privacy of identity data. As mentioned in Chapter 1, AI's potential for large-scale labor disruption suggests that the broader impacts of this technology could have consequences that extend beyond the analyzed frameworks in this thesis. These concerns show why future AI regulation may need to make a stronger effort to balance commercial activity with social and environmental considerations.

4.4 Implications and Future Business Research

The results of this thesis have several practical implications for firms operating in divergent regimes of AI regulation. First, regulation must be considered a strategic variable and not merely a legal obligation undertaken after decisions to enter foreign markets. AI regulations

influence where firms allocate resources, which products they develop, at what speed they enter markets and with what requirements for organizational capabilities. Second, regulatory compatibility with the home market constitutes a source of competitive advantage. Operating in a highly demanding regime of compliance generates costs but also conveys trust to customers, regulators and business partners that value transparency, control over data and stability of legal regimes. Third, increasing availability of services for AI compliance provides firms with an external capacity for meeting obligations they cannot satisfy internally, especially for small firms with limited capacity for legal and technical compliance. Finally, administrative distance for AI should be continuously monitored and not treated as a one-time input to decisions about international operations. Requirements for export controls, for compliance with the AI Act and for approval by the CAC represent rapidly changing conditions for access to markets that require continuous provision of information on regulatory requirements.

The disparity between system-level regulation of AI and broader economic disruption reflects an important opportunity for future policy and research. The regulatory systems covered in this thesis such as the EU AI Act, American enforcement-driven patchwork of state and federal regulations, and China's one-party CAC control are more narrowly designed to manage risks of specific AI applications. None of them address the impact that AI may have on the labor market at scale. If AI ultimately displaces large shares of white-collar or blue-collar employment, available regulatory instruments may prove insufficient: not because of poor design for their stated objectives, but because those objectives fail to include goals of macroeconomic stabilization. Future work should evaluate whether extension of AI-specific regulation is appropriate for addressing macroeconomic effects, or whether separate policies need to focus more on market reform, education reform, and social welfare.

AI as a technology and its regulation are still in the formative stages. The frameworks covered in this thesis will continue to evolve as technology advances and governments refine their approaches. But this thesis confirms that regulatory differences across regions already constitute a major component of AI firm strategy, influencing investment patterns, market-entry modes, product availability, and competitive advantage. The impact is not even across firms. Regulation can increase firm costs and limit market participation, but it has the ability to create predictability and deepen customer trust for well-established, regulatory-focused firms. The firms likely to succeed most in this environment will be those that view regulation not as a burden to be minimized, but as a lasting feature of international competition. For researchers, and policymakers, the importance of understanding this relationship is critical. AI regulation will influence not only which firms compete successfully in international markets but also the direction of technological development and how the global economy is shaped.

References

- Allen, L., Pastore, G., & Red, R. (2026). *AI legislation tracker* [Interactive map]. Loeb & Loeb LLP. <https://www.loeb.com/en/general/ai>
- AMD. (2026a). *Annual report on Form 10-K for the fiscal year ended December 27, 2025*. Advanced Micro Devices, Inc.
- AMD. (2026b). *First quarter 2026 presentation*. Advanced Micro Devices, Inc.
- American Bar Association. (n.d.). *What is an executive order?* https://www.americanbar.org/groups/public_education/publications/teaching-legal-docs/what-is-an-executive-order/
- Apple. (2024, October 28). *Apple Intelligence is available today on iPhone, iPad, and Mac*. Apple Newsroom. <https://www.apple.com/newsroom/2024/10/apple-intelligence-is-available-today-on-iphone-ipad-and-mac/>
- Apple. (2025, February 21). *Apple Intelligence on iPhone, iPad, and Mac expands to more languages and regions in April*. Apple Newsroom. <https://www.apple.com/newsroom/2025/02/apple-intelligence-expands-to-more-languages-and-regions-in-april/>
- Apple. (n.d.). *How to get Apple Intelligence*. Apple Support. <https://support.apple.com/en-us/121115>
- Avezov, F. (2025, June 10). The economic impact of AI adoption: Measuring productivity and competitive advantage in international enterprises. *The American Journal of Management and Economics Innovations*, 7(6), 22–29. <https://doi.org/10.37547/tajmei/Volume07Issue06-04>
- Babu, J. (2026, April 1). SpaceX's business and finances: Rockets, satellite communications and budding AI. *Reuters*. <https://www.reuters.com/business/aerospace-defense/spacexs-business-finances-rockets-satellite-communications-budding-ai-2026-04-01/>
- Bureau of Industry and Security. (2022, October 7). *Commerce implements new export controls on advanced computing and semiconductor manufacturing items to the People's Republic of China (PRC)*. U.S. Department of Commerce.
- Bradford, A. (2020). *The Brussels effect: How the European Union rules the world* Oxford University Press.
- Bremmer, I. (2010). *The End of the Free Market: Who Wins the War Between States and Corporations?* Penguin Portfolio.

