



Deloitte Indonesia Perspectives

5th Edition, December 2025



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A word from Deloitte Indonesia Leader

I am pleased to share that the fifth edition of our journal, *Deloitte Indonesia Perspectives*, is available to read. This publication will touch on the latest economic, industry, and business trends and issues. This time, we will explore the growing importance of Artificial Intelligence (AI) and emerging technologies in Indonesia.

We are standing at the dawn of a new technological era, one where artificial intelligence and technologies are not just reshaping industries but redefining how we think, create, and connect. What was once the realm of imagination has now become a central force driving innovation, competitiveness, and progress across every sector.

This publication reflects our commitment to understanding and navigating this transformation responsibly. Through the insights, analyses, and case studies from Deloitte professionals featured in this edition, we aim to spark thoughtful discussions on how organisations can harness AI and emerging technologies strategically and sustainably. We believe that the true power of technology lies not merely in its sophistication, but in how it empowers people, enabling creativity, inclusion, and long-term growth.

In this edition, our AI & Data professionals will first take you to explore how AI is becoming a force multiplier for Indonesia. From a human capital lens, our Human Capital team highlights what it takes to cultivate an AI-ready mindset and unlock the potential of the workforce. As cyber resilience becomes increasingly critical, our Data & Cyber professionals unpack the AI adoption challenges, including the cybersecurity paradox, and share practical strategies for responsible and trustworthy implementation. Lastly, our Tax & Transfer Pricing professionals share real case studies on how AI is redefining the way they work and deliver impact, while highlighting the challenge posed by unclear tax rules on software distribution in the digital era. Finally, in an exclusive interview, I had the opportunity to discuss the critical role of AI and technology as key enablers of growth and sustainable innovation, as well as Deloitte's continued commitment to driving innovation and digital transformation across Indonesia's business landscape.

We truly hope that this edition provides you with valuable insights into AI and emerging technologies in Indonesia, serving as both a reflection and a call to action—to learn, adapt, and lead with purpose in the age of intelligent transformation.

Enjoy the reading!

Best wishes from Deloitte Indonesia,

Brian Indradjaja

Indonesia Leader, President Director of
PT Deloitte Konsultan Indonesia



A cup of coffee with **Brian Indradjaja**



"With the right mindset, strong governance, and an innovative spirit, we can achieve our growth aspirations and position Indonesia as a leader in the global digital economy."

Brian Indradjaja

Indonesia Leader, President Director of
PT Deloitte Konsultan Indonesia

Indonesia stands at a pivotal moment in its economic journey. Despite global uncertainties and ongoing political transitions, the nation continues to demonstrate resilience, innovation, and transformation across its business landscape. Ambitious national targets – including an 8% growth goal and the establishment of Danantara, Indonesia's new sovereign wealth agency – reflect its determination to drive long-term growth and reform.¹

In this exclusive interview, Brian Indradjaja, President Director of PT Deloitte Konsultan Indonesia and Deloitte Asia Pacific Digital Regulations Leader, shares his perspectives on how Indonesia's business environment is evolving amid technological disruption and economic transition. He notes that cross-border expansion and emerging technologies, particularly artificial intelligence (AI), are creating new opportunities while simultaneously transforming traditional business models across sectors such as banking, energy, and telecommunications. Brian also underscores the growing need for organisations to rethink workforce strategies, accelerate upskilling, and strengthen corporate governance to manage rising regulatory complexity.

Brian holds a Bachelor of Commerce (Accounting and Marketing) from Macquarie University, a Bachelor of Laws (LLB) from the University of New England, and an MBA from the Swiss School of Business and Management. A Fellow CPA and member of CPA Australia, he brings over two decades of experience in risk management, governance, and strategy across diverse sectors in Southeast Asia and the Asia Pacific. Brian is a strong advocate for sustainable innovation, inclusive growth, and a forward-looking mindset that embraces technology as a catalyst for progress. Beyond business, he is an avid sportsman with a passion for basketball, tennis, and cricket. His leadership philosophy is deeply influenced by sports, emphasising **resilience, teamwork, and adaptability** – qualities he believes are essential for empowering Indonesia's next generation of leaders in the era of digital transformation.



What are some of the major trends impacting how business is conducted in Indonesia today, and which emerging technologies do you think have the most significant impact across industries?

Brian Indradjaja: There have been several notable shifts in the Indonesian business landscape within the last year. In the first and second quarters of this year, both global and domestic economic dynamics have influenced how businesses operate in Indonesia.

Indonesia's economy performed robustly last year, supported by active investment flows from Southeast Asia, China, and Western economies such as the United States. However, towards the end of the year, global economic momentum began to soften amid rising uncertainty and political transitions – not only in Indonesia, but also in major economies across the globe.

Even amid such uncertainty, Indonesia has remained resilient, particularly when compared to its regional peers. In fact, the Indonesian economy performed relatively well in the first quarter of 2025, supported by strong domestic demand, stable inflation, and prudent fiscal management. Building on this momentum, the new government administration under President Prabowo has set an ambitious goal of achieving 8% annual economic growth, up from the current 5%, by 2029.²

The first quarter of this year, however, saw slower momentum due to the ongoing political transition in Indonesia, following the appointment of the new cabinet and establishment of Danantara. These developments will require time to take full effect, but the establishment of Danantara marks a positive step forward. Its governance framework provides a clear foundation for consolidating and managing strategic state-owned enterprises (SOEs), though its success will depend on the effectiveness of its implementation.

From a business perspective, we are also witnessing greater cross-border activity – both inbound and outbound. A growing number of Indonesian businesses are venturing overseas, while foreign interest in the domestic market remains robust.

In terms of emerging technologies, AI is having the most profound impact across industries. It is streamlining processes, optimising roles, and redefining how organisations create value. In banking, for instance, AI is revolutionising service delivery and customer engagement, particularly within retail segments.

At Deloitte, our focus is to help both government and business realise Indonesia's growth ambitions. We continue to collaborate with government associations, and both private and public enterprises to advance economic transformation. With the new government in place, our role is to help accelerate its vision – especially during its critical first year.

1. "Indonesia to launch new sovereign wealth fund with over \$900 billion in assets". Reuters. 14 February 2025.

2. Ibid.



In today's dynamic and uncertain market environment, how is Deloitte positioning itself to sustain its leadership among professional services firms in Indonesia?

Brian Indradjaja: That is a great question. I believe Deloitte's continued leadership in Indonesia's professional services landscape – especially in such a dynamic and fast-evolving environment – rests on four key pillars.

First, we are fully committed to innovation, digital transformation, and sector-specific expertise. We continuously invest in emerging technologies and capabilities to not only serve clients better but also guide them through transformation. Whether in digital finance, cyber, analytics, AI, or environmental, social and governance (ESG), our focus is on staying ahead of the curve and help clients navigate complexity. Importantly, we do not adopt a one-size-fits-all approach. Our solutions are tailored to the specific needs of client's sector, from financial services and energy to consumer products, health care, and beyond.

Second, we focus on building strong, enduring partnerships with our clients and across the broader ecosystem. We work closely with clients to co-create solutions that address real-world challenges, grounded in trust, shared purpose, and long-term impact. We also work with ecosystem partners and technology alliance partners to deliver integrated solutions that go beyond traditional consulting.

Third, we combine Deloitte's global and regional reach – especially through our Southeast Asia network – with deep local understanding to deliver strategies that are both globally informed and locally relevant. This integrated approach gives us a distinct advantage by enabling us to combine the scale and expertise of a global firm with deep understanding of Indonesia's local business culture, regulatory environment, and market dynamics. It enables us to deliver solutions that are both strategically robust and locally grounded.

And fourth, we take pride in our role as a strategic advisor to both the public and private sectors. From supporting regulatory reforms and governance

enhancements to strengthening digital public infrastructure and helping private enterprises innovate and grow, Deloitte plays an active role in advancing Indonesia's long-term resilience and competitiveness – nationally, regionally, and globally.

Ultimately, Deloitte's leadership in Indonesia is grounded in a forward-looking mindset: staying innovative, strengthening partnerships, thinking globally and locally, and delivering long-lasting impact across sectors.



With over two decades of experience in various industries, how have you seen technology reshape the energy, financial services, and telecommunications sectors in Indonesia?

Brian Indradjaja: The only constant is change – and nowhere is that more evident than in how technology is reshaping industries such as energy, financial services, and telecommunications in Indonesia. The pace of adoption today is faster than ever.

Right now, we are witnessing a surge in technological adoption across sectors, and what stands out is the speed at which it is happening. For example, a forensic audit method used by a bank today could become outdated within a month as new, technology-enabled approaches emerge. This underscores how rapidly technology is evolving – and how quickly organisations must adapt.

Equally important is the need to upskill talent. As technology evolves, so must our people. Professionals today require more than functional expertise; they must understand how AI, data analytics, and emerging technologies operate in real-world contexts. Recruitment standards are no longer about simply 'ticking the boxes'. Employers now seek individuals who are tech-savvy and able to leverage technology to drive smarter, data-informed decisions

Looking ahead to 2026 and beyond, even entry-level professionals will be expected to demonstrate technological literacy. AI and automation are becoming integral to almost every role, making continuous learning and upskilling not optional but essential.



As President Director of PT Deloitte Konsultan Indonesia, how are you driving the adoption of transformative technologies in Indonesia?

Brian Indradjaja: Driving the adoption of transformative technologies is one of Deloitte's key priorities, and we approach it from several angles.

First, we champion digital innovation as a catalyst for progress within Indonesia's business ecosystem. It is not only about introducing new technologies but ensuring they are integrated thoughtfully and effectively across industries. Often, the challenge lies not in the technology itself but in how well it is understood, communicated, and trusted. That is where Deloitte plays a crucial role in turning innovation into impact through thoughtful implementation.

Second, we are committed to advancing thought leadership and delivering actionable insights that empower organisations of all sizes – public or private, established or emerging. Through our research and publications, we provide guidance on how technologies such as AI, analytics, cloud, and cyber can be applied responsibly and effectively to create long-term value.

And third, we strive to build a tech-forward and agile culture within the firm. This means nurturing talent who are future-ready, and forming strategic partnerships and alliances to accelerate transformation across the market. Our aim is to empower Indonesian organisations to become more adaptive, resilient, and competitive in the digital economy, while ensuring that progress remains inclusive.



How does Indonesia's digital transformation journey compare to other markets in Southeast Asia? What are its unique opportunities and challenges?

Brian Indradjaja: Indonesia's digital transformation journey has advanced rapidly in recent years. Given the size and diversity of the economy, the opportunities are enormous. In the early phases of digitalisation, there was a fair degree of scepticism toward emerging technologies. But that has changed. We now see strong momentum in the adoption of emerging technologies across sectors such as education, energy, and financial services – clear evidence of how adoption has accelerated.



While Indonesia still has room to catch up with some other regional markets, the speed of its progress has been impressive. What makes the Indonesian market unique is the breadth of opportunity across various government agendas and industry sectors. AI, in particular, has become top of mind and is emerging as a key driver of digital transformation.

That said, several challenges remain. The most pressing is **upskilling the workforce**. Reskilling mid-career professionals is not easy. Compared to younger generations who may adapt more easily, senior professionals often require more time and support. The question is: how do we build a culture of continuous learning across all levels of the workforce, including business leaders?

The second challenge lies in **regulation**. While Indonesia's Personal Data Protection Law (UU PDP) is an important milestone, it does not yet address AI-specific governance. Other markets, such as Southeast Asia, the European Union (EU), Japan, and Australia, have taken significant steps in governing emerging technologies such as AI and robotics. For instance, under Australia's Online Safety Act, the eSafety Commissioner has recently registered 'new industry-drafted codes which aim to better protect children from a range of harmful and age-inappropriate content, including the clear and present danger posed by mostly unregulated AI-driven companion chatbots.³ Such regulations do not yet exist in Indonesia.

Indonesia's digital ecosystem consists of three interlinked pillars: business, market, and regulation. While the first two are evolving quickly, regulation still needs to catch up to ensure long-term balance and trust in the system.

3. "New industry codes seek to take on AI chatbots that encourage suicide and engage in sexually explicit conversations with Aussie kids". eSafety Commissioner, Australia. 9 September 2025.



What key strategies should Indonesian businesses adopt to remain competitive in an increasingly technology-driven global economy?

Brian Indradjaja: My recommendation may echo some of the earlier points, but one point I would like to emphasise is the need for businesses to rethink their hiring models.

