EAST-WEST CENTER

ASIA PACIFIC BULLETIN

Number 504 | April 21, 2020

EastWestCenter.org/APB

Automation Challenges in Southeast Asia

By William "Whit" Lloyd

Trends around much of the world toward greater automation are accelerating, with significant implications for workers. In 2018, McKinsey & Co. released a document claiming that, by 2030, up to 375 million people worldwide may forfeit their current jobs due to automation and technological disruption. ASEAN is especially likely to be affected. According to the International Labor Organization (ILO), the impact of technological disruption on ASEAN will be profound. Automation will result in the obsolescence of jobs in industries ranging from textiles to automotive manufacturing. Southeast Asia's labor force and economic growth must address this challenge head on.

William "Whit" Lloyd, Visiting Fellow at the East-West Center in Washington, explains that "Automation will result in the obsolescence of jobs in industries ranging from textiles to automotive manufacturing. Southeast Asia's labor force and economic growth must address this challenge head on."

Perhaps the most visible technology being widely adopted is automation. Robots are replacing low-skilled manufacturing jobs. Among Indonesia and Thailand's manufacturing workforce, 60 and 73 percent, respectively, are at "high" risk of having their jobs automated, according to the ILO. In addition, automation is currently replacing low-skilled jobs in countries such as the Philippines, Thailand, and Vietnam, countries that have utilized low skilled labor to manufacture and export electronics valued at around $400 billion in 2014. Furthermore, textiles will be disrupted through the advent of 3D printing. Textiles can instead be produced in the same location they will be purchased by consumers, contributing to an overall decline in textile exports from Southeast Asia.

Although largescale 3D printing may still be 10 years away, automation is happening now. According to a 2016 study conducted by the ILO, Thailand is the eighth largest consumer of robotics in the world, with Indonesia, Singapore, and Vietnam also experiencing increases in their consumption. The ASEAN Post has reported Thailand's "Thailand 4.0" plan, initiated in 2016, aims to automate 50% of its manufacturing jobs within 5 years. Across the region, higher consumer demand for quality and efficiency has compelled further automation, as have increases in wages, such as Indonesia's 50% minimum wage increase among full-time workers between 2011 and 2014. According to Fitch Solutions, the average minimum wage has continued to climb. East and Southeast Asia's average minimum wage was 63% of the global average in 2015, but climbed to over 80% of the global average by 2019. On the supply side, greater automation also reduces job turnover due to reduced workplace accidents, as well as labor costs due to a reduced need for workers in the production process.

Through "Thailand 4.0", Thailand – already one of ASEAN's greatest manufacturing hubs – aims to develop an advanced manufacturing sector, which includes products such as medical devices and aerospace parts. These products require a degree of precision that is difficult to achieve consistently with humans. With robots, manufacturers are able to reach a higher level of quality more efficiently. These also come with negative consequences. Thailand's Development Research Institute (TDRI) predicted that 1.5 million jobs would be lost by 2020 through the country's commitment to advanced manufacturing. Whether this is true is difficult to say, according to TDRI, Thailand has already lost

seven million jobs due to coronavirus, possibly masking job losses due to automation. As ASEAN countries like Thailand shift toward advanced manufacturing processes, the demand for low-skill labor will continue to decline in favor of those with the skills to oversee and maintain the robots that participate in the actual manufacture of parts. Automation will therefore replace these workers, while the jobs that are created will require skills that low-skilled workers lack.

Presently, automation is not uniform across ASEAN countries or even across companies. Honda, for instance, has not automated its manufacturing processes in ASEAN because labor costs are low enough that the up-front costs of automation cannot yet be justified — both to produce and purchase — since the motorcycles produced in ASEAN are largely sold within the region. However, in Japan itself, Honda has begun the automation process at its Kumamoto factory. As labor costs increase in ASEAN, and the costs of automation decline, Honda may well choose to automate across its Southeast Asia plants too. Other companies in Southeast Asia see an opportunity in adopting automation early. Electronics manufacturer OMRON has opened an automation center in Singapore for $10 Million, enabling their clients to test automation-based solutions there.

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Moreover, jobs that are not lost will likely change significantly, similar to how jobs of bank tellers changed with the advent of ATMs. It is projected that employment in manufacturing will shift to maintaining the machines that manufacture goods, while work at call centers will likely be replaced by digital AI. This in turn demands different skills. Workers who are more akin to electricians or software engineers will replace those whose work is largely repetitive.

According to the ILO, automation will increase productivity and quality consistency across industries. Automation will keep workers safer than they were in the past, and will result in greater export capacity – further expanding the economies of ASEAN states. Nevertheless, for those who fear the disruption new technology brings, one should look at AT&T and Apple. At its height, AT&T employed over 758,000 people; Apple employed over 76,000 people. Yet, according to Andres Oppenheimer's book The Robots are Coming Apple's creation of the App Store has created 1.9 million jobs since 2007, inclusive of those employed by application developers. The jobs and skills requirements will undoubtedly change, but there may very well be more opportunities for the majority to succeed. The challenge of ASEAN governments will be to anticipate these changes and enable their domestic constituents to acquire the skills necessary to flourish in a high-tech environment.

Some states have already begun to take action. Singapore's Salesforce vocational education program and heavy investment in lifelong learning has enabled its workforce to adapt and Singaporean companies are therefore able take advantage of new technology. Meanwhile, according to The Jakarta Post, Indonesia has invested $719 million in vocational education to develop the skills of 2 million unemployed Indonesians in fields like coding, marketing, and hospitality. Incentivizing lifelong learning and greater funding for vocation and technical education are excellent starting points for ASEAN member states, but will not be enough on their own. Today's technological disruption is different in scope and magnitude than was the advent of computers in the 20th century. The pace at which innovation and adaptation is much faster. While technology complements some jobs, it renders others obsolete. ASEAN cannot avoid the disruption these new technologies will cause. The disruption can be positive, however, to the extent ASEAN's governments and private sectors are able to interpret and adapt to them.

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