

“What would be the economic consequences for Malaysia if technology replaces 50% of current jobs in the country? Who would benefit, and who would lose? Would we be better off ultimately?”

Since the introduction of technology in the regular workplace starting 1971, it has shown benefits and also shown that it can replace several tedious tasks in the workplace. As an example, ever since the usage of email began, the postman job has reduced overall in quantity as people prefer to send emails because it could be delivered faster than physical letters. As such, this essay aims to explain the economic consequences for Malaysia if technology replaces 50% of the current jobs in the country. Few of which is an increase in the total number of productions of service and goods in the country, employee’s productivity increase and the country's growth in the Information Technology (IT) sector. Despite that, there are some issues that could appear in the early stage of the adoption in the aspect of labour surplus and shortage for several specific roles. Overall we conclude that, no matter how long it takes it would benefit the country and would help the country realize it’s main targets.

Replacing the workforce in Malaysia with technology brings a handful of consequences in the aspect of economics. In the short-term an economic contraction could be forecasted due to the immense increase in the unemployment rate since technology replaces their jobs. Consequently,

there would be a sudden surplus and surge in the labour supply, resulting in the market average wage for labours to decrease. As per recorded and proofed in Okun's Law any percentage in unemployment rate does affect inversely to the country's gross domestic product. In order to curtail the increase in unemployment rate, the government would have to introduce stimulus and care plans for those who got laid off from their job. This could affect the earlier budget planning made by the government at the beginning of the year, as 50% of the workforce in Malaysia consists of more than 7.5 million people. As people lose their jobs, they would be careful with their unnecessary spending, resulting in lesser demand locally and causing deflation. Various fiscal policies would have to be introduced in the country to get the economy going slowly. Fresh graduates would have a hard time finding a job at this period unless their degree is focused on highly skilled sectors such as Computer Science or Engineering. Meanwhile the other graduates might find themselves in an employment scarring scenario for the upcoming years in their career. In the mid-term, duration after the 1st year and between the 2nd Year is the transition period where employees would be upskilling and reskilling to suit the new work culture surrounded by technologies. For most people this would be a significant change in their working experience because skills like data management, programming languages which they might not have come across would be emphasized. As in the long-term, Malaysia's economy will experience reflation, a steady growth assuming there are no other foreign factors affecting the economy. Replacing the

workforce with technology would increase the output and production of the goods or services as technology is more efficient than human beings. For instance, automated technology could help manufacturers produce goods 24/7 which would eventually increase the production with the same amount of time. This is possible because as reported by McKinsey almost 50% of work time in Malaysia is spent on repetitive activities that could be automatable, which is putting the employees' productive hours on a haul. An efficient or effective system would shift the output graph of the country to the right leading to economic growth. As a nation that would have great technological infrastructures, a higher number of talented personnel would be interested to work in Malaysia which could benefit the nation when undertaking massive revolutionary projects. Another issue that could pop-up since the adaptation of technologies in the workforce is the massive requirement of energy to power them. If there isn't a solid renewable energy source, the nation could find itself leaving behind massive carbon footprints

~50% of work time in Malaysia is spent on repetitive activities that are highly automatable.

Automation potential by activity, %	72	71	71	37	26	22	13
Time spent in all Malaysian occupations 2016, %	13	18	19	20	14	10	6
	Process data	Collect data	Predictable physical ⁵	Unpredictable physical ⁴	Interface ³	Expertise ²	Manager ¹
Example occupations with high level of those activities	Payroll officers, transaction processors	Legal support workers, mortgage originators	Production workers, machine operators	Gardeners, construction labors	Personal caretakers, salespersons	Artists, scientists	CEO, project manager
<p>Most susceptible activities to automation account for ~50% of total working hours in Malaysia</p>							

1. Managing and developing people.
 2. Applying expertise to decision making, planning, and creative tasks.
 3. Interfacing with stakeholders.
 4. Performing physical activities and operating machinery in unpredictable environments.
 5. Performing physical activities and operating machinery in predictable environments.
 Note: Numbers may not sum due to rounding.
 Source: ONET, BLS, Oxford Economics, IHS, EIU, McKinsey Global Institute analysis