For example, I believe in looking beyond traditional profiles, such as hiring an auditor with a technology-based accounting background, or a marketing professional with a strong digital analytics capability. Why? Because business needs are evolving rapidly, and **diverse skill sets can bring fresh perspectives that can drive innovation and strengthen organisational agility.**

I also believe that individuals today should **invest in continuous learning** – for example, by pursuing certifications or courses in emerging technologies as part of their upskilling journey. This enables individuals to remain future-ready and continually add value to their roles within the organisation. As AI continues to automate and streamline processes, traditional roles are being redefined, shifting the focus from routine execution to higher-value, insight-driven work.

Take event management, for example. AI can now design stage layouts, generate event themes, and even create marketing content, leaving humans to only make the final, value-driven decisions. We need to embrace these changes, rather than resist them.

If Indonesian businesses want to remain competitive in a tech-driven global economy, they must be willing to adapt their hiring strategies and bring in people with the right technology mindsets and skill sets.

And just as important as investing in people is investing in technology. I have seen many companies hesitate, thinking, “Well, my business has been running fine without it.” But that mindset needs to shift. Companies must start embracing and investing in technology, not just to keep up, but to stay ahead.

“ If Indonesian businesses want to remain competitive in a tech-driven global economy, they must be willing to adapt their hiring strategies and bring in people with the right technology mindsets and skill sets. ”



What are some of the best practices for companies to innovate responsibly and sustainably while navigating Indonesia's complex regulatory landscape?

Brian Indradjaja: Going back to the earlier discussion about the ecosystem, I would say there is no one-size-fits-all best practice, because each business operates with its own structure, priorities, and approaches. However, in my view, one of the most important steps companies in Indonesia can take is to strengthen Good Corporate Governance (GCG).

It starts internally. Companies need the right structures to support GCG. These include a clear division of responsibilities (such as a Board of Commissioners and a Board of Directors), and strong governance frameworks with well-established policies, procedures, and compliance mechanisms. With a solid internal foundation, companies are better prepared to navigate Indonesia's regulatory landscape.

The degree of regulatory scrutiny varies significantly across sectors. For instance, the financial services industry is highly regulated by the Financial Services Authority (OJK), whereas manufacturing or consumer sectors may face a more fragmented regulatory landscape due to dispersed supply chains. Regardless of industry, however, strong internal governance remains essential in providing the stability and confidence needed to operate responsibly.

So again, I believe everything starts from within. It is important for Indonesian companies to really think about how they can develop and strengthen their GCG practices. At Deloitte, we work closely with organisations to strengthen governance frameworks, enhance risk management practices, and design operating models that integrate both compliance and sustainability.



How does Deloitte's commitment to its Shared Values create meaningful impact for employees and local communities?

Brian Indradjaja: At Deloitte, our Shared Values are more than just statements; they guide how we operate, lead, as well as give back and make an impact. They shape a culture that empowers our people, supports our clients, and uplifts the communities we serve.

First, our commitment to inclusive growth and workforce development enables us to respond to a rapidly changing global market. We recognise that attracting and retaining the best talent requires preparing our people to be future-ready. That is why we invest heavily in upskilling and continuous learning to ensure that our people not only keep pace with change, but also lead it. This also enables us to grow inclusively by creating opportunities for diverse talent to thrive and contribute meaningfully.

Second, we foster a workplace culture anchored in diversity, equity, and purpose. We encourage our people to bring their authentic selves to work and connect their day-to-day roles to a larger purpose, whether that is making an impact for clients, mentoring others, or serving the broader community.

Beyond Deloitte, we are committed to building a more sustainable and equitable world through *WorldImpact*, our global corporate responsibility platform encompassing *WorldClass*, *WorldClimate*, and *Impact Every Day*.

Through **Impact Every Day**, we empower our people to drive meaningful change by contributing their time, skills, and knowledge where they are needed most. During Impact Month in September 2025, we held initiatives such as the Trash to Treasure campaign, Plastic Beads Workshop, Beach Clean-Up, and Deloitte Runify 2025.

Deloitte Runify, launched in 2024, is an annual charity run designed to inspire our people to give back to the community through collective participation and donations. This year's theme, "Run to Unify," brought together over 500 Deloitte Indonesia colleagues for a 5 km run celebrating the power of unity with a strong focus on sustainability. The event also marked Deloitte Indonesia's 35th anniversary and the conclusion of Impact Month. Six charity runners, representing different business units, collectively covered 1,091 km and raised IDR 163,447,500. The proceeds will be directed to support the donation of educational books on sustainability and the planting of mangroves to help reduce carbon emissions, aligned with our *WorldClass* and *WorldClimate* goals.

Additionally, from our **Trash to Treasure** initiative alone, we collected 422 kg of recycled plastic from our office and coastal clean-ups. These materials were repurposed into sustainable installations for the Deloitte Runify event, including the start and finish gates, main stage, photo wall, art pieces, and finisher medals that double as coasters.

While these efforts are amplified during **Impact Month**, our community engagement continues year-round. Our people are continuously involved in a wide range of initiatives, from volunteering to pro bono projects and sustainable living campaigns – embodying our purpose of **making an impact that matters, every day**.



How has your passion for sports influenced your leadership approach and team strategies?

Brian Indradjaja: Sports has always been more than a pastime for me; it has been one of my greatest teachers. Many of the values I have learned through sports directly influence how I lead, build teams, and approach strategy.

Sports teaches resilience, discipline, and teamwork – values that are as essential in business as they are on the field. You learn to recover from setbacks, stay focused on long-term goals, and rely on the strength of your team. These are the qualities I strive to instill: perseverance through challenges, staying grounded, and teamwork.

Sports also develops mental agility, in the form of the ability to adapt, pivot, and remain composed under pressure. In both business and sport, circumstances can shift quickly, you need to read the situation, adjust your strategy, and sometimes take a step back before moving forward. Encouraging this mindset in the workplace helps build teams that are productive, resilient, and future-ready.

Equally, sports fosters connection. Shared activities – whether a weekend run, a basketball game, or even cheering for a match – help to break down hierarchies and build camaraderie. These experiences strengthen trust, communication, and empathy, which naturally translate into stronger collaboration at work.

Ultimately, sports remind us that success is a team effort. No one wins alone. The shared journey – facing challenges, learning together, and celebrating victories – builds a sense of belonging. That's the kind of culture I strive to cultivate under my leadership at Deloitte: one where we support one another, face challenges as a unit, and where we celebrate wins together.

At the end of the day, life is a marathon, not a sprint. To go far, you must go together.



Since we are talking about sports, who are the athletes that inspire you most, and why?

Brian Indradjaja: I have always admired several athletes, but two stand out – Michael Jordan and Roger Federer.

Michael Jordan inspires me because of his relentless drive and excellence both on and off the court. He epitomises what it means to do whatever it takes to win. His achievements beyond basketball are just as impressive – building a brand so powerful that it transcends the sport itself. Even people who do not play basketball recognise the Air Jordan sneaker, which speaks to his vision and business acumen.

Roger Federer, on the other hand, represents grace and evolution. Early in his career, he struggled with temperament, but over time he transformed that into composure, humility, and empathy – traits that helped make him one of the greatest athletes of all time. Off the court, he is also an exceptional businessman. His partnership with Uniqlo⁴ and his investment in the Swiss running-shoe company On⁵ – which grew into a billion-dollar success – demonstrate foresight and courage.

What I admire most about both athletes is how they carried the lessons of sport into business and life: discipline, self-mastery, and the courage to take calculated risks. Federer once noted that in tennis, your toughest opponent is yourself. That is true in leadership as well. Success begins with self-awareness and the drive to keep improving.



Finally, what advice would you give to Indonesia's future leaders in technology, governance, and business?

Brian Indradjaja: My first piece of advice is simple: do not fear technology – embrace it. Technology exists to enable, not replace us. The future belongs to those who learn to work with it, not against it.

Second, while automation will redefine the nature of work, it will not eliminate the human element. Every innovation still requires judgement, empathy, and creativity. To remain relevant, leaders and professionals must continuously upskill, especially in AI and digital literacy.

From a governance perspective, strong corporate governance is the backbone of any successful organisation. That means having the right structures, clear accountability, and well-defined operating models. These foundations foster trust, attract investment, and ensure long-term stability.

For Indonesia specifically, maintaining the principle of doing business the right way is crucial. We must continue to build investor confidence by upholding integrity and transparency. At the same time, we should also strengthen domestic investment to unlock our own potential across sectors such as agriculture, energy, and technology.

Indonesia has immense potential. With the right mindset, strong governance, and an innovative spirit, I believe we can achieve our growth aspirations and position Indonesia as a leader in the global digital economy.



4. "UNIQLO announces unique partnership with Roger Federer as global brand ambassador." Fast Retailing. 2 July 2018.

5. "Tennis legend Roger Federer Is now a billionaire". Forbes. 22 August 2025.



AI as a force multiplier for Golden Indonesia 2045 – A blueprint for innovation, growth, and sustainability

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As Indonesia approaches the historic milestone of 100 years of independence, the nation is charting a bold course toward its Golden Indonesia (*Indonesia Emas*) 2045 Vision, which represents its long-term aspiration to become a sovereign, advanced, fair, and prosperous country by its centennial year.

To realise this 2045 Vision, Indonesia also introduced the 2025-2045 Long-Term National Development Plan (RPJPN) to accelerate national development in eight comprehensive agenda areas, encompassing social welfare, economic transformation, governance reform,

legal and defence modernisation, ecological resilience, and sustainable development aspects (see **Figure 1**)⁶.

Taken together, these priorities represent the foundation for a future-ready Indonesia, one that aims to fully leverage transformative technologies – in particular, artificial intelligence (AI) – to meet the aspirations of its people in the century ahead. This is a clear recognition of AI's strategic role as a force multiplier in driving innovation, enhancing governance, improving public services, and fostering sustainable economic growth in Indonesia.

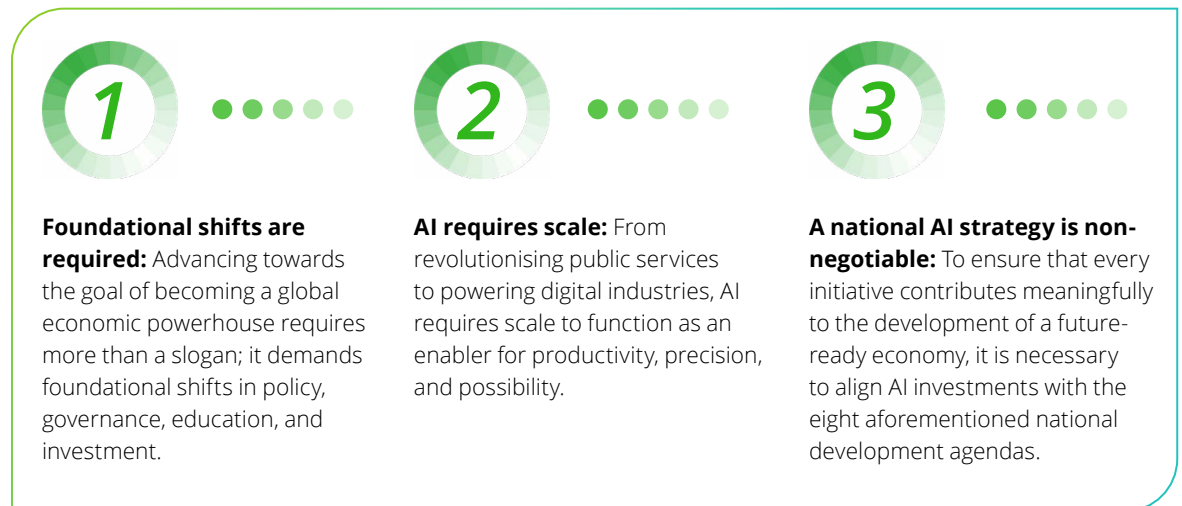
Figure 1. Eight development agendas in Indonesia's 2025-2045 Long-term National Development Plan (RPJPN)



Source: Ministry of National Development Planning (Bappenas).

6. "Rencana Pembangunan Jangka Panjang Nasional (RPJPN) 2025-2045". Ministry of National Development Planning (Bappenas). 2024.

