A Business-Friendly ASEAN Guide for AI Ethics and Governance

Artificial Intelligence (AI) is the discipline of creating intelligent machines capable of analytical reasoning, enabling organisations to operate effectively and with foresight.

AI has transformed business operations into more efficient, competitive, and productive ones. For example, GrabMaps uses AI to cleanse and process the street view aggregated from data from merchants, drivers, and delivery partners to create a digital map to help drivers reach their destination quickly. Meanwhile, Kata.ai offers custom chatbots to automate customer service in Bahasa Indonesia.

According to Kearney, AI could add a 10 to 18 per cent GDP uplift across ASEAN, with a value of nearly USD 1 trillion by 2030. In ASEAN, 80 per cent of surveyed businesses in the region are already in the early stages of AI adoption.

Nonetheless, the upsurge of AI permeating the economy and social life is not without risk. AI relies heavily on data generated by users' activities. Limitations in the data pool or coding may result in biases in decision-making. Additionally, AI poses risks such as privacy breaches and vulnerability to attacks due to inadequate cybersecurity that may expose AI systems. Therefore, AI governance in ASEAN is imperative to mitigate these risks, including ensuring inclusivity, data protection, and cyber resilience while achieving AI's full potential for the ASEAN economy.

Against this background, the ASEAN Digital Ministers recently endorsed the ASEAN Guide for AI Ethics and Governance (hereafter: The Guide). The Guide serves as a practical guide for organisations in the region that wish to design, develop, and deploy traditional AI technologies in commercial and non-military or dual-use applications. It focuses on encouraging alignment within ASEAN and fostering the interoperability of AI frameworks across jurisdictions. It also includes recommendations on national-level and regional-level initiatives that governments in the region can consider implementing to design, develop, and deploy AI systems responsibly.

ASEAN Guide for AI Ethics and Governance

The ASEAN Guide for AI Ethics and Governance aims to empower organisations and governments in ASEAN to design, develop, and deploy traditional AI systems responsibly and increase users' trusts in AI. The Guide contains seven guiding principles to ensure trust in AI and the design, development, and deployment of ethical AI systems that consider the broader societal impact. The Guide also includes measures on the recommended governance framework to promote the responsible use of AI that organisations or business should adopt in the governance structure, the level of human involvement in AI-augmented decision making, operations management, and stakeholders' interaction and communication.

The Seven Guiding Principles

Transparency and Explainability

Transparency refers to providing disclosure on when an AI system is being used and the involvement of AI system in a decision-making, the data it uses, and its purposes. Meanwhile explainability is the ability to communicate the reasoning behind an AI system's decision in an understandable way to all relevant stakeholders. These principles are to build public trust through ensuring that users are aware of the use of AI technology, how information from their interaction is used, and how the AI system makes its decisions using the provided information.

Fairness and Equity

To ensure fairness, deployers are encouraged to have measures in place to ensure that the algorithmic decisions do not further exacerbate or amplify existing discriminatory or unjust impacts across different demographics and the design, development, and deployment of AI systems should not result in unfair biasness or discrimination. In addition, the datasets used to train the AI systems should be diverse and representative. Appropriate measures should be taken to mitigate potential biases during data collection and pre-processing, training, and inference.

Security and Safety

Safety refers to ensuring the safety of developers, deployers, and users of AI systems. Therefore, impact or risk assessment should be conducted to identify and mitigate risks that may arise from the AI system. Additionally, deployers should conduct relevant testing or certification and implement the appropriate level of human intervention to prevent harm when unsafe decision take place. Meanwhile, security refers to ensuring the cybersecurity of AI systems includes mechanisms against malicious attacks specific to AI such as data poisoning, model inversion, the tampering of datasets, byzantine attacks in federated learning, as well as other attacks designed to reverse engineer personal data used to train the AI.

Human-centricity

AI system should respect human-centred values and pursue benefits for human society, including human beings' well-being, nutrition, happiness, and et cetera. Especially in instances where AI systems are used to make decisions about humans or aid them, it is imperative that these systems are designed with human benefit in mind and do not take advantage of vulnerable individuals.

