UNLOCKING MALAYSIA'S AI POTENTIAL 2025

The AI revolution is taking hold in Malaysia

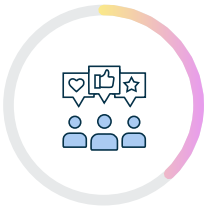
AI adoption is accelerating at an unprecedented pace across Malaysia, reshaping industries and redefining how businesses operate. In 2025, more than 1 in 4 Malaysian businesses (**27%**) are now using AI,[1] up from 1 in 5 (**20%**) last year. This rapid expansion was driven by 630,000[2] new businesses implementing AI technologies during 2024—a pace of more than one new AI adoption every minute throughout the year. This brings the total number of AI-adopting businesses from 1.77 million in 2024 to 2.4 million today, representing a **35%** growth in overall AI adoption.

The benefits are being realised:

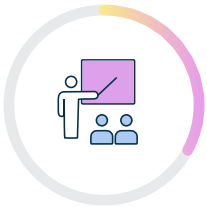
65% of businesses that have adopted AI report increased revenue, with an average increase of **19%**.

Meanwhile, **72%** say they have already seen significant productivity improvements.

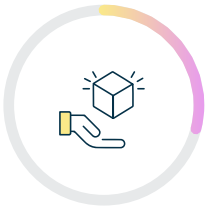
These gains are enabling businesses to redirect their focus toward



Enhancing customer service and relationships (**38%**)



Investing in employee training (**33%**)



and developing new products and services (**28%**)

Adoption in three sectors is very strong: technology and professional services (such as consultancies and systems integrators) at **49%**, closely followed by financial services (**42%**), and manufacturing (**39%**). Looking ahead, optimism remains high: **74%** of those who have adopted AI say the technology is likely to increase their growth in the next year, and **67%** expect cost savings thanks to AI – at an average savings of **15%**.

While over a quarter of Malaysian businesses have taken this important first step, **73%** remain in the early stages of integration, using AI primarily for basic efficiency improvements rather than deeper innovation or transformative change. Unlocking the next wave of impact will require moving beyond experimentation to embedding AI more strategically across operations.

The Malaysian government is capitalising on AI's momentum and boosting initiatives to drive the digital transition, recognising AI's potential to transform and drive economic growth. Malaysia's flagship 2021-2025 AI Roadmap details digital upskilling, talent pipelines, innovation and research, and ethical AI governance as its key pillars. The Roadmap aims to position the nation towards becoming a global leader in AI, with a focus on ensuring that all sectors and groups can capitalise on the benefits of AI to deliver economic prosperity and social well-being. Building on this framework, the government has rolled out programmes such as the Malaysia Digital Economy Blueprint and MyDigital, aimed at upskilling and reskilling the workforce. These programmes and initiatives reflect the government's commitment to prepare the workforce for a digital economy and its ambitions to boost digitalisation, innovation, and AI-driven growth.

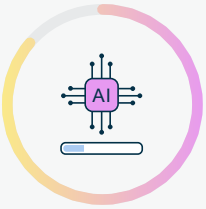
AI stands out as a transformative force for the nation's future. Strong initial adoption figures are encouraging, but the real opportunity lies in deepening AI integration to achieve sustained innovation and productivity gains. This report explores how Malaysian businesses are implementing AI today, and what is needed to unlock its full potential for economic transformation and competitiveness.

Key findings from this study:

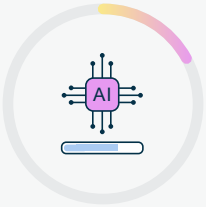
- AI adoption among businesses in Malaysia is growing rapidly – with a growth rate of **35%**.
- Now, over 2.4 million businesses in Malaysia are using AI.
- **81%** of businesses believe that AI will transform their industry in the next five years.
- A lack of digital skills is the highest reported barrier, with well over half (**52%**) saying this restricts their AI adoption and expansion.
- **65%** of Malaysian businesses have seen an increase in revenue thanks to AI adoption, reporting an average revenue growth of **19%**.
- **72%** of AI adopters say they have already seen significant productivity improvements.
- Among AI-adopting businesses, only **10%** have reached the most transformative stage of AI adoption.