Indeed, when deployed with intention – whether in government, business, or at the intersection of both – AI holds immense potential to support Indonesia in building capabilities for its future economy. However, while this vision is frequently discussed, less attention tends to be given to the infrastructure required to achieve these goals. Consider the following:



There is no doubt that the 2045 roadmap is an ambitious one. Nevertheless, with the right blend of leadership, infrastructure, and AI-driven innovation, Indonesia will be well-positioned to achieve or even surpass its goals.

An emerging AI ecosystem

Maximising the potential of AI for innovation, inclusion, and economic transformation requires the support of a strong and comprehensive ecosystem. In Indonesia, this ecosystem can be observed to be steadily taking shape. Notable foundational efforts include, for example, the publication of the National Artificial Intelligence Strategy Framework (*Stranas KA*) by the National Research and Innovation Agency (BRIN) earlier in 2020, which consolidated inputs from various ministries, research institutions, and industry stakeholders to guide the development of Indonesia's long-term AI agenda.⁷

The Ministry of Communication and Digital (*Komdigi*) also continues to play a pivotal role in shaping

Indonesia's regulatory and digital infrastructure landscape to support the implementation of AI, and aligning policies with the broader national digital transformation agenda.⁸ Meanwhile, the Ministry of Education, Culture, Research, and Technology (*Kemendikbudristek*) is embedding AI literacy into the national curriculum through the *Merdeka Belajar* program to ensuring that the next generation of talent is AI-capable from an early age.⁹

Notwithstanding these efforts, however, scaling AI's impact across the nation in the decades ahead will require greater coordination and institutional backing. A cohesive national strategy and coordinated national execution model is required for Indonesia to strengthen, connect, and bridge the various AI ecosystem players in government, industry, academia, and civil society.

In this regard, three ecosystem dimensions merit attention:

7. "Strategi Nasional Kecerdasan Artifisial Indonesia 2020-2045". Agency for the Assessment and Application of Technology (BPPT) (since integrated into BRIN). 2020.

8. "Pemerintah siapkan peta jalan AI Indonesia, target selesai tiga bulan ke depan." Kementerian Komunikasi dan Digital (Komdigi). 19 March 2025.

9. "Kecerdasan Buatan dalam Konteks Kurikulum Merdeka pada Jenjang Pendidikan Dasar dan Menengah: Membangun Keterampilan Menuju Indonesia Emas 2045." HUMANIKA, Volume 30, Nomor 2. 10 January 2024.



AI for innovation

Indonesia has a vibrant, innovative, and entrepreneurial technology sector, but translating that potential into scalable outcomes remains a significant challenge.

With over 2,400 technology startups and a growing base of AI researchers,¹⁰ Indonesia's digital economy is highly fertile. However, gaps in infrastructure and commercialisation – that is, where policy, capital, and talent intersect – must be addressed in order to enable AI to supercharge innovation ecosystems.

To scale innovation, the government could consider offering tax incentives or grants for AI pilot projects within provinces, as well as collaborating with universities, startups, and other stakeholders to establish AI sandboxes. Key sectors for consideration include:

- **EdTech**, such as players leveraging AI and machine learning (ML) models for tailored curriculum delivery; adaptive learning, intelligent tutoring, and resource allocation; administrative tasks such as student enrolment, attendance tracking, and document processing. Ruangguru, for example, is one EdTech player that leverages the use of adaptive self-learning videos, smart recommendations, animated learning videos, and gamification features to advance education beyond classroom settings.¹¹
- **HealthTech**, such as players involved in AI-assisted diagnostics, health system planning, and patient triage. In the context of health care, AI and ML models trained on vast datasets of medical images, patient symptoms, and health records can help doctors to reduce misdiagnosis rates and increase diagnosis accuracy for a range of conditions such as cancers, fractures, and even infections. One recently published study, for instance, found that an AI-powered lung ultrasound tool outperformed human experts by 9% in diagnosing pulmonary tuberculosis (TB)¹² – a finding that could be especially relevant for Indonesia, given that it has the second-highest incidence of TB globally.¹³

- **Creative economy**, including players providing generative AI (GenAI) content, campaign optimisation, and trend forecasting solutions. By rapidly analysing trends, audience preferences, and cultural movements, AI can support digital creators in generating engaging and innovative content that resonate with local and global audiences. Examples of such tools include GenAI tools such as ChatGPT and Midjourney, as well as local creative platforms focused on campaign creation and storytelling.



10. "With More Than 2,400 startups, Indonesia Ranks 6th In The World." Observer ID. 11 May 2023.

11. "Ruangguru advances education access in Indonesia by leveraging technology". East Ventures. 18 May 2022.

12. "ESCMID Global 2025: AI lung ultrasound outperforms experts in tuberculosis diagnosis". European Medical Journal. 15 April 2025.

13. "Indonesia ranks second globally in tuberculosis cases, UGM epidemiologist supports TB vaccine clinical trials". Universitas Gadjah Mada. 20 May 2025.



AI for growth

In the future of work, AI will be deployed as a growth engine to elevate human capability, reduce process inefficiencies, and unlock new sources of growth. Possible

high-impact AI use cases could include, but are by no means limited to:

- **AI-enabled predictive maintenance applications** that help to reduce equipment downtime, reduce maintenance costs, improve quality assurance, and create dynamic supply chains in the manufacturing sector.
- **AI-powered credit scoring, fraud detection, and customer service applications** that enable financial institutions to rapidly analyse market and user engagement data, perform computations, and make data-driven decisions.

At this juncture, it is important to emphasise that AI is more likely to augment, rather than entirely replace, work done by humans. According to a recent study, approximately 1.4 million low-skilled formal workers in five Southeast Asian economies – Indonesia, Malaysia, Philippines, Thailand, and Vietnam – were displaced due to the rise of robotics between 2018 and 2022.¹⁴ This is an effect that AI could intensify across various sectors; however, while automation may render some roles obsolete, it could also conversely result in net job creation if the workforce is equipped with the relevant skills.

Initiatives such as the ElevAlte program – which aims to upskill one million individuals in AI, data science, and governance¹⁵ – reflect a national commitment to talent development, continuous learning, and strategic reskilling to ensure that AI augments, rather than diminishes, Indonesia's human capital.



AI for sustainability

As Indonesia faces mounting pressures from rapid urbanisation, climate commitments, and resource challenges, the role of AI in supporting environmental

sustainability becomes ever more critical. By integrating AI applications across key sectors, Indonesia can accelerate progress toward its pledge to reduce greenhouse gas emissions by 31.9% by 2030,¹⁶ in line with the Paris Agreement.

In this context, high-impact AI use cases could include applications for the following sectors:

- **Agriculture**, such as AI-powered precision agriculture to optimise crop yields, irrigation, and supply chains. For example, ML-powered precision farming applications have been found to reduce fertiliser use by 20%,¹⁷ while smart AI-enabled water management can help to conserve water and enhance environmental stewardship.¹⁸
- **Smart cities**, such as real-time AI solutions for mobility planning, public safety analytics, and emissions control. In Jakarta, where chronic traffic congestion costs an estimated US\$4.5 billion each year,¹⁹ AI-driven traffic modelling offers the potential to alleviate gridlock and boost air quality through enhanced emissions oversight.
- **Energy and utilities**, such as energy consumption modelling, smart grid balancing, and waste management solutions that integrate AI with the Internet of Things (IoT), geospatial analytics, and environmental, social, and governance (ESG) performance data. Bandung's smart city initiative, for instance, leveraged computer vision to optimise traffic and waste collection, achieving a 15% increase in operational efficiency.²⁰

14. "Future jobs: Robots, artificial intelligence, and digital platforms in East Asia and Pacific". World Bank Group. 2 June 2025.

15. "Ministry of Communications and Industry and Microsoft launch elevAlte Indonesia: Equip 1 million talents with AI skills". Microsoft. 2 Dec 2024.

16. "Indonesia's Enhanced Nationally Determined Contribution (NDC)". United Nations Framework Convention on Climate Change. 23 September 2022.

17. "AI-Driven precision agriculture: Optimising crop yield and resource efficiency". *International Journal for Multidisciplinary Research*. November-December 2024.

18. Mohamed Farig, et al. "Artificial intelligence in agricultural water, management research: Literature review and research agenda". *International Journal of Advanced Engineering, Management and Science*. (2025).

19. "Jakarta smart mobility strategy and economic loss assessment". Provincial Government of DKI Jakarta. 2020.

20. "Smart city pilot evaluation report". Dinas Kominfo Kota Bandung. 2020.

A blueprint for innovation, growth, and sustainability

As Indonesia accelerates the journey toward its Golden Indonesia 2045 vision, it is imperative that AI transitions from a conceptual aspiration to a functional cornerstone underpinning national progress. This requires a holistic approach – embedding AI not as a standalone initiative but as a foundational force multiplier within the national development agenda and across all sectors of the economy.

To translate strategic ambition into tangible outcomes, a structured, comprehensive blueprint – one that sets out concrete actions to address the three ecosystem dimensions of innovation, growth, and sustainability – is needed. In this section, we present a foundational framework that could serve as the starting point for this blueprint, comprising of six pillars (see **Figure 2**).

Figure 2. AI Readiness Framework



Source: Deloitte Indonesia, 2025.

As things stand, AI is no longer merely a matter of technological readiness, but one of national resolve. Indonesia has what it takes to succeed in the age of AI – an ambitious national vision, a tech-savvy population, and a vibrant and innovative private sector – but needs to be able to connect all of these with an intentional, future-oriented strategy.

Governments and businesses alike must recognise that AI is not as a standalone initiative, but a foundational infrastructure critical to delivering the next generation of innovation, growth, and sustainability for Indonesia. **To take its place not only as a participant but also a shaper of the global AI landscape, Indonesia must act with purpose – and do so now.**

21. “Peraturan Presiden Republik Indonesia Nomor 95 Tahun 2018 tentang Sistem Pemerintahan Berbasis Elektronik (SPBE)”. Database Peraturan BPK (Audit Board Regulation Database of Indonesia). 2018.

Cultivating an AI-ready mindset – Connecting ambition to action

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With its sights set on the Golden Indonesia 2045 Vision, Indonesia's long-term AI agenda – referred to as the National Artificial Intelligence Strategy Framework (*Stranas KA*) – designates talent development as one of the four central pillars, alongside industrial research and innovation; infrastructure and data; and ethics and policies²² (see **Figure 3**).

The rationale for this is clear: the development of a robust AI ecosystem depends not only on technological advancements, but also on establishing a steady pipeline of skilled talent equipped to drive innovation, ensure ethical adoption, and shape responsible policies for the nation's future.

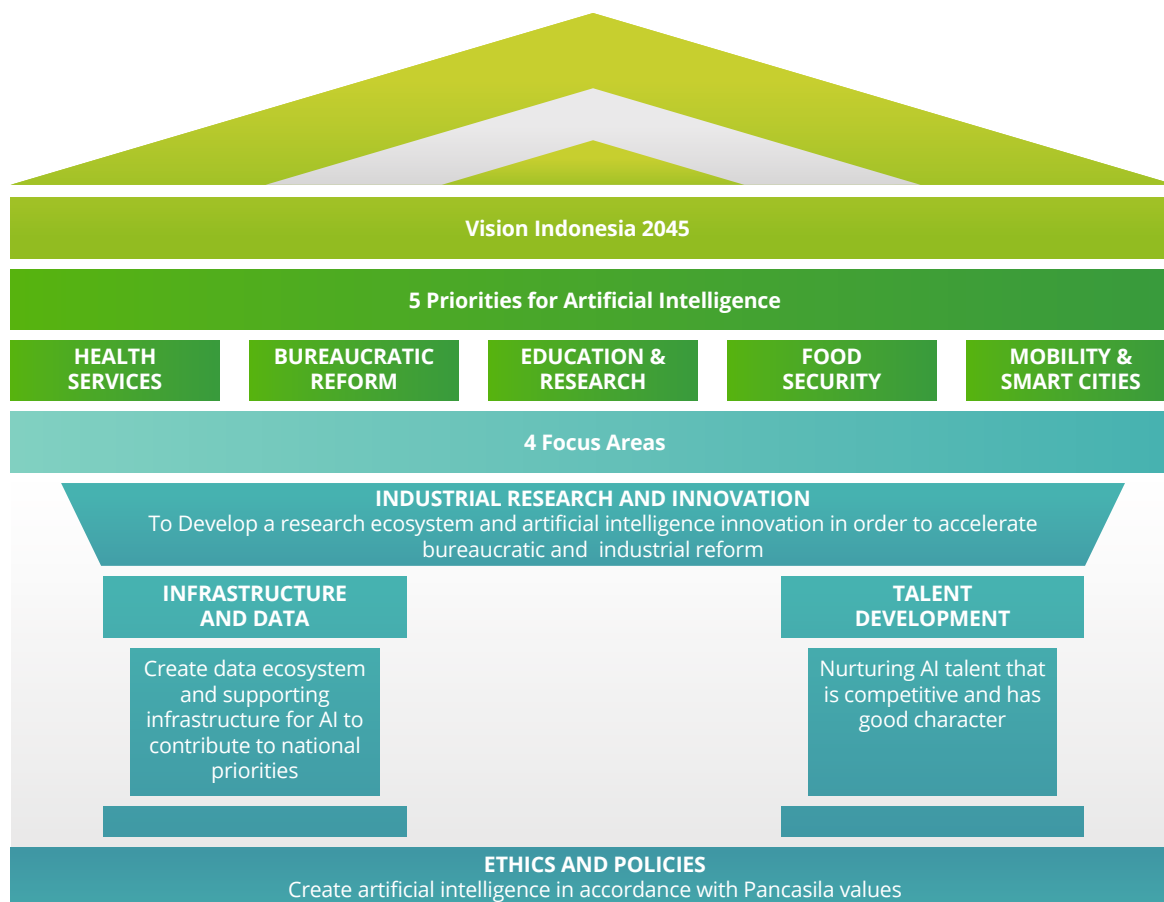
In this regard, Indonesia is currently standing at a critical juncture. Its demographic dividend – that is, where the majority of its population is in their working age – is set to peak sometime between 2020 and 2030.²³ This therefore presents a unique and rare window to not

only nurture today's workforce, but also inspire and prepare the next generation to secure Indonesia's place at the forefront of global AI advancement.