California State Legislature. (2024). *Assembly Bill 2013, Senate Bill 942, Assembly Bill 2602*. <https://leginfo.legislature.ca.gov/>

Calvino, F., Haerle, D., & Liu, S. (2025). Is generative AI a general-purpose technology? Implications for productivity and policy (OECD Artificial Intelligence Papers No. 40). *OECD Publishing*. <https://doi.org/10.1787/704e2d12-en>

Caroli, L. (2025, February 14). *DeepSeek: A problem or an opportunity for Europe?* Center for Strategic and International Studies. <https://www.csis.org/analysis/deepseek-problem-or-opportunity-europe>

Central Statistics Office. (2025). *Data Centres Metered Electricity Consumption 2024*. Government of Ireland. <https://www.cso.ie/en/releasesandpublications/ep/p-dcmec/datacentresmeteredelectricityconsumption2024/>

Chee, F. Y. (2024a, June 21). Apple to delay launch of AI-powered features in Europe, blames EU tech rules. *Reuters*. <https://www.reuters.com/technology/artificial-intelligence/apple-delay-launch-ai-powered-features-europe-blames-eu-tech-rules-2024-06-21/>

Chee, F. Y. (2024b, June 14). Meta pauses AI models launch in Europe due to Irish request. *Reuters*. <https://www.reuters.com/technology/artificial-intelligence/meta-will-not-launch-meta-ai-europe-now-2024-06-14/>

CoreWeave, Inc. (2026, March 31). *CoreWeave closes landmark \$8.5 billion financing facility, achieving first investment-grade rated GPU-backed financing*. CoreWeave Investor Relations. <https://investors.coreweave.com/news/news-details/2026/CoreWeave-Closes-Landmark-8-5-Billion-Financing-Facility-Achieving-First-Investment-Grade-Rated-GPU-backed-Financing/default.aspx>

CNBC. (2026). SoftBank to build up AI data centers in France with major investment. CNBC. <https://www.cnn.com/2026/05/31/softbank-to-build-up-ai-data-centers-in-france-with-major-investment.html>

Colorado Artificial Intelligence Act, S.B. 24-205, 74th Gen. Assemb., 2d Reg. Sess. (Colo. 2024). <https://leg.colorado.gov/bills/sb24-205>

Colorado General Assembly. (2025). *SB25B-004: Increase transparency for algorithmic systems*. <https://leg.colorado.gov/bills/sb25b-004>

Corvino, N. (2026, March 12). *Making money in Chinese AI safety: Compliance-as-a-service*. ChinaTalk. <https://www.chinatalk.media/p/the-business-behind-chinese-ai-safety>

Credo AI. (n.d.). The trusted leader in AI governance. *Credo AI*. <https://www.credo.ai/>

Cusumano, M. A. (2025). DeepSeek inside: Origins, technology, and impact. *Communications of the ACM*, 68(7), 18–22. <https://doi.org/10.1145/3732796>

Cyberspace Administration of China. (2022). *Provisions on the management of algorithmic recommendations of internet information services* [Translation by China Law Translate]. <https://www.chinalawtranslate.com/en/algorithms/>

Cyberspace Administration of China. (2023). *Provisions on the administration of deep synthesis internet information services* [Translation by China Law Translate]. <https://www.chinalawtranslate.com/en/deep-synthesis/>

Cyberspace Administration of China. (2023). *Interim measures for the management of generative artificial intelligence services* [Translation by China Law Translate]. <https://www.chinalawtranslate.com/en/generative-ai-interim/>

Egan, M. (2024, October 2). *Elon Musk's X is worth nearly 80% less than when he bought it, Fidelity estimates*. CNN Business. <https://edition.cnn.com/2024/10/02/business/elon-musk-twitter-x-fidelity>

European Commission. (2023, September 6). *Digital Markets Act: Commission designates six gatekeepers*. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4328

European Commission. (2026). *EU Digital Identity Wallet*. European Commission Digital Building Blocks. <https://ec.europa.eu/digital-building-blocks/>

European Commission. (n.d.). *AI Act*. Shaping Europe's digital future. <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>

Exec. Order No. 14110, 3 C.F.R. 75191 (2023). Safe, secure, and trustworthy development and use of artificial intelligence. <https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence>

Executive Order No. 14148 of January 20, 2025, Initial Rescissions of Harmful Executive Orders and Actions. (2025). *Federal Register*. <https://federalregister.gov/d/2025-01901>