AI adoption is accelerating but masks a growing digital divide

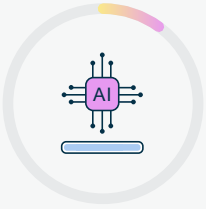
While **27%** of businesses have adopted AI in Malaysia, attesting to AI's growing momentum and accessibility to all businesses, celebrating adoption figures alone masks an underlying trend. Most Malaysian organisations remain at basic levels of AI adoption:



73% of Malaysia's businesses remain focused primarily on more basic uses of AI and incremental gains (e.g., driving efficiencies and streamlining processes), rather than innovation (e.g., developing new products or disrupting industries). These businesses are using publicly available chatbots for routine tasks such as scheduling assistants, and purchasing ready-made AI solutions for data analysis, financial analysis or cybersecurity. The retail industry is most concentrated at this stage (**85%**).



17% have advanced to the intermediate stage of AI adoption. These companies are moving beyond isolated applications and integrating AI across various business functions and products, resulting in efficiency improvements and more innovative approaches to customer experience. At this stage, many businesses are embedding recommendation algorithms or personalised features in apps or websites to enhance their services. The financial services sector is leading the way, taking this next step of AI integration, with **30%** at this stage, followed by the technology sector at **25%**, and manufacturing at **24%**.



Only **10%** of Malaysian businesses have reached the most transformative stage of AI integration, where they are using AI for its most advanced purposes. These organisations are combining multiple AI tools or models for complex tasks such as predictive analytics, or even creating their own custom AI systems, resulting in operational transformation, entirely new business models, and industry-disrupting innovations. The financial services sector is also leading the way in terms of the most sophisticated AI uses, with **21%** at this stage, followed by the technology sector at **20%**, and healthcare at **15%**.

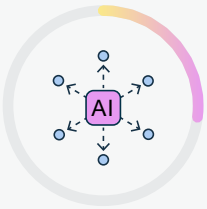
This trend underscores a critical divide in AI adoption – and around the region, a similar pattern is emerging. Only **10%** of Malaysia's businesses have reached the most advanced stages of AI, similar to **10%** of those in Indonesia and **8%** of those in the Philippines. While AI is increasingly being widely used across businesses in Malaysia, a small segment of organisations has already harnessed the technology's most transformative potential. Most companies are still exploring AI's benefits, missing out on the deeper strategic advantages it can offer.

However, going a layer deeper beneath this trend, there is an emerging divide between those who remain at the first steps versus those who are harnessing AI's true transformative power, particularly between Malaysian startups and large enterprises. While nearly half of Malaysian startups (**46%**) remain at the most basic stage of AI adoption, **74%** of large enterprises are at this basic adoption stage, underscoring the vast untapped potential of AI across its business landscape. To fully realise AI's promise, more businesses will need to move beyond experimentation and efficiency gains, and toward deeper integration and innovation.

Malaysian startups are emerging as leaders in AI innovation

Startups[3] aren't just using AI – they're harnessing the technology to build entirely new products and business models around it that would have been impossible just years ago. Almost half (**48%**) of startups say they are leveraging AI in some way throughout their business.

Of these, only **46%** remain at the basic stage of AI use.



27% of startups have AI at the core of their business proposition and operations, and **26%** are leveraging AI for its most advanced uses.

31% of startups are developing new AI-driven products and services.

41% of startups employ AI-specific talent, indicating a strong commitment to building and nurturing in-house AI expertise, ensuring businesses can develop, deploy, and refine AI-driven strategies.

This ambition is matched by optimism. **81%** of Malaysian businesses overall (and **83%** of startups), believe AI will transform their industry within the next five years. This positions Malaysia's fast-moving startup sector as a key engine of innovation and global competitiveness, capable of shaping the country's digital economy and reinforcing its status as a regional leader in AI-driven growth.

Case Study: 123RF

123RF, one of the world's largest media asset libraries with over 230 million assets serving 12.4 million users globally, sought to enhance its content management capabilities to better serve its growing customer base. The Malaysia-headquartered company identified opportunities to streamline its content processing workflow, optimize translation processes, and improve search functionality. With over 3 million monthly image uploads requiring compliance, copyright, and quality checks, 123RF aimed to accelerate its traditional workflow of 30-40 human reviewers that typically took up to two weeks to process content from upload to marketplace listing, while also improving copyright protection measures.

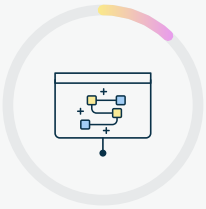
By leveraging AWS's generative AI capabilities, 123RF transformed its operations across multiple fronts. Using Amazon Bedrock with Anthropic's Claude 3 Haiku model, they built an AI-powered translation system that understands cultural nuances across 15 languages, reducing translation costs by **90%**. They implemented Amazon Nova understanding models to automatically detect copyright infringements, trademarked logos, and quality issues, cutting manual review time by **50%**. The company also developed AI-powered social media content generation and scheduling tools that create platform-specific copy and visuals while maintaining brand consistency.

