Artificial Intelligence Standards and Trade in ASEAN

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Panel:

Dr Peter Lovelock, Director and Founder, TRPC; Chair, Singapore Chapter, IIC [Moderator]

Dr Peter Leong, AI Specialist and Senior Lecturer at the School of Computing, Singapore Polytechnic; Member of the Infocomm Media Development Authority (IMDA)'s Artificial Intelligence Technical Committee (AITC)

Dr Jasmine Begum, Director of Legal, Government & Corporate Affairs, Malaysia and New Markets, Microsoft

Mr Jishu Basak, Data Science Manager, ECFulfill

Introduction

Dr Peter Lovelock started the session by introducing the focus of the discussion, which was the role of Artificial Intelligence (AI) in trade, both in facilitating and becoming a key enabler and driving factor in regional trade in the Association of Southeast Asian Nations (ASEAN). He elaborated that this would entail delving into where we can see AI being used in ASEAN member states, what its impact is, and particularly the role that standards is and will be playing in facilitating AI development across ASEAN region.

The session touched upon the key issues around AI, including ethics, economic growth, biasness and skills, to which there was general agreement that government response, oversight and enablement was needed. The core of the discussion was around standards and how they could allow for a much more organic, flexible and responsive reaction to AI issues. The role of ASEAN in coordinating and uniting AI approaches were also discussed.

AI standards

Facilitating technological transfer

Dr Peter Leong began by introducing the concept of standards, which are an agreed way of doing something. He noted that standards that fall into two categories: industrial standards put forth by private companies, and international standards.

On the international level, the United Nations (UN) efforts focus on the ISO/IEC JTC 1/ SC 42 Standards Committee on Artificial Intelligence,[1] which was set up in 2017 and has thus far published 6 international standards. The committee is still in the early stages of development with 30 participating member nations and 17 observing member nations.

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[1] ISO/IEC JTC 1/SC 42, https://www.iso.org/committee/6794475.html

Dr Leong explained that while standards are necessary to transfer technology and knowledge from one country to another, not many international standards for AI have been published so far, and many are still being assessed by expert committees and exist only as drafts. Because of this, standards used in specific applications and other industrial programming frameworks are becoming de facto AI standards.

Reducing the level of friction

Standards help to reduce the odds that there are disagreements between AI experts on best practices. There is a term called 'explainable AI', for example, which is used by data scientists to understand the decision-making process and ensure that fair decisions are made by AI models. However, 'explainable AI' may not be easily understood by the general public. There are also contested ideas about important topics such as AI bias and trust, to which several different definitions and interpretations exist.

AI approaches in ASEAN

Dr Leong then introduced a number of approaches to AI development in ASEAN, describing some key differences and similarities to these approaches.

- Singapore's National AI Strategy which was launched in 2019 focuses on specific areas such as border control, healthcare, logistics, urban services and education. The financial sector is not a focus area in this government strategy since AI development in the financial sector is largely led by the private sector.
- Indonesia's AI Strategy similarly focuses on five strategic areas – healthcare, disaster preparedness, e-government, food security, and national defence.
- In Thailand, where there is no published government-led direction for AI, the country's AI adoption is driven by industry, especially in the sectors of e-commerce, manufacturing, agriculture, smart cities, vehicles, fintech and education.
- For most of ASEAN, where economies are export-focused, the use of AI in manufacturing has a broad impact. Public security and education are other common areas of focus given the region's relatively young population, and a shared concern about the impact of automation on the workforce and employment.

Growing the AI economy

AI's economic contribution drives need for standards

Dr Jasmine Begum highlighted the fact that countries around the world are already experiencing a tangible influx of economic activity, reflected in GDP growth, that can be attributed to AI. She cited a 2018 Gartner study that forecast the value of AI to grow from USD1.2 trillion in 2018 to USD3.9 trillion in 2022.[2] Dr Begum further noted that the trend towards adopting online services has ramped up considerably in the context of the Covid-19 pandemic.

She noted that as technology matures, there is a growing need for standardisation. This applies especially to the fundamentals that underlie AI, including privacy and security, and ethical frameworks governing data use and AI development.

Standards will be of particular importance to governments seeking to attract investment in AI and advanced analytics because of the role they play in expanding common usage. Within ASEAN,

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[2] Gartner, https://www.gartner.com/en/newsroom/press-releases/2018-04-25-gartner-says-global-artificial-intelligence-business-value-to-reach-1-point-2-trillion-in-2018

countries like Singapore have also attracted the highest investment in AI as they have spent the most on the area, while Indonesia is also a large and growing producer of AI applications, and Thailand is going into non-traditional AI applications (e.g. in agriculture).

Dr Leong reaffirmed this observation on this by pointing out that Singapore is the only participating member from ASEAN in ISO/IEC JTC 1/ SC 42, having recently moved from being observer to participant. Having participation status indicates that a country has sufficient technical capacity to meaningfully contribute to ongoing technical discussions and affords them voting rights. Having invested heavily in AI research and development and significantly improved its AI capabilities, Singapore is an attractive destination for AI investment in the region and thus has an interest in contributing to standards development.

Cross-border data flows needed to democratise AI

AI requires data, but often there is a lack of enabling policy environment with regards to data use, impeding on businesses', especially SMEs', competitiveness. There is therefore a need to address regulatory certainty. Dr Begum gave the example of Malaysia, which has committed to storing 80% of its public data on the cloud. She explained that because data is an economic driver, the next step is to consider how much of this data can be opened up to private use and be used to drive AI innovation.