In order to do so, however, Indonesia must first confront and overcome a fundamental challenge – that is, to cultivate the right mindsets and behaviours for the age of AI. While investments in upskilling and capacity-building have gained momentum – as reflected in the proliferation of educational and workplace programs – the reality remains that many workers harbour uncertainty and apprehension towards AI.

This perception, rooted in the belief that AI may pose a threat rather than an opportunity, underscores the need to address fear and resistance at their source. Without this crucial mindset shift, even the most robust talent development initiatives are unlikely to achieve their intended impact.

Figure 3. Indonesia's National Artificial Intelligence Strategy Framework (Stranas KA)



Source: Agency for the Assessment and Application of Technology (BPPT) (since integrated into BRIN).

22. "Strategi Nasional Kecerdasan Artifisial Indonesia 2020-2045". Agency for the Assessment and Application of Technology (BPPT) (since integrated into BRIN). 2020.

23. Adioetomo, S. M. "Bonus Demografi dan Jendela Peluang Meletakkan Dasar Pembangunan Manusia". In: S. M. Adioetomo & E. L. Pardede, eds. *Memetik Bonus Demografi*. Depok: Rajawali Pers, pp. 23-36.

Connecting ambition to action

The premise is clear: Indonesia's AI ambition will be fully realised only when people and technology move forward together, shaped by the right mindsets, skills, and behaviours. This alignment, however, is not automatic. Fundamentally, embracing AI is less about overcoming a technological hurdle and more about cultivating a collective willingness to see AI as a collaborative partner – that is, a 'friend', rather than a 'foe'.

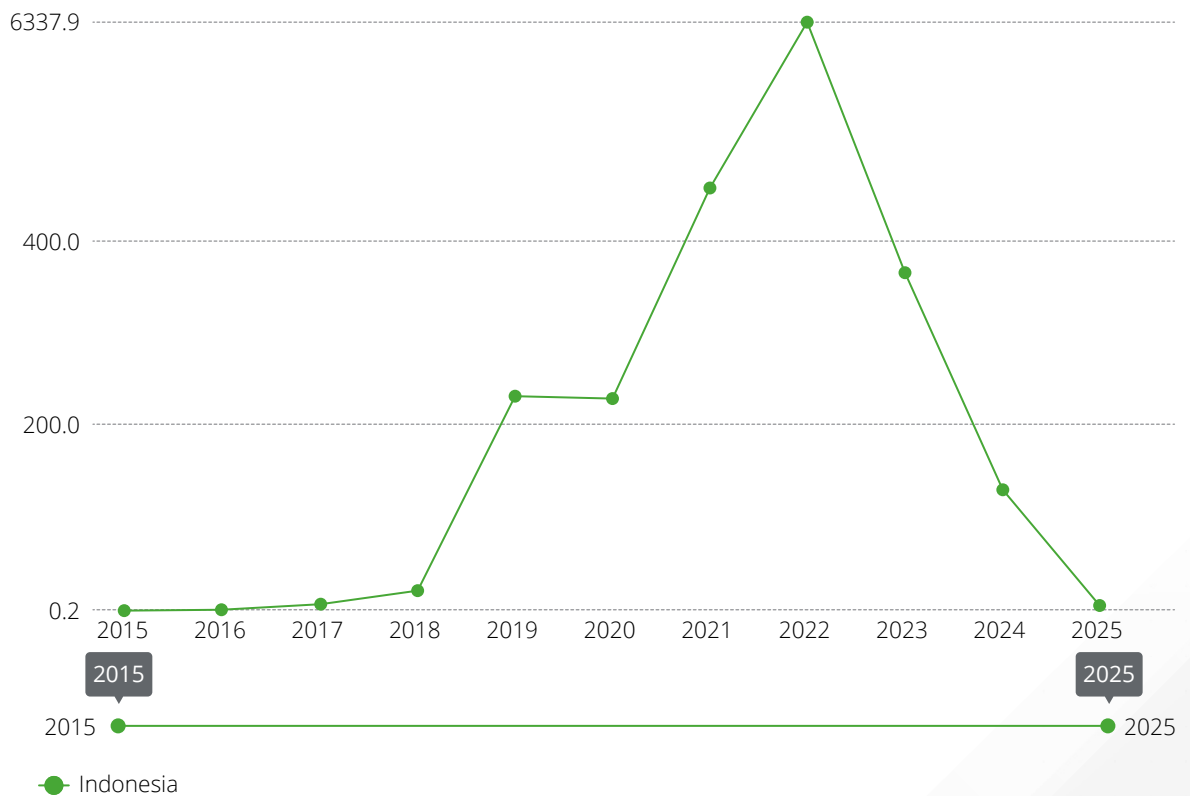
While scepticism remains, AI's true value lies not in replacing humans, but in augmenting and amplifying human capabilities to accelerate decision-making

and catalyse new avenues of growth. It is worth emphasising that the economic stakes of getting this right are immense: one estimate suggests that AI will inject a whopping US\$22.3 trillion into the global economy by 2030.²⁴

Against this backdrop, Indonesia is already experiencing surging investments in AI, with total venture capital investments in AI surpassing US\$2.1 billion within the last decade²⁵ (see **Figure 4**). Other notable capital investments also include those of technology giants. Microsoft, for instance, recently announced plans to invest US\$1.7 billion in AI and cloud infrastructure in Indonesia.²⁶

Figure 4. Indonesia's venture capital investments in AI (in US\$ million)

Sum of investments (USD millions)

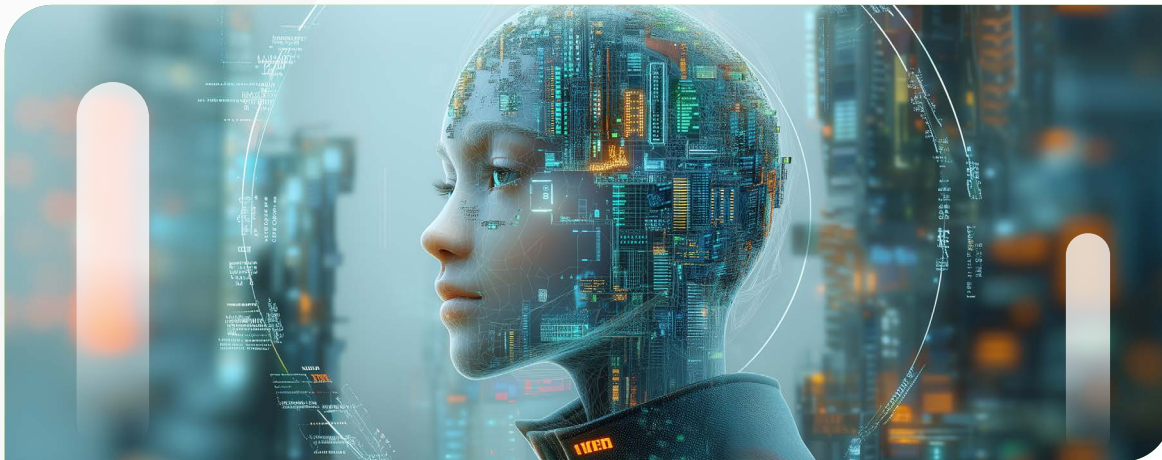


Source: OECD AI Policy Observatory.

24. "IDC predicts AI solutions & services will generate global impact of \$22.3 Trillion by 2030". International Data Corporation (IDC). 1 April 2025.

25. "VC Investments in AI by country". OECD.AI. 2025.

26. "Microsoft announces US\$1.7 billion investment to advance Indonesia's cloud and AI ambitions". Microsoft. 30 April 2024.



Nevertheless, truly unlocking the benefits of the AI era will demand more than capital or code. It will require a bold reimagination of how people, organisations, and society as a whole work together, starting by placing human capital at the very heart of Indonesia's AI transformation. A recent Deloitte study, for example, found insufficient understanding of the technology and its potential to be the top barrier associated with AI implementation amongst Indonesian respondents.²⁷

This finding suggests that technical training alone may not be sufficient. As with any complex organisational transformation, mindset and culture, too, must evolve in tandem. While organisations frequently rely on conventional change programs built around training and communication, these rarely lead to lasting transformation because they fail to address the true drivers of human behaviour. **To succeed, organisations must begin by placing people at the centre: understanding what motivates them, addressing their uncertainties, and creating an environment where new AI-ready mindsets and behaviours can take root.**

Cultivating an AI-ready mindset

This mindset and behavioural shift must begin with an intentional reframing of the conversation around AI – one which shifts the focus from abstract organisational benefits to a clear demonstration of AI's personal value for employees. While most employees recognise that AI can boost business performance and drive growth, they often struggle to see its relevance at the individual level.

For AI adoption to take root, this disconnect must be addressed. AI's value must be made vivid, practical, and tangible, and employees must be able to experience firsthand how its application can enhance their day-to-day work. By implementing focused pilots that embed AI into daily operations for select teams and empowering them to lead by example, organisations can foster internal champions who can help to drive more widespread acceptance.

While AI cannot replace human judgment, when used responsibly, it can improve the employee experience and foster a sense of growth. When employees experience firsthand how AI helps – not harms – their work, they will be more open and motivated to adopt it (see sidebar for a case study). This, in turn, helps to accelerate the cultural and mindset shift.

Ultimately, the upshot is that organisations and individuals alike must reframe their relationship with AI. After all, AI is no longer a distant concept: it is already reshaping how we work every day – and in aggregate, how our economy competes on a global level. Realising the promise of AI in the Golden Indonesia 2045 Vision will therefore require collective commitment across the nation – an 'all hands on deck' effort by organisations and individuals to cultivate a collective AI-ready mindset and drive shared progress.

27. "AI at a crossroads". Deloitte. 2 December 2024.

Adopting a human-centric approach to GenAI implementation

With the objective of enhancing employee productivity, Deloitte recently supported a leading insurer in Indonesia with the design of a future state blueprint for the implementation of GenAI in its claims management process. Notably, apart from achieving step-changes in efficiency, effectiveness, and customer experience, the project also enabled less experienced employees to boost their productivity levels by 35%.

Briefly, the human-centric transformation approach entailed the following:

1

Defining the strategic GenAI vision, leveraging market insights, competitor intelligence, and a current state assessment to align opportunities with readiness;

2

Identifying and prioritising high-impact use cases based on potential revenues and cost savings, and determining whether to build, buy, or partner;

3

Designing secure, scalable architectures and governance frameworks, and selecting models, cloud providers, and integration strategies;

4

Rapidly prototyping and piloting solutions, while closely supporting the workforce through training, process redesign, and change management; and

5

Scaling and optimising operations, as well as ensuring compliance, managing costs and vendors, and implementing ongoing improvements.