Privacy and Data Governance

AI System should have proper mechanisms in place to ensure data privacy and protection and maintain and protect the quality and integrity of data throughout their entire lifecycle. Thus, data protocols need to be set up to govern who can access data and when data can be accessed. The way data is collected, stored, generated, and deleted throughout the AI system lifecycle must comply with applicable data protection laws, data governance legislation, and ethical principles.

Accountability and Integrity

Deployers should be accountable for decisions made by AI systems and for the compliance with applicable laws and respect for AI ethics and principles. AI actors, or those involved in at least one stage of the AI system life cycle, should act with integrity throughout the AI system lifecycle when designing, developing, and deploying AI systems. Therefore, organisations should adopt clear reporting structures for internal governance, setting out clearly the different kinds of roles and responsibilities for thos involved in the AI system lifecycle.

Robustness and Reliability

AI systems should be sufficiently robust to cope with errors during execution and unexpected or erroneous input, or cope with stressful environmental conditions. Deployers should conduct rigorous testing before deployment to ensure robustness and consistent results across a range of situations and environments.

The AI Governance Framework

Internal Governance Structures and Measures

Organisations need to put in place internal governance structures to monitor how AI systems are designed, developed, and deployed. For example, organisations could consider setting up a multi-disciplinary, central governing body, to oversee AI governance efforts, provide independent advice, and develop standards, guidelines, tools, and templates to help other teams design, develop, and deploy AI responsibly. Deployers need to also ensure that proper guidance and training resources are provided to the individuals involves in the governance process and that broader awareness is raised across the organization. Nonetheless, in considering the above recommendations, developers and deployers should also take heed of factors such as companies' size and capacity to ensure the governance is relevant and fitting for the business.

Determining the level of human involvement in AI-augmented decision making

Business should determine the level of risk and the category of human involvement in AI-augmented decision making. The assessment could evaluate the AI solutions in two axes – the probability and severity of harm to users and individuals involved in the AI system lifecycle. For example, AI systems that have high severity and probability of harm should adopt a human-in-the-loop approach where human can assume full control of the system and decide when it is safe to execute decisions. The assessment should be made for all user types and deployers are encouraged to provide special consideration to impact on vulnerable and/or marginalized populations.

Operations Management

AI governance should be built into all AI systems lifecycle, which consist of (1) project governance and problem statement definition, (2) data collection and processing, (3) modelling, (4) outcome analysis, and (5) deployment and monitoring. Deployers should conduct risk-based assessments of the AI systems before starting any data collection and processing or modelling. Following the risk assessed, deployers should put in place mitigation measures to manage the risks relating to AI system. Additionally, throughout the data collection and processing, constant monitoring of datasets used and variable performance of the model across different target populations sub-group should be conducted to mitigate risks of unjust bias. Even after the AI system has been developed and deployed, deployers need to continue reviewing the system, datasets, and model metrics periodically and make reasonable effort to ensure the accuracy, relevance, and reliability of data and outcomes. Developers may also refer to the relevant ISO standards for data robustness, quality, and other data governance practices.