Executive Order No. 14179 of January 23, 2025, Removing Barriers to American Leadership in Artificial Intelligence. (2025). *Federal Register*. <https://www.federalregister.gov/documents/2025/01/31/2025-02172/removing-barriers-to-american-leadership-in-artificial-intelligence>

Federal Trade Commission. (2023). *Decision and order: In the matter of Rite Aid Corporation and Rite Aid Hdqtrs. Corp.* https://www.ftc.gov/system/files/ftc_gov/pdf/rite_aid_administrative_order.pdf

Financial Times. (2026). Mistral's revenues soar over \$400mn as Europe seeks AI independence. <https://www.ft.com/content/664249e7-e8d5-4425-b397-ad3ed590b305>

Future of Life Institute. (n.d.). *EU AI Act Compliance Checker* [Interactive tool].
<https://artificialintelligenceact.eu/assessment/eu-ai-act-compliance-checker/>

Ghemawat, P. (2001). Distance still matters: The hard reality of global expansion. *Harvard Business Review*, 79(8), 137-147.

Holdsworth, J., & Finio, M. (n.d.). The most valuable AI use cases for business. *IBM Think*.
<https://www.ibm.com/think/topics/artificial-intelligence-business-use-cases>

International Association of Privacy Professionals, & Credo AI. (2025). *AI governance profession report 2025*. IAPP. <https://iapp.org/resources/article/ai-governance-profession-report>

International Energy Agency. (2025). *Energy and AI*. IEA. <https://www.iea.org/reports/energy-and-ai>

Levitt, T. (1983). The globalization of markets. *Harvard Business Review*, 61(3), 92–102.

Lo Nostro, G. (2025, September 9). *ASML becomes biggest Mistral investor in boost to Europe's AI ambitions*. Reuters. <https://www.reuters.com/technology/asml-becomes-biggest-mistral-investor-boost-europes-ai-ambitions-2025-09-09/>

Meta. (2023, September 27). Introducing new AI experiences across our family of apps and devices. *Meta Newsroom*. <https://about.fb.com/news/2023/09/introducing-ai-powered-assistants-characters-and-creative-tools/>

Meta. (2025, March 19). Europe, meet your newest assistant: Meta AI. *Meta Newsroom*.
<https://about.fb.com/news/2025/03/europe-meet-your-newest-assistant-meta-ai/>

Mistral AI. (n.d.). *About Mistral*. <https://mistral.ai/about/>

MIT CSAIL Alliances. (2025, January 28). *DeepSeek: What you need to know*.
<https://cap.csail.mit.edu/research/deepseek-what-you-need-know>

Mukherjee, S., & Coulter, M. (2023, May 26). ChatGPT-maker OpenAI says has no plans to leave Europe. *Reuters*. <https://www.reuters.com/technology/openai-has-no-plans-leave-europe-ceo-2023-05-26/>

Mukherjee, S., & Marchandon, L. (2026, March 30). *France's Mistral raises \$830 million in debt for AI data centre build-up*. Reuters. <https://www.reuters.com/business/finance/frances-mistral-raises-830-million-debt-ai-data-centre-build-up-2026-03-30/>

National Artificial Intelligence Initiative Act of 2020, Pub. L. No. 116–283, div. E, 134 Stat. 4523 (2021). <https://www.congress.gov/bill/116th-congress/house-bill/6395>

National Institute of Standards and Technology. (n.d.). *About NIST*. U.S. Department of Commerce. <https://www.nist.gov/about-nist>

National Institute of Standards and Technology. (2023). *Artificial intelligence risk management framework (AI RMF 1.0)* (NIST AI 100-1). U.S. Department of Commerce. <https://doi.org/10.6028/NIST.AI.100-1>

National Institute of Standards and Technology. (2024). *Artificial intelligence risk management framework: Generative artificial intelligence profile* (NIST AI 600-1). U.S. Department of Commerce. <https://doi.org/10.6028/NIST.AI.600-1>

Office of the Governor of California. (2024, September 29). *Veto message: SB 1047*. <https://www.gov.ca.gov/wp-content/uploads/2024/09/SB-1047-Veto-Message.pdf>

OpenAI. (2025, January 21). Announcing the Stargate Project. <https://openai.com/index/announcing-the-stargate-project/>

OpenAI. (n.d.). ChatGPT supported countries. *OpenAI Help Center*. Retrieved <https://help.openai.com/en/articles/7947663-chatgpt-supported-countries>

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act). (2024). *Official Journal of the European Union*, L series, 12 July 2024. <https://eur-lex.europa.eu/eli/reg/2024/1689/oj>

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation). (2016). *Official Journal of the European Union*, L 119, 1–88. <https://eur-lex.europa.eu/eli/reg/2016/679/oj>