In the short run, wealthy conglomerates and highly skilled labours are the main beneficiaries if technology replaces 50% of the current jobs in Malaysia with the emphasis on fully utilizing the technology and being more demanded in the job market for the latter. According to the SMEinfo, many SMEs in Malaysia (which accounts to almost 98.5% of the total business establishments in Malaysia) prefer doing business by traditional means due to adaptation of advanced technologies such as machine learning and big data are too lavish for them to pay. And with technology replacing 50% of the current jobs, these SMEs are very likely to go bust as they aren't able to play catch up with larger companies that has the financial resources and cutting edge technology to stay competitive in the short run. This will happen because when big and wealthy companies fully utilize cutting edge technology solutions, they will have the competitive advantage compared to their smaller

counterparts and also be able to attract the most lucrative clients out there too. For the SMEs, they have no choice but to either spend more on breaking the bank for the technology infrastructure or close their doors forever in a situation where half of the current jobs are replaced by technology in Malaysia. For highly skilled laborers such as machine learning engineers and data scientists, they will be more demanded in the job market in the short term due to a higher demand from big companies for these talents. These highly skilled individuals will benefit from this as they get to be paid more by companies due to their irreplaceable skill sets which makes them a scarcity to these companies. Only companies that are able to pay them higher salaries will get these highly skilled talents and the ones that aren't able to will suffer an understaffed situation which places them in a disadvantage to compete with those who have the resources. In the longer term, the Malaysian economy will have the potential to grow exponentially with technology taking the centre stage in bringing growth in labour productivity, which in turn translates to higher levels of economic output. It will bring many advances in terms of labour productivity such as making manufacturing processes more efficient, making administrative tasks to be done in a few minutes instead of hours and with the help of machine learning, decision makers in companies and stakeholders in government get to make more high-level data-driven decisions instead of gut feelings. As mentioned earlier, companies with the most resources will focus more on spending on their research and development (R&D) to keep their

business on par with their competition in the short run. With intensive investment in R&D, it can contribute to the Malaysian economy by driving new innovation quicker than prior decades as proven for the case of China where the country achieved exponential growth by attributing a lot of its GDP to invest in R&D (Naude & Szirmai, 2013). This creates positive externalities which includes new management practices and spill overs of information for Malaysia as a whole which benefits the country as a whole in the long term.

As for those who will lose, it will undoubtedly be the low skilled labours and the government of the day in the short run. With half of the existing jobs being replaced by technology, individuals who don't have the skill sets to make them stand out from the already competitive crowd and the technology that replaces them will eventually suffer from the never ending job search and rejections from various HR emails. This in turn will create a vicious cycle of getting food on the table and spending a lot of resources to attend upskill courses at the same time which not many low-skilled workers have the privilege to do so. For the Malaysian government, they will have to bear the immense pressure of social unrest as proven many times in history. When a country couldn't provide its citizens with stable jobs, it would cause havoc and distrust between the citizens and the government of the day. Besides that, the Malaysian government will also need to spend more on reskilling programs and