Stakeholder interaction and communication

Business must develop trust with all relevant stakeholders throughout the design, development, and deployment of AI. Deployers should consider providing general disclosure of when AI is used in their product and/or service offering. Furthermore, deployers could also consider developing a standardized policy that dictates what level of information, who to provide information, and how to provide information to stakeholders. Deployers could consider providing information related to the needs of the users as they navigate the interaction with the system. Lastly, deployers should put in place feedback mechanism for users and other mechanisms to give feedback on the performance and output of the AI system.
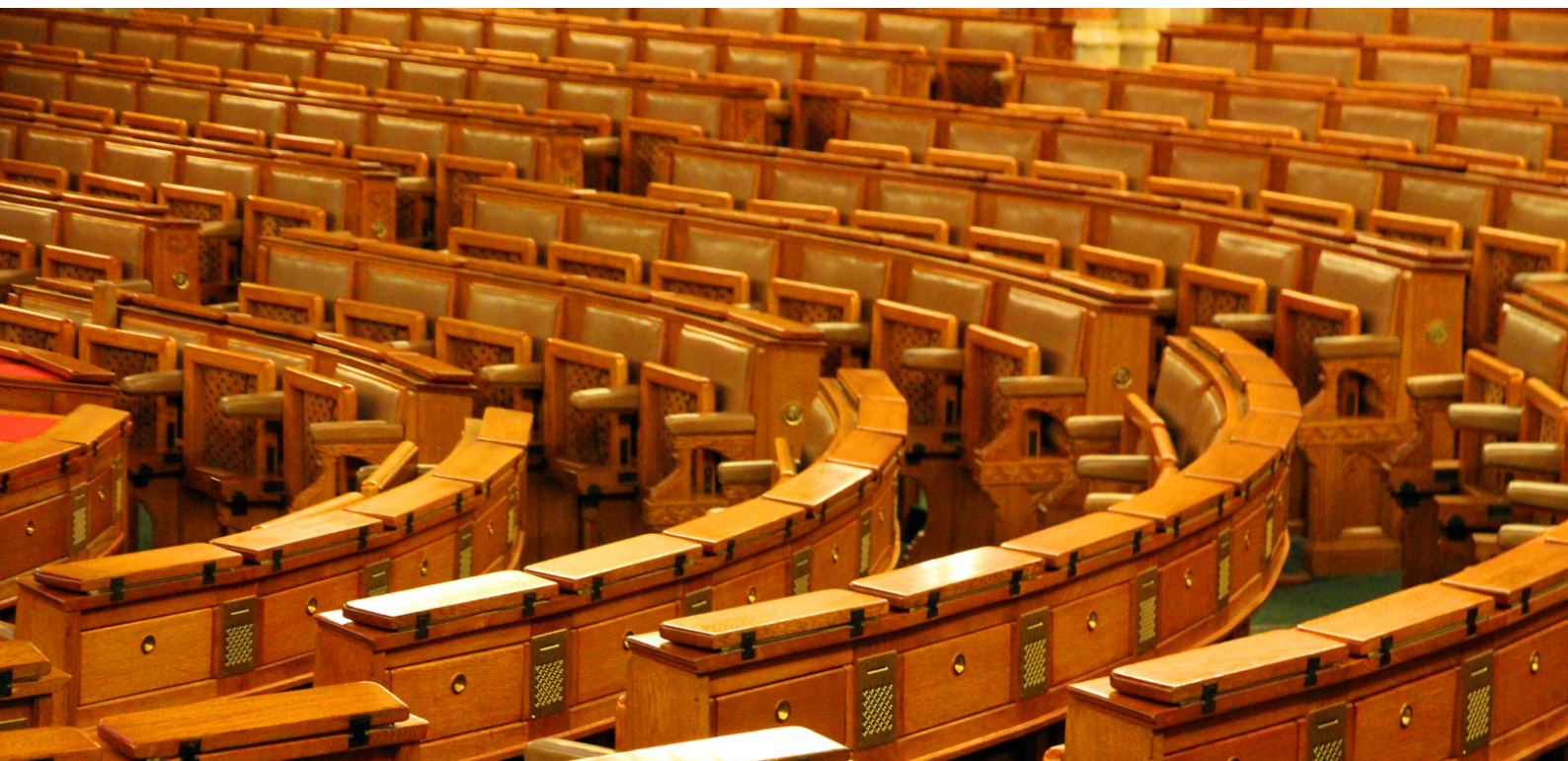
A Business-Friendly AI Governance

A business-friendly ASEAN Guide for AI Ethics and Governance is crucial for the region's technological development. It fosters innovation by providing clear guidelines without excessive burdens. This allows companies to confidently invest in AI while ensuring responsible development. The guide promotes trust by addressing ethical concerns, attracting a wider range of users and investors. This creates a win-win situation, where businesses thrive alongside a future-proofed ASEAN landscape for AI. Furthermore, the Guide is business-friendly for the following reason:

Inclusive Development of the Guide

The Guide was developed with extensive consultation with the private sector. Close consultation and the reference to actual cases were included to ensure that the Guide is business-friendly for all businesses operating in ASEAN and will enable the businesses in ASEAN to thrive utilising AI responsibly.