Read more about their work with AWS here.

Large enterprises represent great untapped potential

While adoption is now widespread, large enterprises[4] are not yet harnessing the most advanced uses of AI, presenting significant untapped potential for Malaysia. While **44%** of large enterprises have adopted AI technologies (significantly greater than the national average of **27%**) most are currently not using them as deeply as startups, resulting in an emerging 'two-tier' AI economy.

For nearly three quarters (**74%**) of large enterprises, their AI adoption remains at basic levels, where they are focused on incremental gains, such as driving efficiencies and streamlining processes. While large enterprises are quick to enable localised productivity and efficiency gains, their younger, more agile startup counterparts are surging ahead with integrating AI's most sophisticated and transformational uses into their businesses.



Only **12%** of Malaysia's large enterprises have a comprehensive AI strategy, a roadmap that outlines how an organisation will leverage AI. Currently, just **15%** are delivering a new AI-driven product or service by harnessing AI's deeper potential, less than half of the proportion of startups (**31%**).

If not addressed, this 'two-tier' AI economy—with tech-driven startups outpacing larger, established enterprises in AI innovation—can impact Malaysia's AI-driven growth and innovation in the years to come. Yet the very scale and resources of these large enterprises give them unmatched potential to drive nationwide transformation once they move beyond basic adoption.

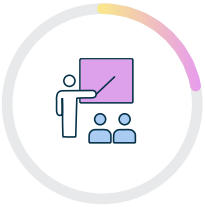
By empowering businesses of all sizes to scale advanced AI solutions, Malaysia can accelerate productivity growth and digital competitiveness across its entire economy. Moving from early experimentation to deep, strategic integration is key to unlocking AI's full economic and societal benefits. Recent research by the Telecoms Advisory Service, on behalf of AWS, found that cloud and cloud-enabled AI added over $3 billion to Malaysia's GDP in 2023. The research also found that cloud, as a whole, is set to add $2.8 trillion to the Asia-Pacific region's GDP by 2030, with nearly $203 billion alone coming from cloud-enabled AI.

Key barriers to AI adoption

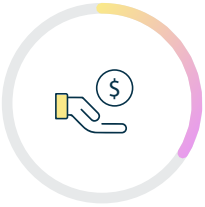
Barrriers are restricting AI adoption and innovation in Malaysia:

Skills

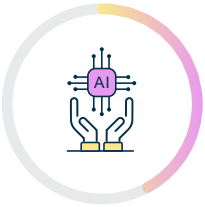
Businesses across Malaysia identify the skills gap as a crucial challenge to their AI adoption. A lack of skill was the highest reported barrier, with **52%** of businesses saying it prevents them from adopting or expanding their AI use. Businesses expect that AI literacy is expected to be important for **54%** of jobs in the next three years and only **29%** of businesses feel prepared with their current skillset. The skills barrier is most prominently reported by the technology industry at **65%**, followed by the healthcare industry at **62%** and the professional services industry at **61%**.



A fifth (**22%**) of employees have participated in digital training or upskilling in the past year.



Facing a skills shortage, businesses say they would be willing to increase a salary offer by **34%** to a candidate with strong AI skills.



Businesses report that the most lacking skills in their workforce are adapting to new digital technologies (**43%**), data analysis and interpretation (**39%**), and the basics of AI and machine learning (**32%**).

Regulatory uncertainty

Across the world, businesses are facing growing regulatory uncertainty as new rules are considered for emerging technologies like AI.

Although Malaysia does not yet have AI-specific regulation, around the world, many policymakers are actively exploring possible frameworks, and future rules are expected to take shape in the coming years. Against this backdrop, Malaysian businesses are watching closely. When asked about the potential impact of a new regulation, the number one reported hope was that new AI regulation would provide a stable regulatory framework (**49%**), closely followed by increased confidence among customers (**44%**).

Similarly, regarding concerns around the introduction of new regulation, businesses express worries about an increase in compliance costs (**42%**), slowed innovation in AI (**41%**), and a lack of legal certainty around AI use and deployment (**40%**). This demonstrates the critical importance of taking a pro-innovation approach and providing regulatory certainty to businesses as they consider these next technologies.

Perceived costs

39% of Malaysian businesses cite perceived upfront costs as a key barrier to AI adoption.