Securing Indonesia's AI ambition – Building cyber resilience for a digital nation

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Driven by accelerating adoption of emerging technologies such as AI, Indonesia's rapid digital transformation is shaping an unprecedented landscape of opportunity and challenge. Recent estimates suggest that investments in Indonesia's digital economy could reach a staggering US\$130 billion by 2025, accounting for nearly half or 44% of the projected digital economy value for the entire Southeast Asia region.²⁸

Government leadership, particularly from the Ministry of Communication and Digital Affairs, has been instrumental in catalysing this growth. Through strategic investment in infrastructure to boost connectivity in remote areas and the promotion of innovation across key industry sectors, the ministry has laid important groundwork. Its introduction of the Indonesia AI Roadmap 2025–2029 earlier in May 2025 also further affirms the Indonesia's ambition to position itself as a regional hub for AI development.²⁹

Looking ahead, Indonesia's digital economy is set to maintain strong momentum, with projections estimating its value could soar to around US\$210 to US\$360 billion by 2030³⁰ – making it one of the fastest growing in the region. Yet such breakneck growth also underscores the urgency for robust cybersecurity measures to match the pace of innovation.

The pivotal question, therefore, is whether Indonesia's cybersecurity infrastructure is resilient enough to support this transformation – or whether hidden vulnerabilities could ultimately undermine the nation's ambitions.

Laying the regulatory groundwork for secure and responsible AI

Indonesia's digital transformation has brought not only progress, but also growing pains – in the form of escalating cyber threats. In parallel with its AI ambitions, the government is moving swiftly to lay a regulatory foundation to safeguard both innovation and society. These early efforts reflect a proactive approach that recognises the urgency of cybersecurity, while setting clear guardrails for responsible AI development.

In 2023 alone, Indonesia experienced 2,365 cyber incidents affecting 340 million people – a staggering statistic that underscores the vulnerability of the nation's digital infrastructure.³¹ These attacks ranged from phishing campaigns to sophisticated ransomware, causing widespread disruption and financial losses.

The watershed moment, however, came in June 2024, when a ransomware attack on the Temporary National Data Centre (PDNS), allegedly by the LockBit gang, paralysed digital services across 44 state agencies. It disrupted nearly 300 central and local government offices, including immigration systems and major airports, with attackers demanding a US\$8 million ransom.³² This incident exposed serious flaws in Indonesia's national cybersecurity resilience, particularly in system backups and crisis response.

In response, the government has taken steps to develop a more robust framework for AI and cybersecurity. The Ministry of Communication and Digital Affairs (formerly the Ministry of Communication and Informatics) issued Circular Letter No. 9 on 2023 on AI Ethical Guidelines, establishing Indonesia's first-ever national ethical AI framework. It sets out principles around data protection, transparency, and human-centric AI development,³³ and explicitly prohibits AI from solely determining outcomes that affect human lives or reinforce discriminatory practices.

The Financial Services Authority (OJK), too, is tightening oversight. In December 2023, it released ethical guidelines for responsible AI in FinTech; this was followed by the Banking AI Governance Framework in April 2025.³⁴ These regulations emphasise fairness, resilience, transparency, and accountability in AI deployment across the financial services industry.³⁵

The media sector has likewise stepped up. Most recently in 2025, the Indonesian Press Council (IPC) issued IPC Regulation No. 1 of 2025 on Guidelines for the Use of Artificial Intelligence in Journalistic Works, that offers usage guidelines for AI in journalism. It aims to ensure transparency in AI-generated content and uphold editorial responsibility.

28. "Investments in Indonesia's digital economy hit US\$130 billion". Tempo.co. 11 May 2025.

29. "Indonesia targets foreign investment with new AI roadmap, official says". Reuters. 22 July 2025.

30. "President Jokowi: Indonesia's digital economy has potential to reach Rp5,800 trillion by 2030". Cabinet Secretariat of the Republic of Indonesia. 1 August 2024.

31. "AI as a solution: Indonesian government's efforts to enhance cybersecurity in the digital era". INTI Media. October 2024.

32. "Cyberattack on Indonesian airports and data centres disrupts services". Cybersec Asia. 15 July 2024.

33. "AI ethics in Indonesia: Should AI behave ethically like humans?". ARFP Lawyers. 7 January 2024; "Regulation of artificial intelligence in Indonesia". SSEK Law Firm. 29 February 2024.

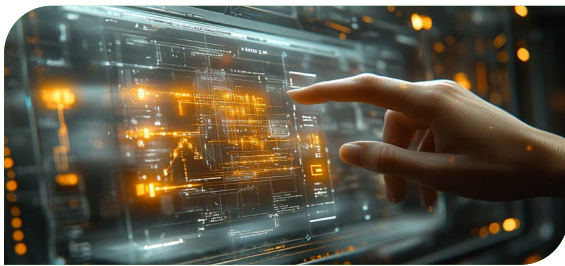
34. "Regulation of artificial intelligence in Indonesia". SSEK Law Firm. 29 February 2024; "OJK launches AI regulation framework for banking sectors". Tech in Asia. 30 April 2025.

35. "AI tracker Indonesia: Tracking where law, reg and policy meets machine learning". Herbert Smith Freehills Kramer. 1 July 2025.

Together, these efforts represent important first steps towards a more secure and trustworthy digital future. But as cyber threats grow in scale and complexity, ongoing investment in both regulation and technical capabilities will be key to sustaining momentum.

AI as a cybersecurity paradox

As Indonesia continues strengthening its regulatory foundations for AI, it must also grapple with a profound paradox: AI is both a powerful cyber defence mechanism, and a formidable cyber threat vector. While the technology has revolutionised cybersecurity by enabling proactive, autonomous threat detection and response at unprecedented speeds, it has equally empowered cybercriminals to launch attacks that are faster, more targeted, and more difficult to detect.



AI-generated phishing campaigns: Attackers are leveraging AI to generate hyper-personalised, contextually relevant phishing emails that can easily bypass traditional detection systems;



Automated distributed denial-of-service (DDoS) attacks: AI enables attackers to launch highly persistent DDoS attacks, with enhanced precision and scale; and

According to Deloitte's The Global Future of Cyber Survey, 4th Edition, cyber criminals and terrorists make up the top threat actors, reported by 42% of respondents as the leading concern across a diverse set of threat actors—including hackers (threat actors aiming to make a statement related to political or social causes) and insiders (with personal grievances and gains at stake).³⁶ Additionally, 40% of respondents said they have publicly reported six to ten cybersecurity breaches in a year—an increase of two percentage points compared to the previous survey.

Indeed, AI is fuelling a whole new generation of cyberattacks that are increasingly sophisticated, scalable, and adaptive. The Key examples of such AI-powered threats include, but are by no means limited to:



Deepfake-enabled deception: Realistic fake audio and video content is being used to spoof biometric security systems and manipulate public opinion;



Advanced persistent threats (APTs): ML algorithms help attackers continuously adapt their strategies to gain covert access to critical systems while evading conventional defences.

36. Survey respondents are cyber decision makers at Director level or higher from organisations worth US\$500 million in annual revenue. See "The Global Future of Cyber Survey, 4th Edition". Deloitte. 2024.

The consequences of these evolving threats extend far beyond immediate technical disruptions. Indonesian organisations are facing mounting operational, financial, and reputational risks. A stark example is the 2023 data breach of a major state-owned bank, which resulted in the theft of 1.5 terabytes of sensitive data, including customer contact details, financial records, and passwords. Similarly, the 2021 breach of the Ministry of Health exposed the personal and medical data of 1.3 million citizens.³⁷

Such incidents erode public trust, disrupt essential services, and inflict long-term economic damage.

Under Indonesia's Personal Data Protection Law, organisations may face regulatory penalties, but the intangible cost – damage to brand reputation and customer confidence – is often far more significant and longer-lasting.

Challenges in securing AI adoption

Despite promising moves by regulators and the private sector, Indonesia's cybersecurity landscape still faces persistent structural challenges that, if not addressed, could undermine trust and slow the nation's broader innovation and AI adoption agenda. The following are four critical areas that demand urgent attention:



Sophisticated and evolving threats

Modern cybercriminals are increasingly leveraging AI to orchestrate highly sophisticated and adaptive attack attacks that traditional cybersecurity tools struggle to detect. These attackers are automating reconnaissance, generating tailored phishing messages, and deploying malware such as information stealers to infiltrate systems.³⁸ What makes these threats particularly dangerous is AI's ability to analyse vast datasets in real time to identify vulnerabilities, personalise attack vectors, and dynamically adjust tactics in response to an organisation's defences.



Talent and skills shortage

Indonesia faces a critical shortage of cybersecurity professionals at a time when demand is surging. The nation requires approximately 458,043 digital talent professionals annually through 2030³⁹ to keep pace with its digital economy growth. This talent gap becomes particularly acute when it comes to the specialised expertise needed to secure AI systems – a field that requires proficiency not only in traditional cybersecurity practices, but also in emerging AI technologies. Recognising this challenge, the government has launched ambitious training programs, such as the plan to provide cybersecurity training to 1 million individuals through the Digital Talent Scholarship platform.⁴⁰ However, to truly close the skills gap, sustained investment and deeper cross-sector collaboration is required.



Data management and privacy concerns

AI's appetite for vast amounts of data creates unprecedented challenges in privacy and security. Organisations must carefully navigate complex compliance requirements under Indonesia's Personal Data Protection Law, while ensuring the quality and integrity of data used to train AI models. Rigorous data management practices are essential not only to prevent security breaches, but also build and maintain public trust in AI-driven services. The bottomline is that this challenge extends beyond legal compliance, and encompasses sensitive issues around data sovereignty, including restrictions on cross-border data transfers and the delicate balance between fostering innovation and protecting citizen's privacy rights.



Legacy systems and infrastructure

Many Indonesian organisations face difficulties integrating modern AI and cybersecurity frameworks with ageing IT infrastructure. The June 2024 PDNS ransomware attack exposed critical weaknesses, including the lack of proper backup protocols and inadequate modern security controls.⁴¹ These outdated systems create significant vulnerabilities and complicate the deployment of advanced AI-powered security solutions.

37. "Indonesian government under fire for string of cyber breaches". Asia Pacific Foundation of Canada. 15 July 2024.

38. "Threat report: How threat actors are leveraging artificial intelligence (AI) technology to conduct sophisticated attacks". Deloitte. March 2024.

39. "Communications and information ministry provides cybersecurity training for one million people". Indonesian National Police. 15 September 2024.

40. Ibid.

41. "Ransomware attack highlights critical gaps in Indonesia's data and cyber governance". US-ASEAN Business Council. 13 August 2024.

