

ARTIFICIAL INTELLIGENCE AND DIGITAL DOMINANCE: **SHAPING** THE FUTURE WORLD ORDER



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PREFACE

Artificial Intelligence (AI) has become one of the most influential technologies of the twenty-first century, transforming economies, governance, education, healthcare, business, and global relations. Beyond technological innovation, AI has emerged as a strategic driver of economic growth, national security, and global competitiveness, making digital capability a defining factor in shaping the future world order.

Artificial Intelligence and Digital Dominance: Shaping the Future World Order explores the opportunities, challenges, and implications of AI across diverse sectors. The chapters in this volume examine themes such as digital governance, ethical AI, cybersecurity, business transformation, sustainable development, and India's growing role in the global AI ecosystem through initiatives like Digital India, India AI Mission, and Atmanirbhar Bharat.

This edited volume brings together contributions from scholars and researchers across disciplines, offering valuable insights into the evolving landscape of artificial intelligence. It is intended to serve as a useful resource for academicians, researchers, policymakers, industry professionals, and students seeking to understand AI's transformative impact on society and the global economy.

We hope this book encourages critical thinking, inspires further research, and promotes responsible innovation, contributing to a future where artificial intelligence is developed and applied for the benefit of humanity.

Editors

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ARTIFICIAL INTELLIGENCE ADOPTION AND INDIA'S DIGITAL ECONOMY: OPPORTUNITIES, CYBERSECURITY CHALLENGES, AND POLICY IMPLICATIONS IN THE NEW WORLD ORDER

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Abstract

Artificial Intelligence (AI) has emerged as the defining technological force shaping India's digital economy in the mid-2020s, layering onto a decade of Digital Public Infrastructure (DPI) investment - Aadhaar, the Unified Payments Interface (UPI), and the Open Network for Digital Commerce (ONDC) - to transform how enterprises, governments, and citizens create and capture value. India has climbed to fifth position globally in overall digital economy performance and fourth in standalone AI capability, trailing only the United States, China, and Singapore, and now hosts the world's second-largest AI talent pool. This rapid ascent, however, is accompanied by an equally rapid escalation in AI-enabled cyber risk: automated phishing, deepfake-based fraud, voice-cloned social engineering, and machine-speed exploitation of software vulnerabilities are reshaping the national threat landscape faster than institutional and organizational defenses can adapt. This paper undertakes an integrated examination of these two parallel trends – economic opportunity and cybersecurity vulnerability – situating them within the broader geopolitical context of a "new world order" defined by AI sovereignty, compute nationalism, and competitive data governance regimes. Drawing on a descriptive, secondary-data methodology that synthesizes government advisories, industry reports, and recent (2025–2026) empirical studies, the paper identifies a structural gap between the pace of AI adoption and the maturity of India's cybersecurity and regulatory institutions. It concludes with a set of policy-oriented suggestions aimed at helping India convert its current scale advantage into durable, secure, and strategically autonomous digital leadership.

Keywords: Artificial Intelligence, Digital Economy, Cybersecurity, India, Digital Public Infrastructure, Technology Policy, AI Governance, Data Sovereignty

1. Introduction

India's digital transformation has accelerated significantly over the past decade through the development of Digital Public Infrastructure (DPI), including Aadhaar, the Unified Payments Interface (UPI), and the Open Network for Digital Commerce (ONDC). These platforms have created a strong foundation for innovation, enabling businesses and

government institutions to adopt Artificial Intelligence (AI) across sectors such as banking, healthcare, agriculture, logistics, and public services.

India has emerged as one of the leading countries in AI adoption, supported by a large talent pool and widespread use of AI tools. However, AI adoption remains uneven, with larger enterprises and skilled users benefiting more than small businesses and the general population. This digital divide influences both economic opportunities and access to AI-driven technologies.

Alongside these opportunities, AI has introduced new cybersecurity challenges. Cybercriminals increasingly use AI to automate phishing attacks, create deepfakes, conduct voice-cloning fraud, and exploit software vulnerabilities more rapidly than traditional methods. As India's digital ecosystem expands, these threats pose significant risks to individuals, businesses, and government institutions.

This paper examines the opportunities created by AI for India's digital economy alongside the cybersecurity challenges that accompany its rapid adoption. It also analyses the policy implications of these developments within the emerging global AI landscape and highlights the importance of strengthening cybersecurity, governance, and regulatory frameworks to ensure secure and sustainable digital growth.

2. Review of Literature

AI Adoption and Economic Opportunity

Recent studies show that India is becoming a major player in the global AI ecosystem. According to Zinnov, Z47, and OpenAI (2026), India has over 100 million weekly AI users and a potential AI-driven enterprise opportunity of nearly USD 1 trillion. The ICRIER-Prosus SIDE Report (2026) ranks India among the top five digital economies and highlights its strengths in digital infrastructure and AI talent, while also identifying challenges such as cybercrime and digital inequality. NASSCOM and EY (2026) further note that sectors such as banking, healthcare, retail, and manufacturing are expected to benefit significantly from AI adoption.

AI-Enabled Cybersecurity Risks

Recent reports indicate that AI is increasing the scale and sophistication of cyber threats. CERT-In (2026) highlights that AI can automate vulnerability detection and cyberattacks. Seqrite (2026) and Check Point (2026) report rising incidents of ransomware, AI-generated phishing, and deepfake attacks, with MSMEs facing greater risks due to limited cybersecurity resources.

3. Research Gap

The existing literature mainly examines AI-driven economic growth and AI-related cybersecurity risks as separate topics. Limited research integrates both perspectives to understand how AI adoption influences India's digital economy while simultaneously creating cybersecurity challenges and shaping its position in the global AI landscape. This study aims to bridge that gap.