Establishing User Trusts on AI-powered Products and Services

The guide includes the necessary principles such as transparency and explainability to establish users' trust in AI powered products and services. It recognises that fostering users trust in AI is a linchpin to a vibrant AI ecosystem. As users trust that their data is protected and that AI is developed and deployed in a way that does not harm their interest, users will be more open to AI-powered services and products, leading to increased usage and loyalty.

Facilitating economic and cultural diversity in ASEAN

ASEAN Member States have different levels of economic development and digital readiness, as well as wide cultural and language diversities. The guide encourages business and tech players to take countries' differences into account to enable that AI could further the social advancement and become growth engine for all ASEAN Member States and does not further exacerbate the existing inequalities. The guide also creates a room for a regional collaboration on AI policy development in ASEAN which will be important in facilitating interoperability of AI frameworks in the region.

Encouraging Innovation

The Guide promotes innovation as it leaves implementation details to companies and local regulators under the regional AI risk assessment and governance framework, and it also recognizes that a one-size-fits-all approach to AI governance is not ideal. The guide provides more freedom for business to experiment with innovations to further innovate and advance AI development and innovation, which would benefit long-term technological development in ASEAN. It facilitates ASEAN to be a conducive place to test ideas and conduct business experiments for AI powered services and products in an increasing market demand in the global digital landscape.

The Guide is nominated for the United Nations (UN) World Summit on the Information Society (WSIS) Prizes 2024. The WSIS Prizes is an international award to recognise projects and activities by individuals, governments, private-sector, academia, international and regional organisations, and civil society for their success in implementing projects and activities that leverage the power of ICT to advance sustainable development.

Vote the Guide to win the prize at this link or by scanning the QR code below:

The full version of the Guide can be downloaded at this link .

ADVANCING RESPONSIBLE AI THROUGH MULTILATERAL ORGANIZATIONS COLLABORATION

Opinion Editorial by Ajar Edi

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The ASEAN has taken a significant step towards fostering digital transformation and integration within the region by issuing the ASEAN Guide on Artificial Intelligence (AI) Ethics and Governance and the Digital Economic Framework Agreement (DEFA). Published on February 2, 2024, the ASEAN AI Guide offers a comprehensive framework for responsible AI development and deployment. Concurrently, the DEFA which is currently under negotiation, provides a strategic roadmap for digital economic growth.

These initiatives collectively aim to enhance interoperability across jurisdictions, bolster security and safety, and foster inclusive growth. Endorsed last year, the DEFA study underscores cooperation on emerging topics, including AI, as one of DEFA's nine core elements. Consequently, the principles and guidelines delineated in the ASEAN AI Guide could potentially serve as a cornerstone for the implementation of AI-related aspects of the DEFA.

These initiatives represent a commendable stride in the journey of AI governance, laying the groundwork for the acceleration of an inclusive digital economy in the region. The influence of Generation AI (Gen AI) transcends the impact of a single product and can be likened to the overarching effect of digital transformation. Gen AI, with its potential to catalyze creativity, expedite discovery, and augment efficiency, is poised to be a game-changer for economic and social transformation.

The introduction of two critical factors, namely natural language interfaces and reasoning engines, makes these capabilities of Gen AI achievable. The natural language interface facilitates interaction with computers using everyday language, while reasoning engines are capable of capturing, processing, and deriving insights from a plethora of rapidly expanding data sources. This is not merely about automation; it's about enabling more intelligent, faster decision-making and unveiling hidden opportunities.

At Microsoft, Gen AI serves as a "copilot" that enhances people's capabilities in their roles, while humans remain the accountable "pilots". This leads to a transformation of tasks within jobs, rather than outright job replacement. According to a study by IDC and Microsoft, for every $1 invested in AI, the average company sees a return of $3.51.

It is important to note that these are averages, and actual results may vary depending on factors such as implementation, industry, and specific use cases. By accelerating the use of Gen AI, ASEAN countries members have a golden opportunity to leapfrog in economic development, as other countries are also striving to harness it for their benefit. A report released by Deloitte reveals that government and businesses made AI investments exceeding $500 billion by 2023.