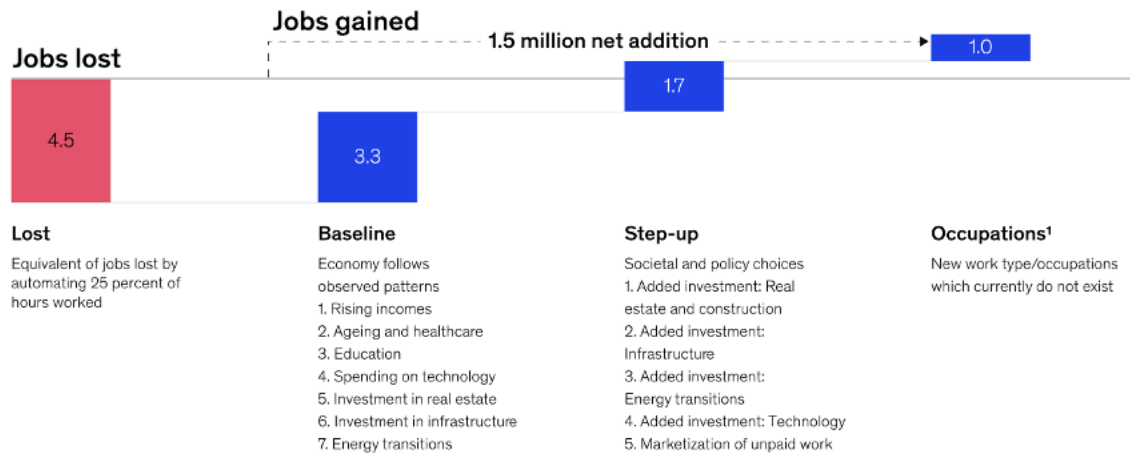
giving out incentives to companies to rehire these low skilled turned highly skilled labourers to artificially stimulate the job market by creating more supply for talents available to be hired by companies again. This requires a lot of capital to execute and the government will need to sacrifice the country's budget from other segments such as personal welfare, hospitality, tourism and many more to fund initiatives for Malaysians to get back to work again. As for the long term, many sunset industries including traditional professional services (accounting & financial advisors) and traditional media (newspaper & magazine) will eventually vanish and industries supporting them will die out too if they don't have a strategy to pivot.

Taking into account all of the impacts if technology replaces 50% of the current jobs, in the long-run we would benefit and would be better off. Involvement of technology in the workforce would require the employers and government to build the necessary infrastructure including the servers, database and more. As the potential market in the technological field is huge and the free market economy "Laissez Faire" that is carried out in Malaysia will attract a larger amount foreign direct investments into Malaysia from foreign conglomerates. This would eventually create more occupations in Malaysia compared to the total number of jobs lost since technology replaced 50% of the workforce. Malaysia's gross domestic product will have a higher value as there is a constant rise in the production of goods and services, resulting from letting technology

automate the production process. Allowing technology to replace 50% of the workforce will give way for the employees that are doing trivial or repetitive jobs to upskill themselves to a high-skilled job like a big data analyst, machine learning and digital marketer. Such measures would enable the progression of Malaysia to a high-income country which has been one of the aims of the nation. Government would restructure the education system from primary to tertiary education to be analytical and which would challenge the students to be creative in their thinking skills. Technological growth will enable implementation of artificial intelligence (AI) in education that would further speed up the process of learning for each individual student because AI could personalize and tailor studying methods and knowledge gaps individually. This would besides being a better educational system would overall increase the thinking capability and productivity of the young population in the country. However in the earlier period the pressure on the government would be high as there'll be labour issues together with the uncertainty whether some employers would be willing to accept the drastic change. If the government is able to solve the problems, we would definitely be better off from the get go. The hefty price that the government and the employers have to pay in the beginning could be proven to be massively impactful if it goes along the line drawn. Residents of Malaysia would benefit ultimately alongside the economy of the country as some of the local goods would be able to be produced at a low cost as the consumption might increase.

3.3-6.0 million new jobs are expected to be created by 2030.

Midpoint automation scenario and additional labor demand from 7 catalysts, 2016-30, millions



In short, Malaysia will be better off as a country. While letting technology disrupt half of Malaysia’s jobs can be detrimental in the short run, however it provides Malaysia a transformational opportunity to create a technology-driven nation and accelerate our nation even further to new heights. In the midst of obstacles that Malaysia will face, the responsibility lies to the government of the day to handle this issue and turn it into a unique window of an opportunity for Malaysia to become a competitive high income nation on the international stage. Individuals and organizations that aren’t able to single-handedly steer this crisis by themselves will have to rely on the policy makers’ decisions to better transition themselves to be more competitive in the market and valuable to the economy as a whole.

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