Strategies to strengthen cybersecurity resilience in AI adoption

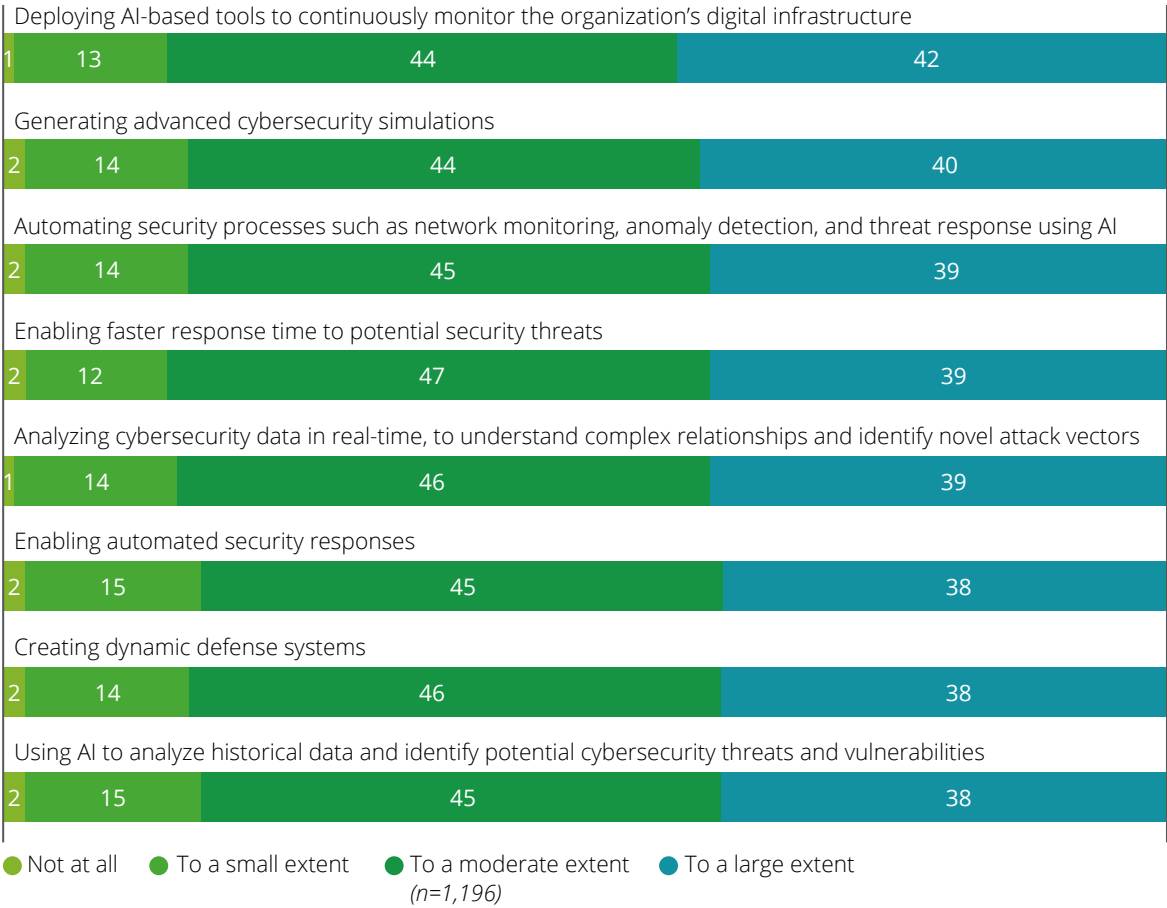
As Indonesia advances towards its AI-driven digital future, its efforts to strengthen its cybersecurity posture must evolve from reactive protection to strategic resilience. The following five strategies highlight how organisations can futureproof their digital defences and embed cybersecurity into the foundation of AI adoption:



Invest in advanced technologies

To stay ahead of increasingly sophisticated cyber threats, organisations must adopt AI-powered threat detection and response systems capable of analysing vast datasets, identifying anomalies, and responding to risks in near real time. Deloitte’s The Global Future of Cyber Survey, 4th Edition, found that an average of 39% of respondents are already using AI capabilities in their cybersecurity programs to a large extent.⁴² At the same time, many have also expressed concerns related to AI, expressing a need to update their cybersecurity strategies to keep up with continuous technology innovation.

Figure 5. Where and how The Global Future of Cyber Survey, 4th Edition respondents see AI emerge as a tool in their cybersecurity programs (in %)



Source: Deloitte The Global Future of Cyber Survey, 4th Edition, 2024.

42. “The Global Future of Cyber Survey, 4th Edition”. Deloitte. 2024.

Leading cybersecurity best practices now recommend deploying AI tools that augment human teams, enhancing intelligence across various domains – including IT asset inventory, threat exposure assessment, controls effectiveness evaluation, and breach risk prediction.⁴³

For instance, AI-enabled systems provide early warnings and enable rapid response to potential attacks by analysing millions of signals in real time – cutting mean-time-to-detect from days to minutes. This continuous monitoring, paired with real-time data analysis, helps cybersecurity teams spot anomalies earlier than traditional methods.

With automated threat detection and incident response – enabled by advanced AI models that predict emerging risks by analysing patterns across internal systems and external threat intelligence – organisations can also reduce human error and focus their attention and resources on strategic risk mitigation efforts.

Another instance is on AI-driven analytics, having the potential to revolutionise risk assessment by factoring in a broad set of variables – such as IT asset inventory, threat exposure, and controls effectiveness – to predict vulnerabilities and prioritise resource allocation for mitigation.⁴⁴ This results in improved visibility into an organisation's true security posture, enabling it to make investment decisions based on actual risk levels rather than assumptions. Through features such as dynamic risk scoring and automated compliance monitoring, AI can simultaneously enhance both efficiency and resilience, enabling organisations to benefit from faster response times, lower costs, and stronger defence against complex threats all at once.

Reflecting this momentum, nearly 80% of organisations globally plan to increase AI spending, reflecting a growing commitment to integrating such advanced AI technologies at the core of their cybersecurity infrastructure.⁴⁵ Nevertheless, it is important that organisations develop comprehensive blueprints in tandem with their AI adoption, in order that these tools are not merely used in isolation, but embedded in enterprise-wide cybersecurity architectures.

Successful cyber transformation hinges on aligning people, processes, technology, and data – ensuring that AI is not just an add-on, but an embedded enabler of a resilient, future-ready cybersecurity posture in an age of intelligent systems.



Enhance talent capabilities

Addressing the cybersecurity talent gap requires more than broad digital literacy – it demands targeted, practical training to build specialised expertise in securing AI systems. As previously mentioned, the government's initiative to train 1 million individuals in cybersecurity fundamentals through online academies is a significant step forward; however, organisations must go further by investing in their own training programs tailored to their evolving threat landscapes.

These programs should equip security teams with the skills to respond to AI-powered threats, manage emerging vulnerabilities, and implement advanced threat detection and response strategies. Specialised training should include areas such as AI risk identification, ethical model implementation, and automated incident handling, and reinforce essential skills, such as device inventory management, software update protocols, phishing and malware protection, and secure data backup procedures.⁴⁶



Engage in cross-sector collaboration

The complexity of AI-related cybersecurity challenges demands unprecedented collaboration between government, industry, academia, and other stakeholders. No single entity can address the risks of AI in isolation; instead, a coordinated, multi-stakeholder approach is essential to balance innovation with cybersecurity and resilience. This collaboration could take place across three key phases - Understand, Grow, and Shape phases (see **Figure 6**).

43. "What is AI in cybersecurity". EC-Council University.

44. "Role of AI in cybersecurity: Benefits of AI on security". EC-Council University.

45. "Now decides next: Generating a new future". Deloitte. January 2025.

46. "Communication and Information Ministry provides cybersecurity training for one million people". Indonesian National Police. 15 September 2024.

Figure 6. Cross-sector AI collaboration phases

Cross-sector AI collaboration could take place across three key phases:



In the **Understand** phase, government establishes advisory and coordinating bodies that draw on expertise from both the public and private sectors to assess emerging AI technologies and their potential risks.

In the **Grow** phase, collaboration expands through national strategies, research grants, and educational programs to support innovation while building local capabilities in secure AI development.



In the **Shape** phase, government and stakeholders co-create governance mechanisms such as oversight bodies, regulatory bodies, and evolving standards to guide responsible AI deployment.

Source: Deloitte Indonesia, 2025.

Such a layered collaboration model that combines regulatory action, infrastructure support, and market incentives is essential to navigate the rapidly evolving AI policy landscape.⁴⁷ One promising example of this in practice is the aforementioned establishment of cybersecurity academies by the authorities. These institutions could serve as a critical bridge between academic research, hands-on training, and real-world industry needs.



Strengthen regulatory and policy support

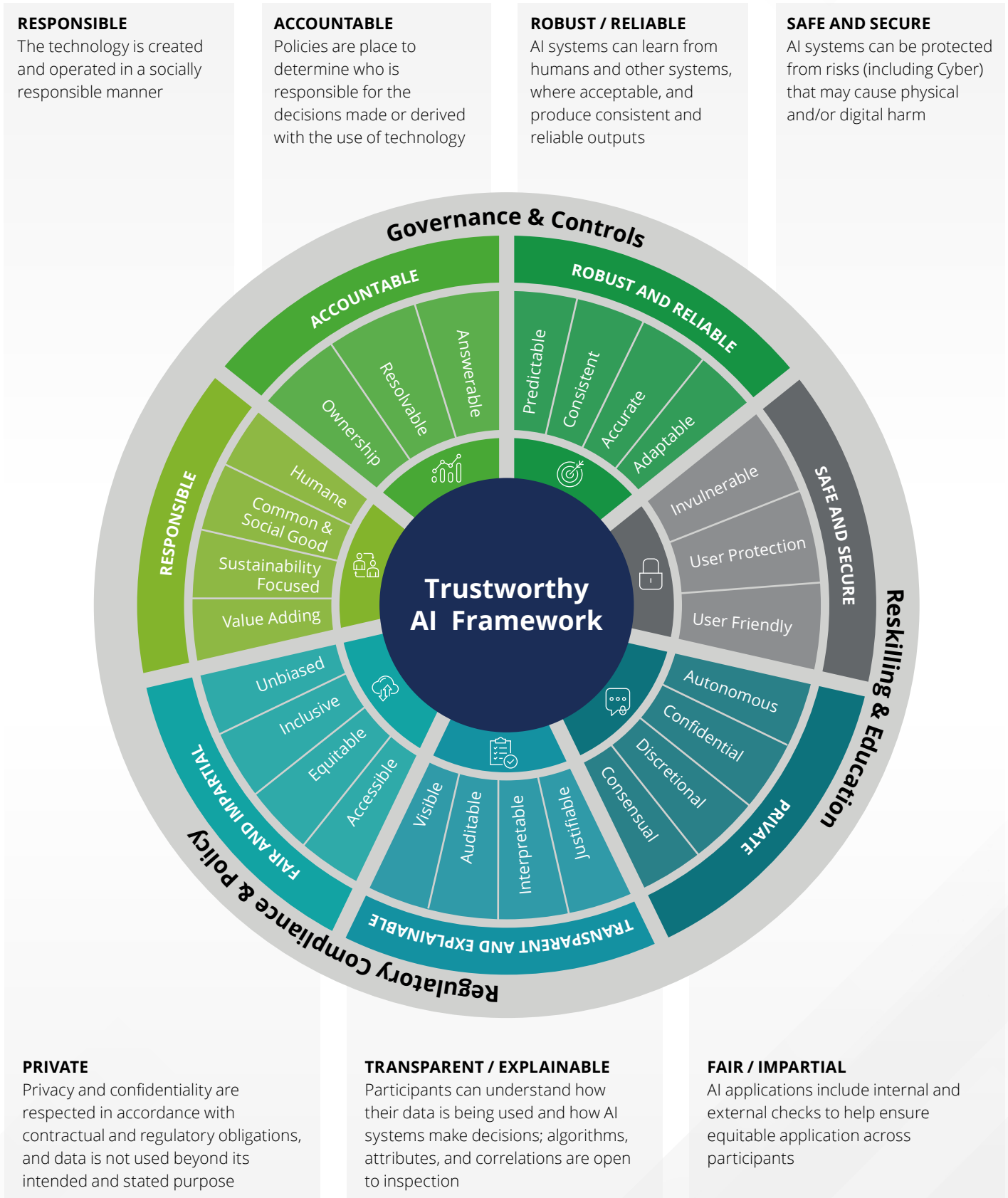
Robust governance frameworks form the foundation for secure and trustworthy AI adoption. As AI becomes more deeply embedded into business operations and public services, organisations must align their implementation strategies with recognised international standards and best practices.

Frameworks such as the NIST AI Risk Management Framework, ISACA Digital Trust Ecosystem for AI, and OWASP AI Security Guidelines offer comprehensive approaches to AI governance, including risk assessment, security controls, and lifecycle management. At the same time, globally recognised standards such as ISO/IEC 42001:2023 for AI management systems and ISO/IEC 23053:2022 for ML frameworks also help organisations maintain strong cybersecurity hygiene, while ensuring alignment with both global best practices and local regulations.

Building on these global benchmarks, Deloitte has developed its own Trustworthy AI framework, which is structured around seven key dimensions that can be leveraged by organisations to build trustworthy and ethical AI (see **Figure 7**).

47. "The AI regulations that aren't being talked about". Deloitte. 10 November 2023.

Figure 7. Deloitte Trustworthy AI Framework





Promote public awareness and education

Cybersecurity resilience is not solely a technical challenge – it requires a well-informed and vigilant public.

As AI-enabled services become

more pervasive, ensuring that individuals understand basic security hygiene is essential. The Indonesian government has made important strides in this area, particularly by targeting awareness campaigns in remote and underserved areas, where the digital divide often translates into heightened cybersecurity risks.⁴⁸ These initiatives focus on building practical knowledge, including how to recognise social engineering tactics, practise safe online behaviour, and report suspicious activities.