There are three main contributors to any AI application: the algorithm, the data that feeds the algorithm, and the scientists who train and fine-tune the algorithm. To ensure the accuracy of its answers or recommendations, AI requires increasing amounts of data. The quality, accuracy, and completeness of this data directly impact the effectiveness of an algorithm. The role of scientists is to select the data and apply rules to determine the appropriate algorithms.

For the ASEAN region, a study by Kearney suggests that the use of AI technology has the potential to contribute nearly US$1 trillion to Southeast Asia's GDP by 2030. So, what do the ASEAN countries' members need for its AI transformation? Various studies suggest a roadmap that includes three main policy issues.

Firstly, we must enhance access and adoption. This necessitates guidance on the development of technological infrastructure and policies that align with AI development, cross-border data flows, the transition process for businesses and governments, and the cultivation of digital talents.

Secondly, we must inspire innovation. It is paramount to strike an optimal balance between safeguarding and fostering innovation. Thirdly, we must mitigate potential risks. Managing these risks requires guidance on the responsible use of AI to ensure safe, secure, and trustworthy principles. Adhering to principles of fairness, reliability, safety, privacy, security, inclusiveness, transparency, and accountability.

A recurring question posed by government officials, academia, and users alike is how we can manage the potential for discrimination caused by biases in training AI technology. Powerful new technologies, such as AI, provide grounds for optimism, given their numerous potential benefits when developed and deployed responsibly. However, we must not overlook their potential pitfalls.

Therefore, it is crucial to govern the process with a responsible AI approach at every stage. This aims to harness AI's immense potential to address life's challenges and stimulate economic growth. It also seeks to inspire solutions in various sectors including health, finance, government, and industry, and strengthen cybersecurity defenses.

It is vital for governments, corporations, and multilateral organizations to collaborate on this journey toward inclusive economic growth. ASEAN has initiated the ASEAN AI Guide and DEFA, presenting another collaboration opportunity to launch a pilot project building upon the G7 work. The G7 agreed to endorse four aspects of AI, from the OECD's report, the AI Hiroshima Guiding Principles for all AI actors: expanding the agreement for developers, the Code of Conduct for developers reaffirming the agreement, and project-based cooperation with the OECD, GPAI, and UNESCO.

Collaboration among multilateral organizations in advancing responsible AI is critical. It will accelerate the AI economy and ensure the driving of global innovation that fosters a more prosperous world.

ADVANCING AI ADOPTION AND DEVELOPMENT IN THE ASEAN PRIVATE SECTOR

Opinion Editorial by Mahirah Mahusin and Hilmy Prilliadi
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Introduction

Private sector investment in knowledge-based capital (KBC[1]) is a key driver of innovation. In turn, this leads to improvements in total factor productivity (TFP) and economic growth which fosters technological advancements, efficiency improvements, emergence of new businesses, and TFP growth in various countries, including for the US and the EU (Di Ubaldo & Siedschlag, 2021). This global trend towards prioritising KBC investment correlates to the rapid development of Artificial Intelligence (AI) as a catalyst to enhance competitiveness and drive sustainable economic growth across ASEAN.

 The AI market in ASEAN is forecasted to achieve significant growth, with projections indicating that the size will escalate to US$10.05 billion by 2024. Following this trajectory, it is anticipated that the market will exhibit a robust annual growth rate of 17.83% from 2024 to 2030, culminating in a substantial market volume of US$26.89 billion by the end of the latter year (Statista, 2023). Young and technology-savvy population makes ASEAN well-positioned not just in utilising AI, but also driving AI-based innovation in transforming the future of the region. A growing number of promising startups are developing and deploying innovative solutions across ASEAN, such as in improving food supply chain infrastructure (Zolo, Seafoody, and eFishery), and improve weather forecasting (Atmo), to name a few, subsequently speeding up progress towards achieving sustainable development goals.