Dr Begum noted that regulatory and legal clarity is especially pertinent in the context of data localization and the policies governing cross-border data flows. She pointed out that ASEAN has played an important role in facilitating cross-border data flows, and has a role to play as a bridge between more developed and less developed ASEAN economies with regards to AI development and establishing a conducive regulatory environment.

Dr Leong added that cross-border data flows are also a key consideration for Singapore, which has been signing a lot of digital trade agreements, many of which deal with the value of the data being transferred across jurisdictions.

AI for Covid-19 recovery

In addition to supporting Covid-19 management and monitoring efforts, Dr Begum observed that the power of AI and data processing has significant potential in bringing countries closer to economic recovery.

Mr Jishu Basak added that AI has been a key technology supporting data mining, for the purposes of monitoring and containing the spread of Covid-19. However, he pointed out that the capability of AI is huge, but only with due consideration for data privacy and data sharing – areas where the implementation of standards will be important.

Dr Leong added that because AI standards will be a key factor in enabling wider uptake of AI, they are thus fundamentally linked to the potential of AI in addressing the crisis.

AI and Trade

SMEs and export in the Philippines

Mr Basak introduced ECFulfill, which was founded in 2018 with the aim of increasing the Philippines's exports by helping Philippine SMEs access the global marketplace. Traditional SMEs use physical channels to expand domestically and have faced challenges due to their single market, single channel approaches to doing business. While many have considered utilising global platforms,

SMEs often do not have the resources to address the increase in supply chain factors, and are unable to navigate this complicated process on their own.

Mr Basak noted that, as a result, SMEs have taken a huge hit during the Covid-19 pandemic, with only 14% of Philippine SMEs have having adopted e-commerce technology, and just 4% able to maintain operations during this period.

ECFulfill, by integrating marketplace intelligence, warehouse logistics, order fulfilment, marketing and digital payment methods into one platform, provides SMEs with insights that allow them to better assess and enter the global marketplace. With the help of the Philippine Department of Trade and Industry (DTI) and Department of Science and Technology (DOST), ECFulfill has onboarded 150 Philippine SMEs.

Mitigating risks

ECFulfill uses predictive analysis by data mining the price and demand of products, which involves high volumes of data processing to consolidate data from open sources and various stakeholders. Mr Basak explained that the present lack of AI standards means that there is a risk that current practices that are perceived to be correct may no longer be accepted once standards are developed. ECFulfill mitigates this risk by ensuring that the data sources and models is uses are not biased towards certain genders, ethnicities etc.

Another component which ECFulfill uses data for is its automated price component, which feeds into its offering of full supply chain overviews and product costing models (spanning procurement, storage, disposal). Assessments made in this context, and advice provided to clients, needs to be considered in the context of potential bias towards specific major customers, who dominate databases.

Government role in addressing AI challenges

Infrastructure

Mr Basak noted that developing countries struggle with a lack of infrastructure, which makes it difficult for products fuelled by AI to be adopted. Dr Begum agreed that all issues and discussions around digital technology, including AI, are dependent on connectivity. If infrastructure is not in place, upstream issues including discussions on AI will be affected. Dr Begum further noted digital technology is today still being treated as a bolt-on rather than a cross-cutting area, meaning that it augments existing functions rather than being the basis for new functions altogether. However, governments need to change the way they view digital technology by considering the digital native-ness of AI functions and applications, and consider measures that enable the start-up ecosystems and supporting SMEs' development of innovative digital products from a digital native perspective, for example, through expanding the use of open data.

Standards

Dr Leong pointed out that while all ISO standards are considered UN standards, this does not preclude countries from adopting specific national standards. However, he observed that smaller countries are more likely to adopt international standards.

Dr Begum added that governments also need to ask themselves if standards may increase costs. She advised that countries should avoid redundancies caused by developing competing national standards, but instead work on contributing to, and adhering to international standards.

Education and skills

Dr Begum noted that while upskilling is important, both push and pull factors need to be accounted for. That is, if there is a need for educated individuals, there must also be sufficient high-skilled jobs for them to fill. There is also potentially space for the integration of AI education principles into non-traditionally IT-related courses, as is being done in Singapore.

Mr Basak noted the example of the Philippines, where the DOST has a programme to train 20,000 data scientists and AI engineers (since 2019) to foster a community of data science and analytics. At the same time, the DTI and the Philippines Chamber of Commerce have provided funding to SMEs utilising AI through various incubation programmes.

ASEAN's role in advancing AI standards

Dr Leong highlighted the importance for ASEAN to present a united front on AI issues, but noted that achieving this can be difficult because ASEAN is made up of different countries with different agendas. Nevertheless, ASEAN is itself a consumer of AI, and without playing a more active role in AI standards, may be susceptible to a division in economic power.

Dr Begum observed that arriving at a coordinated approach to AI presents challenges for ASEAN because its member states are at very different levels of economic and technological maturity. ASEAN can nonetheless play a role in some areas that stand to enable AI, such as cross-border data flows, education standards and potentially in creating a regional regulatory sandbox for AI.

Panellists were in agreement that developed countries stand to benefit disproportionately from the rise of AI, and ASEAN as multilateral organisation has to recognise where different countries sit on these issues and take a middle path, to allow for all to move forward without letting those that are playing catchup continue to lag behind.