A national call to action

As AI reshapes the cybersecurity landscape, organisations that embrace its capabilities stand to gain significant advantages – not only in terms of cybersecurity readiness, but also business performance. Organisations that successfully integrate AI and cybersecurity stand to gain significant competitive advantages in Indonesia's rapidly evolving digital economy, in the form of greater operational efficiency, enhanced customer trust, and enhanced service delivery innovation. For example, insurers adopting AI-powered multimodal fraud detection systems could see potential savings of 20% to 40% in fraud-related costs,⁴⁹ while banks leveraging AI applications to automate complex workflows, predict customer behaviour, and personalise services have cut costs by up to 40% in areas such as software development, while boosting customer satisfaction.⁵⁰

AI, however, is a double-edged sword that presents both profound opportunities and significant challenges for cybersecurity. On the one hand, it introduces new vulnerabilities, attack surfaces, and ethical considerations that must be carefully managed. On the other, it enables unprecedented capabilities in threat detection, risk management, and competitive differentiation.

For Indonesia to realise its national AI strategy and digital economy ambitions, a secure and trustworthy AI foundation is critical. This demands more than technical solutions – it requires a whole-of-nation effort.

Policymakers must strengthen governance frameworks and enforcement; industry must adopt AI responsibly and transparently; academia must build talent pipelines; and the public must be empowered through digital literacy. Together, these efforts will ensure AI enhances national cyber resilience, enables inclusive growth, and positions Indonesia as a regional leader in secure, responsible innovation.



48. "AI as a solution: Indonesian government's efforts to enhance cybersecurity in the digital era". INTI Media. October 2024.

49. "Property and casualty carriers can win the fight against insurance fraud". Deloitte. 24 April 2025.

50. "The future of AI in banking". Deloitte. 2021; "Changing the game: The impact of artificial intelligence on the banking and capital markets sector". Deloitte. 7 August 2024.

AI in action: Redefining the daily tasks of tax professionals

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AI has become so deeply embedded in daily life that it is difficult to imagine how we once managed without it. While its popularity has surged in recent years, its origins date back to the 1950s.⁵¹ Decades of research and technological advancement have since transformed it from a theoretical concept into a practical and pervasive force – one that increasingly influences how businesses operate, how people work, and how value is created.

At its core, AI is a field of computer science focused on enabling machines to replicate aspects of human reasoning, allowing them to learn, adapt, and solve problems autonomously. Fuelled by human curiosity and our pursuit of innovation, AI has advanced far beyond its early rule-based systems. Today, it can identify intricate patterns, extract insights from vast datasets, and apply those insights to new contexts. In many ways, this capacity mirrors the way humans think and respond, giving rise to the ‘intelligence’ in ‘artificial intelligence’.⁵²

Today, AI stands at the forefront of business transformation. It is reshaping industries across every sector – from tax and accounting to healthcare and transportation⁵³ – enhancing how organisations operate, innovate, and make decisions. By automating processes and accelerating insight generation, AI has become a key driver of productivity and innovation.

Across sectors, the benefits of AI are evident. AI streamlines tax compliance, enhances diagnostic accuracy in healthcare, and redefines mobility through autonomous transportation. Yet, these advancements would not be possible without human oversight. Leadership, ethical judgement, and a culture of innovation remain essential to ensure that AI continues to be developed and deployed responsibly.⁵⁴

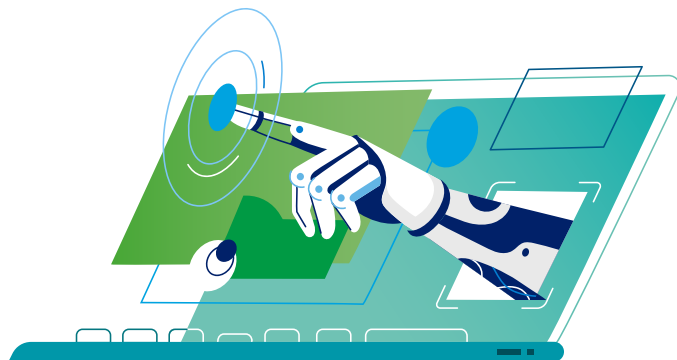
Through a tax professional's lens: Making sense of AI

For today's tax professionals, AI has become an indispensable tool – integrated into daily workflows and relied upon more than ever. Once viewed as experimental, it now stands as a trusted collaborator that helps tax professionals manage complexity, streamline processes, and enhance productivity.

The tax profession has long been defined by demanding workloads and the need for precision and

technical depth. As technology continues to transform the professional services landscape, the rise of AI has naturally prompted reflection on its implications – such as whether it could one day replace the human expertise that underpins the profession.

While some industries have faced workforce displacement due to automation, this has not necessarily been the case for tax. In fact, AI and tax can function together effectively. When used strategically, AI enhances efficiency, improves data accuracy, and accelerates analysis – automating routine processes such as compliance reviews while enabling tax professionals to focus on higher-value tasks. In this sense, AI does not replace human capability. Rather, AI amplifies human capability by delivering outcomes that are not only more accurate, but also more timely and strategically relevant.⁵⁵



That said, the value of AI depends on how responsibly it is applied. Without proper oversight, technology can easily outpace control. Despite advances in generative AI (GenAI) and natural language processing, these tools remain dependent on sound human judgement. Tax professionals play a critical role in reviewing AI-generated outputs, validating data accuracy, and exercising discernment in a complex and highly regulated tax environment.

Equally, the human connection remains irreplaceable. Tax professionals provide nuanced, context-driven advice and build trusted client relationships, which are dimensions that no algorithm can replicate. Whether guiding a client through complex advisory work or navigating sensitive negotiations, empathy and understanding continue to define the human side of the profession.

51. "The birth of artificial intelligence (AI) research". Lawrence Livermore National Laboratory.

52. "The age of AI: What exactly is AI?". Deloitte. November 2022.

53. "How AI is Reshaping the Future of Work across Industries". Forbes. December 2024.

54. Ibid.

55. "The future of tax automation: Can AI replace tax professionals?". Bloomberg Tax. April 2025.

Smarter processes and sharper insights with AI

The rise of AI does not signify the end of tax professionals' careers. Rather, it heralds a new era of opportunity. By automating repetitive and time-intensive tasks, AI enables tax professionals to shift their focus on higher-value work.



Streamlining access to tax regulations

Navigating tax regulations is a fundamental part of a tax professional's work. These regulations underpin every consideration from compliance and advisory to dispute resolution. Given their sheer volume and complexity, identifying the right provision or interpretation can be time-consuming.

Traditionally, this has meant manually reviewing lengthy documents or consulting colleagues with extensive regulatory knowledge. Today, the emergence of GenAI has accelerated this process. As an advanced branch of AI, it can generate text, code, and complex data outputs with remarkable speed and accuracy.⁵⁶

By rapidly analysing large bodies of information, GenAI can identify relevant tax provisions within seconds – tasks that once took hours to complete. This capability does more than improve efficiency. It also strengthens the quality of analysis and decision-making.

For example, when preparing an Advance Pricing Agreement (APA), professionals can use GenAI to identify applicable regulations and even review analogous case examples. The result is not just faster research, but a deeper and more contextual understanding that enhances precision and the value of insights.

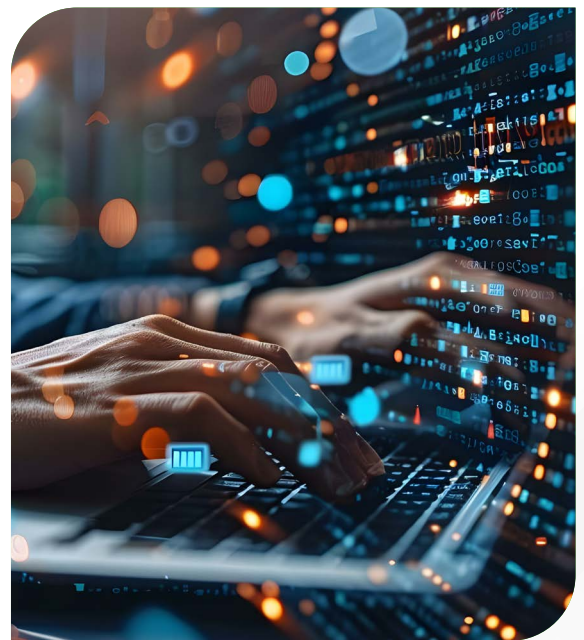


Strengthening tax dispute resolution

A tax dispute arises when a taxpayer disagrees with a decision issued by the tax authority, and these decisions can typically be appealed at the Tax Court under prevailing tax laws and regulations.⁵⁷ In Indonesia, common forms of dispute include tax audits, objections, appeals, and judicial reviews.

One of the most significant challenges in managing tax disputes is that no two tax dispute cases are exactly the same. Each case requires a thorough understanding of the facts, detailed analysis, and well-structured arguments supported by sound technical reasoning. This process demands considerable time and effort to ensure accuracy and persuasiveness.

In this context, GenAI can provide valuable support to tax professionals. It can assist in structuring arguments, exploring alternative perspectives, and generating preliminary drafts or response frameworks. GenAI not only saves time by identifying relevant tax provisions and precedents that strengthen the legal and technical foundation of each case, but also provides professionals with fresh perspectives to approach complex tax issues more effectively.



56. "Generative AI and the future of work." Deloitte. 2023.

57. "Tax Dispute Resolution". Tax Directorate General (DJP) of RI.



Enhancing proposal development

Drafting proposals is a core component of tax practice, requiring professionals to produce tailored, high-quality materials under demanding timelines. With clients spanning diverse industries and service areas – including compliance, dispute resolution, and advisory – each proposal must demonstrate technical rigour, sector relevance, and a clear understanding of the client's priorities. Achieving this often demands significant time and effort, from structuring the narrative and refining content to ensuring that the presentation effectively conveys value and insight to the client.

GenAI is emerging as a strategic enabler in this process, supporting professionals in organising key messages, developing initial outlines, and drafting presentation materials aligned with engagement objectives. By accelerating the preparation of core content, it allows tax professionals to dedicate greater focus on refining strategic insights and strengthening client value propositions.

Beyond content, visual presentation and language precision are equally critical in communicating ideas with clarity and impact. GenAI tools can support professionals in designing layouts tailored to specific industries or audiences, while also refining tone, structure, and clarity of content.

With these enhanced capabilities, proposals can achieve greater clarity, precision, and visual impact – delivered in significantly less time. In the fast-paced tax environment, leveraging such tools is not merely advantageous but essential to achieving efficiency and quality.



Elevating professional communication

Drafting professional emails is often more complex than it appears. Every message must strike the right tone, convey intent clearly, and reflect professionalism – which is why multiple levels of review are typically involved.

AI offers a practical way to streamline this process. With a few well-structured prompts, AI can be used to generate or refine email drafts, paraphrase existing content, or improve tone and structure. This enhances efficiency while maintaining quality and consistency in communication.

That said, maintaining confidentiality remains critical in the use of AI. As AI models are trained based on the data they receive, entering sensitive or client-specific information can expose organisations to unnecessary risks. Tax professionals must therefore exercise discernment, sharing only essential context and avoiding any confidential details.

The use of AI ultimately requires balance – using it to enhance communication and efficiency, while upholding the duty of confidentiality that defines the integrity and trust placed in tax professionals.





Optimising efficiency in data tools

For tax professionals, Excel remains a foundational tool – supporting activities from complex calculations and reconciliations to database management and data analysis. Although it has long been an essential part of the profession, it continues to present new challenges that require ongoing learning and adaptability. The introduction of AI is now transforming how professionals interact with Excel, making it more efficient.

AI helps users use Excel more quickly and accurately. It can quickly generate complex formulas, eliminating the need for manual searches. Beyond formula generation, AI can detect and correct errors, recommend more efficient alternatives, and explain the logic behind specific functions. When working with large datasets, it can also guide users in structuring data, establishing logical connections, and uncovering patterns that might otherwise remain hidden.

By accelerating the learning process and promoting experimentation, AI enables tax professionals to deepen their technical expertise and discover new, more effective ways of working.

Balancing progress with prudence

With the many benefits that AI offers – and the promise of even greater advancements ahead – it is unsurprising that reliance on it continues to grow. What was once a novel and experimental concept has now become deeply embedded in how we work, think, and make decisions.