 AI integration provides competitive advantages by enhancing productivity and operational efficiency. However, realising AI potential necessitates sharper business cases, robust data ecosystems, concerted talent development, and sometimes incurs high integration costs (Kearney, 2020). AI platforms software is expected to grow substantially in the ASEAN region, increasing from US$174 million in 2022 to US$646 million by 2026. Banking, financial services, and insurance industry leads AI investment, constituting 26.6% of the overall expenditure, followed by manufacturing at 17%. Despite advancements, only 8% of regional organisations view AI as a competitiveness component (Sharma & Giri, 2023). Cloud computing sector is encouraged to invest in AI, yet the state of AI infrastructure in the region still lags behind, with limited access to advanced hardware due to high costs (Isono & Prilliadi, 2023).

[1] KBC comprises a broad range of intangible assets such as research and development (R&D), computer software and datasets, organizational know-how, firm-specific human capital, designs, and other intellectual property assets.

Challenges in AI Adoption and Development

Challenges in AI adoption mirror challenges in digital adoption among private sector in general – many firms remain hesitant, highlighting the lack of skills and knowledge, with many struggling to acquire the expertise needed to implement and manage AI systems effectively. As Figure 1 shows, AI adoption by startups in several countries in the region remains in early stages. Consequently, 80% of founders have yet to increase their workforce in response to AI technologies, suggesting that the impact on hiring is still being assessed. Startup founders who utilise AI prioritise them to automate repetitive and administrative tasks across various functions, as illustrated in Figure 2.
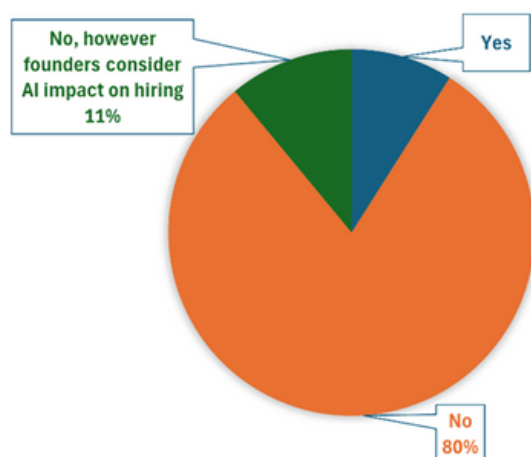
Figure 1. ASEAN startup founders' consideration of AI impact on hiring
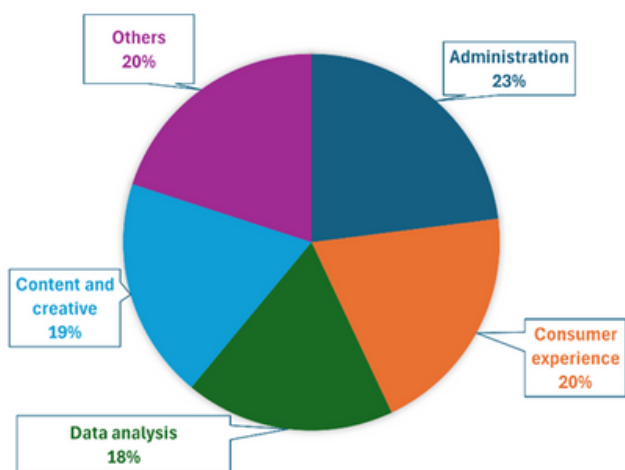
Figure 2. Top functions expected to gain efficiency from AI adoption

Source: Monk's Hill Ventures & Glints (2024)

Integrating AI into core business operations is further complicated by a myriad of challenges. Infrastructure deficiencies, uncertain policy and regulatory environment, and addressing data governance and privacy issues all add another layer of complexity for firms to navigate particularly for MSMEs. High barriers for AI adoption can potentially exacerbate the existing digital divide between MSMEs and larger firms, with an added risk of falling behind competitors who have already adopted AI in their business model and operations.