Reuters. (2023, May 24). OpenAI may leave the EU if regulations bite—CEO. *Reuters*. <https://www.reuters.com/technology/openai-may-leave-eu-if-regulations-bite-ceo-2023-05-24/>

Reuters. (2024, September 17). Google takes Chile data center plans back to square one over environmental concerns. *Reuters*. <https://www.reuters.com/technology/google-takes-chile-data-center-plans-back-square-one-environmental-concerns-2024-09-17/>

Reuters. (2025, February 11). *Apple teams up with Alibaba to bring AI features for iPhones in China, The Information reports*. *Reuters*. <https://www.reuters.com/technology/apple-partners-with-alibaba-develop-ai-features-iphone-china-information-reports-2025-02-11/>

Reuters. (2026, January 9). Musk's xAI quarterly net loss widens to \$1.46 billion, Bloomberg News reports. *Reuters*. <https://www.reuters.com/technology/musks-xai-posts-net-quarterly-loss-146-billion-bloomberg-news-reports-2026-01-09/>

Root, A. (2026, May 7). Elon Musk "dissolved" xAI: What it means for the SpaceX IPO. *Barron's*. <https://www.barrons.com/articles/xai-dissolved-musk-spacex-ipo-1d035d36>

SAP SE. (n.d.). *About SAP*. <https://www.sap.com/about.html>

SAP SE. (2026a). *Annual report on Form 20-F for the fiscal year ended December 31, 2025*. SAP SE. <https://www.sap.com/investors/>

SAP SE. (2026b). *Responsible AI*. <https://www.sap.com/products/artificial-intelligence/ai-ethics.html>

SAP SE. (2026c). *Certifications and compliance*. SAP Trust Center. <https://www.sap.com/about/trust-center/certification-compliance.html>

SAP SE. (2026d). *SAP Joule Agents compliance brief*. <https://www.sap.com/documents/2026/06/526001c1-567f-0010-bca6-c68f7e60039b.html>

Schaefer, K. (2025, April 29). Seeking the next DeepSeek: What China's generative AI registration data can tell us about China's AI competitiveness. *Trivium China*. <https://triviumchina.com/research/seeking-the-next-deepseek-what-chinas-generative-ai-registration-data-can-tell-us-about-chinas-ai-competitiveness/>

Smith, M. (2024, June 4). What industries are using AI? *North Carolina Department of Commerce*. <https://www.commerce.nc.gov/news/the-lead-feed/what-industries-are-using-ai>

Sheehan, M. (2023, July 10). China's AI regulations and how they get made. *Carnegie Endowment for International Peace*. <https://carnegieendowment.org/research/2023/07/chinas-ai-regulations-and-how-they-get-made>

SpaceX. (2026). *SpaceX prospectus*. SpaceX.

Stanford Institute for Human-Centered Artificial Intelligence. (2026). *AI Index Report 2026*. Stanford University. <https://aiindex.stanford.edu/report/>

The White House. (2022, October). *Blueprint for an AI Bill of Rights: Making automated systems work for the American people*. Office of Science and Technology Policy. <https://www.whitehouse.gov/ostp/ai-bill-of-rights/>

The White House. (2023, July 21). *FACT SHEET: Biden-Harris Administration secures voluntary commitments from leading artificial intelligence companies to manage the risks posed by AI* [Press release]. <https://www.whitehouse.gov/briefing-room/statements->

[releases/2023/07/21/fact-sheet-biden-harris-administration-secures-voluntary-commitments-from-leading-artificial-intelligence-companies-to-manage-the-risks-posed-by-ai/](#)

Trivium China. (2025). *Trivium China GAT database* [Data set].
<https://triviumchina.com/research/seeking-the-next-deepseek-what-chinas-generative-ai-registration-data-can-tell-us-about-chinas-ai-competitiveness/>

VandeHei, J., & Allen, M. (2025, May 28). Behind the curtain: A white-collar bloodbath. *Axios*.
<https://www.axios.com/2025/05/28/ai-jobs-white-collar-unemployment-anthropic>

Wach, K. (2014a). Market entry modes for international businesses. In E. Horská (Ed.), *International marketing: Within and beyond Visegrad borders* (pp. 135-147). Wydawnictwo Episteme.

Wach, K. (2014b). Theoretical framework of the firm-level internationalisation in business studies. In A. Duréndez & K. Wach (Eds.), *Patterns of business internationalisation in Visegrad countries: In search for regional specifics* (pp. 13–30). Universidad Politécnica de Cartagena.

xAI. (2023, November 3). *Announcing Grok*. <https://x.ai/news/grok>

xAI. (n.d.). *Colossus: The world's largest AI supercomputer*. Retrieved June 28, 2026, from <https://x.ai/colossus>