However, as the saying goes, too much of a good thing can be harmful. Excessive dependence on AI risks eroding the very qualities that distinguish human capability – creativity, critical thinking, and intuition – from tools. Over time, convenience may replace curiosity, leading individuals to delegate even the simplest cognitive tasks to technology. What begins as a request to refine a draft can gradually evolve into a request for AI to perform the task on one's behalf. When this happens, we risk diminishing the human judgement and intellectual rigour that define our value.⁵⁸

AI continues to be a powerful force for progress – but it is not a substitute for human discernment. Its evolution has been made possible by human intellect, and it should remain guided by it. Organisations must exercise sound judgement, ethical awareness, and professional responsibility to ensure that AI remains a tool for empowerment rather than dependence.



For tax professionals, resilience and adaptability have always been central to success – and these qualities are even more vital in this new era. AI is not here to replace us; it is here to enhance our expertise, accelerate our work, and expand what is possible. **By combining human insight with the responsible use of technology, we are not merely adapting to change – we are shaping the future of the profession.**

58. "Forget jobs, AI is taking away much more: Creativity, memory and critical thinking are at risk. New studies sound alarm". The Economic Times. 6 August 2025.



Software distribution – Transfer pricing and tax policy challenges

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Indonesia's digital economy is expanding rapidly, positioning the nation amongst Southeast Asia's fastest-growing technology markets.⁵⁹ However, imprecise tax rules governing software distribution have created significant challenges for businesses.

For example, unclear guidance on how software payments are classified may lead to significant tax adjustments. The underlying issue often lies in determining whether such payments constitute consideration for redistribution or the exploitation of intellectual property (IP).

In contrast, many other jurisdictions – including both Organisation for Economic Co-operation and Development (OECD) and non-OECD member states – treat redistribution payments as ordinary business income rather than royalties.⁶⁰ Without clear guidance, Indonesia risks continued inconsistency, prolonged disputes, and potential double taxation.

In this article, we examine the key tax and transfer pricing considerations surrounding software distribution in Indonesia, and what they mean for Chief Financial Officers (CFOs), Chief Tax Officers (CTxOs), and business leaders navigating an evolving regulatory environment.



Tax and transfer pricing challenges in software distribution

Indonesia's growing digital economy presents significant opportunities for technology companies seeking to expand their regional footprint. At the same time, however, heightened scrutiny by the tax authorities on digital business models underscores the need for businesses to understand how their transactions are characterised. Accurate classification is essential to avoid costly disputes, safeguard cash flow, and support long-term growth.

In recent years, Indonesia have seen a sharp increase in cross-border software distribution transactions – and, correspondingly, related tax disputes. Several companies operating in Indonesia have experienced recurring tax adjustments, that in some cases have amounted to a substantial proportion of their annual revenue.

At the core of these disputes is the absence of a clear legal distinction between transactions that involve the use of, or the right to use, intangible assets, and those intended purely for redistribution. This lack of clarity has led to misapplications of withholding tax, mischaracterisation of entities, cash flow disruptions and instances of double taxation.

Under Law Number 7 of 2021 on the Harmonisation of Tax Regulations, the term 'royalty' encompasses payments made for the use of or right to use intellectual property or technical rights. This includes copyrights, patents, trademarks, designs, formulas, secret processes, industrial or commercial equipment, and know-how. The definition extends to related services, such as broadcasting via satellite or the use of the radio frequency spectrum, and the use of motion picture films or tapes for television or radio, including partial transfers of such rights.⁶¹

This broad definition diverges slightly from the OECD Model Tax Convention, which treats the alienation of IP as a capital gain rather than a royalty.⁶² As a result, Indonesia's interpretation may unintentionally broaden what qualifies as royalty income, increasing the likelihood of misclassification.

The bottomline is that Indonesia's current framework requires greater development and technical guidance to ensure that its tax and transfer pricing system is fit-for-purpose for modern digital transactions.

59. "Indonesia Digital Economy". International Trade Administration OF USA. 17 November 2025.

60. "Model Tax Convention on Income and on Capital 2017". OECD. 2017

61. "The Law No. 7 of 2021 on the Harmonization of Tax Regulations". 2021.

62. "Model Tax Convention on Income and on Capital 2017". OECD. 2017.

Distinguishing redistribution payments from intellectual property exploitation

Software occupies a unique position in the digital economy because it can function as both a product and as a service – and can be treated as either a copyrighted article or as a copyright itself.

The tax characterisation of software payments depends fundamentally on the purpose and scope of the rights transferred. For reference, the OECD defines royalties as ‘payments of any kind received as consideration for the use of, or the right to use, any copyright of literary, artistic or scientific work,

including cinematographic films, any patent, trademark, design or model, plan, secret formula or process, or for information concerning industrial, commercial or scientific experience’.⁶³

Under this definition, payments that grant the acquirer rights to reproduce, modify, or commercially exploit software are characterised as royalties. Conversely, payments made solely for redistribution, without conferring rights of reproduction or adaptation, should be treated as business income (see **Table 1** for a summary of the distinction between redistribution and exploitation).

Table 1. Redistribution versus exploitation of software

Aspect	Redistribution (business income)	Exploitation (royalty)
Nature of rights	Rights to distribute software as a finished product (copyrighted article)	Rights to reproduce, adapt, exploit, or further develop software
Characterisation	Business profit/ordinary income	Royalty
Tax treatment	Subject to corporate income tax	Subject to withholding tax (and corporate income tax, depending on treaty/residency)
Transfer pricing impact	Distribution margin benchmarking (e.g., resale price method)	Licensing/royalty benchmarking (e.g., comparable uncontrolled transaction method)
Risks if misclassified	Double taxation, incorrect transfer pricing method, cash flow disruption	As for redistribution, plus additional withholding tax exposure

This distinction directly affects tax treatment and transfer pricing. Royalties are generally subject to withholding tax, whereas business income falls under corporate income tax. Divergent classification by source and residence jurisdictions can lead to tax mismatches and double taxation.

For instance, Indonesian software distributors may be asked to benchmark their arrangements against license-based models using net sales percentages – an approach that is often impractical and inconsistent with their actual distribution functions.

63. Ibid.

Case law insights from Australia, India, and Malaysia

Ambiguity in classification risks misalignment with international practices. The OECD Commentary (Article 12, Paragraph 14.4) explicitly states that payments made solely for redistribution – without the right to reproduce or exploit IP – should be treated as business profits, not royalties.⁶⁴

Court rulings in multiple jurisdictions both within and outside the OECD framework, such as Australia, India, and Malaysia, consistently support this interpretation, reinforcing the global consensus that software distribution fees should be treated as business income rather than royalties.



Australia: Software distribution fees recognised as business income

As a member of the OECD, Australia has expressly adopted the OECD's interpretation regarding the taxation of software payments. The Australian Taxation Office (ATO) in Draft Taxation Ruling TR 2024/D1 confirms that payments made by distributors who merely resell software without exploiting the underlying IP should be treated as business income, not royalties.⁶⁵ While this is still a draft ruling at the time of writing, the final version is not expected to depart significantly from this position.



India: Software distribution fees recognised as business profits

Although not an OECD member, India has also drawn upon OECD principles in shaping its judicial interpretation.

In a 2021 Supreme Court ruling, India's highest court held that once intellectual property is embedded in a tangible medium (e.g., CDs, software), it constitutes goods subject to sales tax, not royalties under income tax law. The ruling was held on the grounds that the payment represents consideration for the transfer of the physical product rather than the underlying copyright. Consequently, redistribution payments received by licensees were not classified as royalties under the *Income-tax Act*, 1961 or relevant tax treaties, but instead as ordinary business income.⁶⁶



Malaysia: Software distribution fees not recognised as royalties

Malaysia, a non-OECD member, has likewise aligned with the OECD position. In a 2018 High Court ruling, Malaysian courts determined that payments for the right to distribute software copies did not constitute royalties under the Indonesia-Malaysia tax treaty, as no proprietary rights were transferred.⁶⁷

Table 2. Comparative treatment of software distribution payments across jurisdictions

Jurisdiction	Court/authority's view	Characterisation of distribution payments
Australia	Payments for resale without intellectual property exploitation are not royalties	Business profit (not royalty)
India	Software on tangible media treated as goods; redistribution payments not for exploitation of intellectual property	Business profit (not royalty)
Malaysia	Right granted was only to distribute software, not reproduce or exploit intellectual property	Business profit (not royalty); no withholding tax

64. Ibid.

65. "Comments on 'Income tax: royalties – character of payments in respect of software and intellectual property rights' (TR 2024/D1)". Information Technology Industry Council (ITI). 1 March 2024.

66. "Deep dive: Indian Supreme Court's ruling on software licensing fees". International Tax Review. 22 March 2021.

67. "Malaysian Court Holds Software Distribution Fees Not Considered Royalties Under Tax Treaty with the Netherlands". Orbitax. 3 August 2018.



Across all three jurisdictions, a broad consensus emerges: software distribution payments that do not involve IP exploitation should be treated as business income, not royalties.

In the absence of clear domestic guidance, Indonesia faces continued risks of inconsistent interpretation, protracted disputes, and potential double taxation. Establishing alignment with global standards would not only enhance regulatory certainty but also reinforce Indonesia’s credibility in managing the taxation of digital economy transactions.

Using Advance Pricing Agreements to manage transfer pricing risks

Until Indonesia establishes clearer guidance, taxpayers must seek interim mechanisms to manage uncertainty. One such avenue is through the use of APAs. Under the Minister of Finance Regulation No. 172 of 2023 (PMK-172/2023), an APA is defined as a written agreement between the Director General of Taxes (DGT) and a taxpayer, or between the DGT and a partner tax authority, to pre-agree on transfer pricing criteria or methodologies for determining the arm’s length price or profit.⁶⁸

Table 3. Key features of Indonesia’s APA framework

Feature	Details
Types	Unilateral, bilateral, multilateral
Covered transactions	Transfer pricing of cross-border related party transactions (including software distribution)
Duration	Typically covers up to five fiscal years
Validity	Prospective; may include rollback years depending on circumstances and subject to certain terms and conditions
Confidentiality	Confidentiality ensured; data submitted in an APA cannot be used to initiate tax audits
Authority	Directorate General of Taxes—International Division

For software distributors, an APA provides a structured platform to engage directly with the tax authorities, ensuring alignment on pricing methods and characterisation for up to five years, with the potential

for rollback to prior years. Administered by the DGT’s International Division, APAs also foster transparency for complex, cross-border digital business models.⁶⁹

68. “Regulation of the Minister of Finance of The Republic of Indonesia Number 172 Year 2023”. Directorate General of Tax of RI. 2023.
69. Ibid.

Table 4. Advantages and disadvantages of APAs in software distribution disputes

Advantages	Disadvantages
Provide certainty on the treatment for up to five years	Outcomes are case specific and cannot be applied universally across the industry
Neutral platform for direct negotiation with the Indonesian tax authorities	Requires complete transparency, significant preparation, and considerable documentation
Administered by a specialised international division familiar with complex digital business models	Limited number of APAs concluded in Indonesia to date, although activity is increasing
Confidential process tailored to the taxpayer's specific facts	May not fully remove uncertainty until broader regulations are clarified
Efficient process ensuring smooth timely conclusion	Process can take time, depending on complexity and the resources of both parties

While not a substitute for clear regulation, APAs offer certainty and reduce the risk of double taxation on the interim, providing stability as Indonesia transitions toward an updated framework.

Pathways forward

While APAs serve as a valuable bridge for managing uncertainty, lasting certainty in software distribution taxation will require regulatory reform. To build a competitive digital economy and progress toward OECD accession, Indonesia must continue aligning its tax and transfer pricing frameworks with global standards. The recent OECD press release recognised Indonesia's progress in meeting key accession milestones⁷⁰ – a sign of positive momentum.

However, ambiguity in software payment characterisation continues to deter investment and generate disputes. Greater clarity, developed collaboratively between regulators and industry stakeholders, will enable Indonesia to attract investment, foster innovation, and strengthen its position as a leading digital hub in the region.

For CFOs, CTxOs, and business leaders, the immediate priorities are clear. They must review how software transactions are currently

characterised, consider whether an APA may provide interim stability, and actively participate in dialogue with the authorities to help shape Indonesia's evolving tax landscape. Through proactive engagement, Indonesia can strengthen investor confidence, reduce disputes, and position itself as a competitive hub for digital innovation in the region.



70. "Indonesia reaches key milestones in OECD accession process". OECD. 3 June 2025.

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Building Coastal Resilience to Safeguard Indonesia's Economic Backbone

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