Key Considerations and Recommendations

Firms looking to adopt and develop AI into their core business operations have several considerations to make. First and foremost, firms should consider whether such move aligns with respective corporate strategy and objectives, ensuring that the AI strategy harmonises with broader business objectives and support expansion. Additionally, attention to commercial strategy is indispensable, such as whether AI implementation is cost-effective and can lead to potential revenue generation in the long run. It is also crucial to develop a strong data strategy, given the heightened risks associated with AI, with responsible AI development and deployment to be addressed throughout the AI life cycle.

The following steps may be considered by private sector for a vibrant AI ecosystem in ASEAN:

- **Align AI strategy with business objectives and invest in KBC.**

  Ensuring that AI initiatives are in direct alignment with company's goals and strategy can contribute to enhanced efficiency and growth. Investing in KBC, including R&D, IP assets, computer software, and skills development fuels AI adoption that fosters innovation and the development of AI solutions tailored to the company's needs. This dual approach ensures that AI not only aligns with current strategic goals but also propels the company towards future readiness and competitive advantage. To mitigate AI adoption costs, opt for scalable solutions.

- **Develop a comprehensive and ethical data strategy.**

  Formulate clear guidelines for data management, ensuring quality, accessibility, and governance for effective AI use. Incorporate ethical considerations and regulatory compliance, including data privacy and security, as well as considerations for employee well-being to foster trust and mitigate unintended risks. Utilising the ASEAN Guide on AI Governance and Ethics aids in responsibly navigating AI deployment and governance.

- **Improve in-house AI awareness, literacy, and skills training, and collaborate with universities to address AI talent shortages.**

  Investing in AI training and promoting a company-wide culture of innovation can maximise AI's potential across all business aspects. University partnerships offer mutual benefits: universities gain real-world applications, while companies access cutting-edge research, skilled talent, and innovative ideas. This collaboration enhances the company's competitive edge and prepares it for AI technology.

- **Embrace Cross-Border Hiring for Talent Acquisition**

    As demand for tech talent rises and cost-saving measures grow, exploring cross-border hiring is prudent. Consider recruiting local business development talent to support regional expansion and deepen market insights. By adopting cross-border hiring practices, companies can build high-quality teams and tap into local expertise for effective localisation and market understanding.

The ASEAN Guide on AI Governance and Ethics (ASEAN AI Guide) released on 2 February 2024 serves as a practical resource for organisations seeking to implement AI technologies in commercial contexts within the region. Its objectives include promoting alignment within ASEAN and enhancing the interoperability of AI frameworks across ASEAN. Organisations are encouraged to utilise the guide to evaluate AI-related risks comprehensively and to adopt responsible approaches to the design, development, and deployment of AI technologies. The ASEAN AI Guide set out seven guiding principles which aim to ensure trust in AI, i.e. 1) Transparency and Explainability; 2) Fairness and Equity; 3) Security and Safety; 4) Human-centricity; 5) Privacy and Data governance; 6) Accountability and Integrity; and 7) Robustness and Reliability.

The ASEAN AI Guide offers guidance for organizations to adopt responsible AI practices across sectors. It emphasizes determining the appropriate level of human involvement in AI-augmented decision-making through risk impact assessments to promote trust in AI technologies. Additionally, it advocates for risk-based assessments before data activities to mitigate bias risks and emphasizes stakeholder communication to build trust throughout the AI lifecycle, including disclosing AI usage and supporting employee adaptation to AI-augmented work environments (ASEAN Secretariat, 2024).

Conclusion

In parallel to the trends of AI adoption in private sector, the transformative potential and wide-ranging application of AI and deep-tech is also unlocking new growth opportunities in the region. Recognising this positive development and innovative potential, the ERIA Digital Innovation and Sustainable Economy (E-DISC) is committed to support the growth and competitiveness of ASEAN startups. The One ASEAN Startup Award 2024 organised by ERIA this year aims to provide recognition for ambitious startups including those that are focusing on AI-led innovation, with research grants provided to assist them in developing innovative solutions further. It is hoped that region-wide efforts to support AI innovation and adoptions will foster open innovation not just within ASEAN, but also beyond.

UPCOMING EVENT

SAVE THE DATE

11th **ASEAN Economic Community Dialogue**

Governing and Unlocking the AI Opportunity in ASEAN

4 June 2024
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