Interestingly, **31%** of businesses say they need a clearer understanding of AI's return on investment, yet **65%** of Malaysian businesses have seen a significant increase in revenue from AI, with an average **19%** revenue growth attributed to AI.

This knowledge-action gap between proven results and perceived risk highlights the need for boosted digital and AI training, transparent case studies, and ROI modelling to help businesses move from awareness to confident action.

These barriers risk acting as a brake on the pace of digital transformation across Malaysia. Addressing them will be essential to establishing Malaysia's leadership in AI adoption and innovation.

Case Study: National Digital Department of Malaysia

The National Digital Department (Jabatan Digital Negara - JDN) of Malaysia aimed to accelerate the adoption of AI across more than 800 public sector agencies. With a vision to transform public service delivery through AI-driven innovation, JDN recognized the need for a coordinated, scalable approach that would democratise access to AI capabilities, encourage experimentation, and uphold consistent governance standards.

As the central agency driving digital transformation, JDN set out to develop a platform that empowers government entities to leverage AI to enhance citizen-centric services. In collaboration with AWS, JDN launched an AI Sandbox initiative through an AI-as-a-Service (AIaaS) portal.

This initiative allows agencies to submit problem statement, ranging from AI-based customer service chatbots and document automation to predictive analytics and AI-powered multilingual translation for government communication, directly to the JDN AI Sandbox. Developed in partnership with AWS, the sandbox is supported by cloud credits and provides access to advanced generative AI services such as Amazon Bedrock and Amazon Q for rapid prototyping.

Successful prototypes can be seamlessly transitioned into production environments via Malaysia's Cloud Framework Agreement with AWS, establishing a full pipeline from ideation to implementation, ultimately supporting JDN's mission to modernise public sector service delivery through responsible and impactful AI adoption.

AWS is committed to supporting Malaysia's digital ambitions

In 2024, AWS launched its AWS Asia Pacific (Malaysia) Region, allowing AWS customers to run workloads and securely store data in Malaysia by leveraging advanced AWS technologies.

Through an investment of more than US$6.2 billion in the country, AWS estimates that the new AWS Asia Pacific (Malaysia) region will support an average of more than 3,500 full-time equivalent jobs annually in Malaysia, and contribute approximately US$12.1 billion to Malaysia's GDP.

AWS is committed to providing people of varying backgrounds and experiences with the technology skills they need to prepare for jobs of the future. We have trained over 100,000 individuals in Malaysia on cloud skills since 2017.

Unlocking AI's full potential through three crucial actions

Malaysia has the right tools and ambitions to harness the full potential of AI, not only in a more widespread adoption of technology, but also in innovation. AWS urges policymakers and industry leaders to take action to unlock AI's full potential across both startups and large enterprises:

1. **Accelerate private sector digital adoption through boosted skill efforts:** Streamline access to government funding and build industry-specific digital skills programs (**68%** see digital skills as crucial, only **29%** feel prepared). This mismatch highlights the need for targeted upskilling initiatives, including partnerships between government, industry, and educational institutions. Closing this gap is key to unlocking Malaysia's next wave of innovation, productivity, and growth.

   One of the Malaysian government's flagship initiatives is RakyatDigital – a platform dedicated to advancing literacy in emerging technologies, in alignment with national agenda recognising digital capabilities and AI as vital drivers of global economic growth and competitiveness. Launched in January 2024, the digital upskilling initiative has so far reached over 1 million users in just six months.

   The momentum and success of this initiative, as well as the continued skills gap businesses continue to highlight, illustrate the need for targeted, industry-specific upskilling programmes developed through collaboration between government, industry, and education sectors.

2. **Establish a pro-innovation and pro-growth regulatory environment:** Fostering confident investment in AI and boosting AI-driven innovation will be enabled through maintaining a clear and streamlined regulatory environment. Establishing an AI regulatory sandbox, where companies can safely test new AI solutions under supervised conditions, would encourage experimentation while regulators refine future rules. Additionally, aligning on common international standards and legal definitions with international partners can help drive compliance costs down at a global level, not only in Malaysia, and create a stable environment which supports AI adoption.

   The goal is not just to manage risk, but to create clarity and confidence that allows AI to be adopted faster. Smart, enabling regulation is risk-based — focusing oversight where potential harm is greatest — and proportionate, so low-risk applications can scale quickly.

   Policies should avoid equating sovereignty with requiring AI systems to be developed or hosted exclusively within one economy. True sovereignty is about maintaining control over how AI is built, secured, and used, not isolation. Overly localised approaches risk duplicating infrastructure, consuming more resources, creating new vulnerabilities, and slowing innovation. Interoperable governance and trusted assurance can safeguard security and privacy while allowing innovation to flow across borders.