4. Research Objectives

- To examine the principal opportunities that AI adoption presents for India's digital economy, including enterprise productivity, financial inclusion, and sovereign capability-building.
- To identify and characterise the major cybersecurity challenges arising alongside AI-driven digital growth in India.
- To analyse the policy implications of these parallel trends within the current global geopolitical and digital order.
- To assess the adequacy of India's existing regulatory and institutional response relative to the pace of AI adoption and AI-enabled threats.
- To offer policy-oriented suggestions for aligning India's AI-driven economic growth with cybersecurity resilience and strategic autonomy.

5. Research Methodology

Research Design

This study adopts a descriptive and exploratory research design to examine AI adoption, its impact on India's digital economy, and the associated cybersecurity challenges.

Data Sources

The study is based entirely on secondary data collected from:

- Government sources: CERT-In, Ministry of Electronics and Information Technology (MeitY), and Press Information Bureau (PIB).
- Industry reports: Zinnov-Z47-OpenAI (2026), NASSCOM-EY (2026), ICRIER-Prosus SIDE (2026), Check Point (2026), and Seqrite (2026).
- Credible news sources published during 2025-2026.

Analytical Approach

The collected data were analysed thematically under three dimensions: economic opportunities, cybersecurity risks, and policy implications, enabling comparison of findings across multiple sources.

Scope and Limitations

The study relies only on secondary data and does not include primary surveys or statistical hypothesis testing. Therefore, the findings are interpretative in nature, and some information may change as AI technologies and cybersecurity threats continue to evolve.

6. Discussion

The Architecture of Opportunity

India's digital economy has grown through three key digital layers: Aadhaar (digital identity), UPI (digital payments), and Artificial Intelligence (AI). These interoperable and low-cost platforms have enabled businesses and government institutions to adopt AI

rapidly without building new digital infrastructure. As a result, India has become one of the world's leading users of AI technologies.

However, AI adoption remains uneven across organisations. While many enterprises have introduced AI, some have done so without adequate data infrastructure, skilled employees, or effective change management. This gap between AI adoption and organisational readiness reduces the expected business benefits and limits the successful implementation of AI initiatives. Strengthening digital capabilities and workforce skills is therefore essential for achieving sustainable AI-driven economic growth.

Table: Sectoral AI Value Contribution in India (Projected, FY2026)

Sector	Share of New AI- Driven Value	Primary Use Cases	Adoption Maturity
Retail & Consumer Goods	-15-17 %	Demand forecasting, personalisation, inventory optimisation	Mature to early-scaling
Healthcare	-12-14 %	Diagnostics support, EHR automation, telemedicine triage	Early-scaling - rising DPDP compliance focus
Industrials & Automotive	-10-12 %	Predictive maintenance, supply-chain optimisation, quality control Early-scaling	Early-scaling
Combined (4 sectors above)	-60 %	----	Jointly drive majority of USD 500 bn AI value pool
IT Services & Software Exports	-15 %	Agentic coding tools, client delivery automation	Mature
MSMEs (cross-sector)	-8-10 %	Basic automation, UPI/ONDC-linked commerce tools	Early adopter - lowest security maturity

The Architecture of Risk

The rapid growth of India's digital economy has increased its exposure to cyber threats. AI has transformed cybercrime by enabling attackers to automate phishing, deepfake fraud, and vulnerability detection, allowing cyberattacks to be carried out faster and at a larger scale. While large organisations are strengthening their cybersecurity through AI-based defence systems and zero-trust security models, many MSMEs continue to face significant risks due to limited financial and technical resources. This creates a cybersecurity gap between well-prepared large enterprises and resource-constrained small businesses.

Positioning Within the New World Order

AI has become a strategic resource, with countries competing for leadership in advanced technologies, computing infrastructure, and data governance. India is responding through initiatives such as the IndiaAI Mission, investment in sovereign computing capabilities, and implementation of the Digital Personal Data Protection Act, 2023. These efforts aim to strengthen technological self-reliance, improve cybersecurity, and reduce dependence on foreign AI infrastructure. As one of the world's leading digital economies, India has the opportunity to play an important role in shaping future global AI governance and digital policy.

7. Findings

- India ranks 5th globally in the digital economy and 4th in AI capability, with the world's second-largest AI talent pool.
- AI adoption is expected to significantly contribute to India's GDP growth and support the Viksit Bharat 2035 vision.
- The BFSI, retail, healthcare, and industrial sectors are expected to generate the majority of AI-driven economic value.
- CERT-In highlights that advanced AI can automate vulnerability discovery and cyberattacks, making threats more sophisticated.
- MSMEs remain the most vulnerable due to limited cybersecurity resources and technical expertise.

8. Suggestions

- Improve enterprise AI adoption through better data infrastructure, workforce training, and change management.
- Strengthen MSME cybersecurity by providing affordable AI-based security tools and cyber awareness training.
- Increase investment in sovereign computing infrastructure and indigenous AI model development.
- Strengthen implementation of the Digital Personal Data Protection (DPDP) Act to address AI-related risks such as deepfakes and automated profiling.
- Develop sector-specific AI cybersecurity standards for banking, healthcare, manufacturing, and critical infrastructure.

9. Conclusion

Artificial Intelligence is driving India's digital economy by creating new opportunities for growth and innovation. At the same time, it is increasing cybersecurity risks. Therefore, India must strengthen cybersecurity, AI governance, and digital infrastructure to achieve secure and sustainable digital development.

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