   Businesses in Malaysia are facing rising compliance costs on technologies; acting as a barrier to increased AI adoption, which risks missing out on key opportunities for growth and innovation throughout Malaysia. To address this, policymakers could consider targeted reforms such as government-funded compliance assessment services for SMEs, helping smaller firms meet requirements more efficiently and freeing up resources to focus on innovation and scaling.

3. **Increase public sector adoption of AI:** Prioritise digital transformation across industries such as healthcare and education (both of which are citizen priorities for digitalisation), use public procurement to drive innovation, and create test-beds, and cross-border exploratory projects using AI to deliver new services. **71%** of Malaysian businesses say they are more likely to adopt and expand their AI use when the public sector leads, and **76%** of startups say that public sector adoption is crucial to their ability to scale, attesting that the public sector adoption of new technologies is crucial to increasing trust in these technologies.

Conclusion

Malaysia has the ambition and foundation to harness the full potential of AI across business sectors and sizes, with many large enterprises already taking initial steps toward innovation and growth. By leveraging advanced tools, world-class cloud infrastructure, and a dynamic digital economy, businesses can accelerate transformation and remain competitive in an AI-powered global market. With **68%** of leaders recognising digital skills as crucial but only **29%** feeling prepared, enterprises have a clear opportunity to close the talent gap through upskilling and partnerships with government and academia.

A pro-innovation regulatory environment, aligned with international standards and sensitive to rising compliance costs, combined with strong public sector AI initiatives, can build trust, create demand for enterprise solutions, and accelerate digital transformation. By embracing AI now, Malaysia's largest companies can capture value, drive industry-wide progress, and position the nation as a regional hub for AI-driven growth.

Appendix

Methodology

The fieldwork for this study was undertaken by Strand Partners' research team for Amazon Web Services. This research has followed the guidance set forth by the UK Market Research Society and ESOMAR. For the purposes of this study, business leaders are defined as founders, CEOs, or members of the C-suite in organisations.

'Citizens' are nationally representative members of the public based on the latest available census.

For inquiries regarding our methodology, please direct your questions to: polling@strandpartners.com.

In Malaysia:

- We surveyed 1,000 members of the public, ensuring representation based on region, age, and gender.
- Additionally, we surveyed 1,000 businesses, representative by region, business size, and sector.

Sampling:

Our sampling process used a mix of online panels that are recognised for their validity and reliability. These panels are carefully curated to ensure diverse representation across various demographics. For the business leaders, the panels are selected with a consideration for organisational size, sector, and position within the company. Our objective with the sampling strategy is to achieve an optimal mix that mirrors the actual distribution of our target populations in the respective markets.

Weighting Techniques:

Post-data collection, we applied iterative proportional weight to correct any discrepancies or over-representations in the sample.

Survey:

This study was designed with the objective of delving deep into the digital landscape:

- Usage Patterns: This survey gauges the evolving patterns of digital technology usage. We are particularly interested in examining the adoption and implementation levels of technologies, focusing on cloud computing and artificial intelligence.
- Perceptions and Attitudes: The survey seeks to unearth the prevailing perceptions and attitudes toward digital technologies, understanding the perceived benefits, challenges, and potential ramifications of both present and emerging tech solutions.
- Barriers and Opportunities: The survey scrutinises the predicted challenges and potential avenues that both businesses and individuals anticipate on their digital trajectory. This involves pinpointing challenges, from skill deficits to regulatory complications, and recognising opportunities for growth, innovation, and market development.
- 'Size of the Prize': The survey shed light on the economic repercussions and growth prospects linked with digital transformation. By elucidating the 'size of the prize', we aspire to stress the importance of digital transformation and foster further investments and technology adoption.

References

1. "Adopted AI" or "consistently use AI": a business that consistently uses at least one AI tool. This would not include businesses that experimented with AI once or twice, or ran a temporary pilot programme, for instance.
2. Calculated based on recent estimations of the total number of active enterprises, which was 9 million in 2024: https://www.ssm.com.my/Pages/Publication/Statistics/Companies%20and%20Business%20Registered/Companies%20and%20Business%20Registered%20Statistic%20for%202024/Company-and-Business-Registered-Statistic-2024.aspx
3. A startup is a business founded in the last 2 years which provides a new product/service or innovation and is aiming for rapid growth in terms of employees and turnover.
4. A large enterprise is a business with 500 or more employees, founded 10 years ago or more.