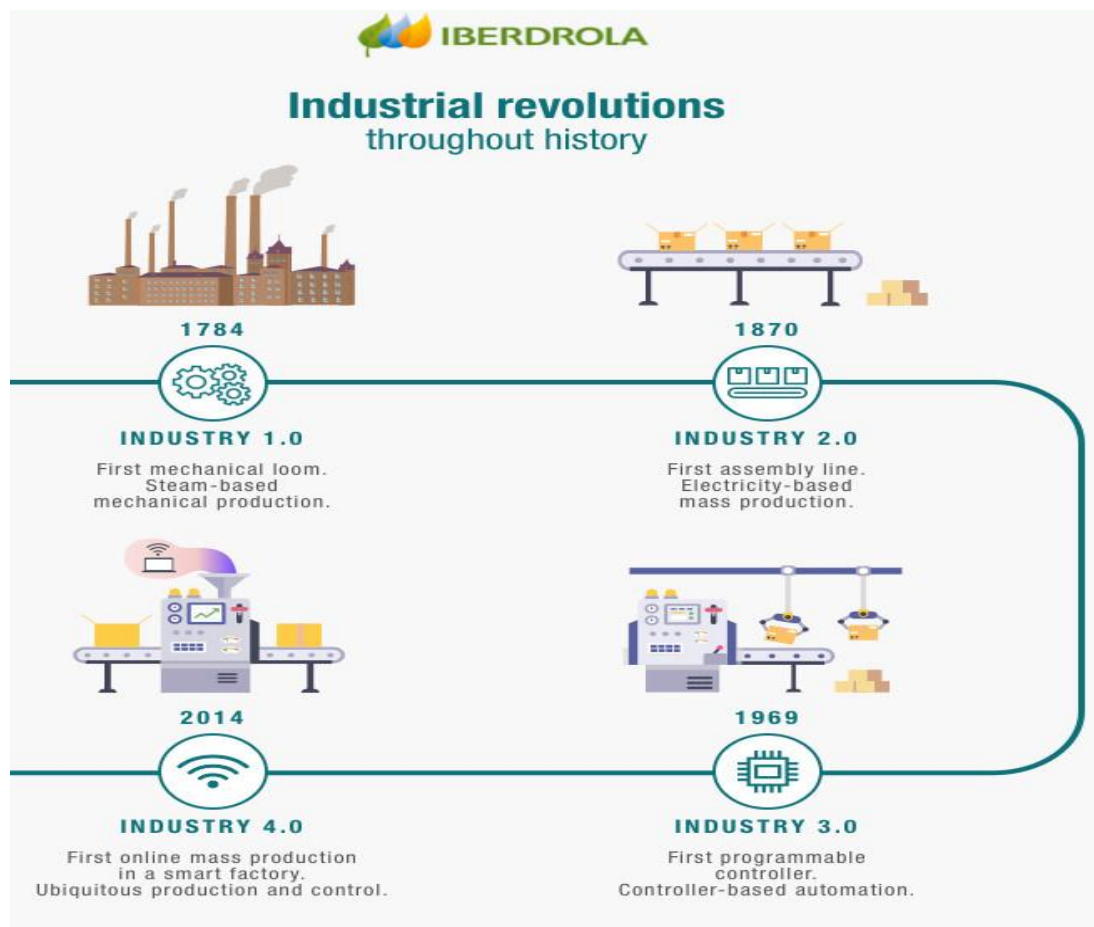


“What would be the economic consequences for Malaysia if technology replaces 50% of current jobs in the country? Who would benefit, and who would lose? Would we be better off ultimately?”

Introduction



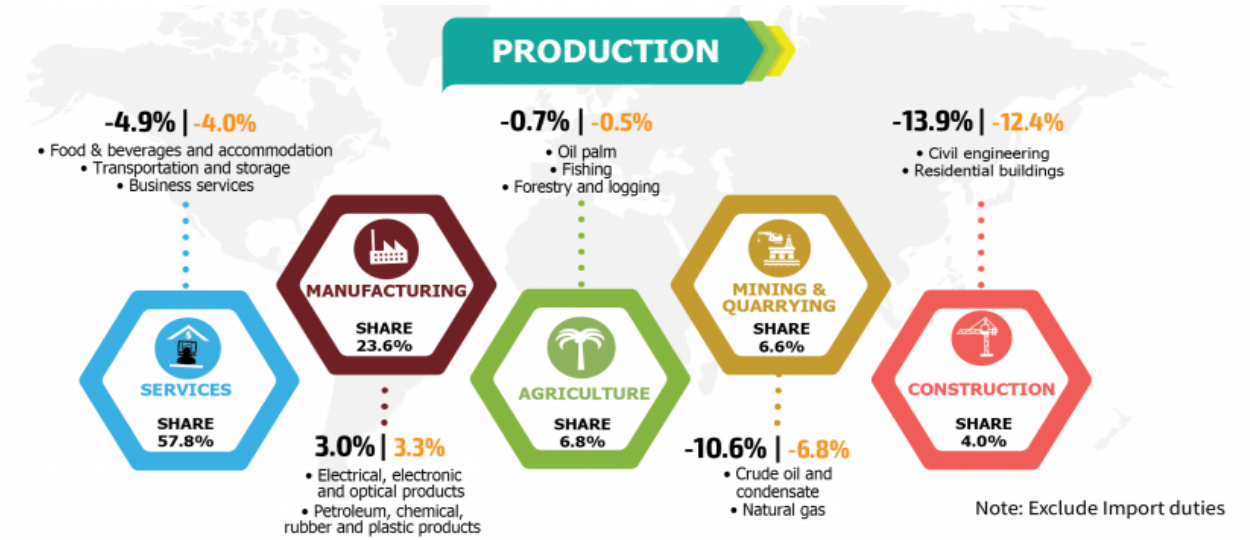
¹Figure 1: Industrial Revolutions throughout history.

Based on Figure 1, it has been stated that since 2014, nations around the globe have started to embrace the idea of moving forward into Industrial Revolution 4.0 (IR 4.0). Thus, it cannot be denied that Malaysia also has the aspiration to be part of the innovative and lucrative shift. IR 4.0 is defined as the “growing trend towards automation and data exchange in technology and processes within the manufacturing industry.” (TWI, 2021). Beside automation, these technologies include artificial

¹ Figure 1:; [What is the Fourth Industrial Revolution and its technologies](#),

intelligence which is now commonly associated with the emergence of “smart” factories. Hence, this essay will touch upon the major positive and negative economic consequences for Malaysia if these technologies replace 50% of current jobs in the country, while elaborating further the people who would benefit or lose from the shift, before concluding whether we are better off with regards to these technologies replacing the jobs in the country.

Major Economic Consequences



²Figure 2: Sectors’ shares or contribution towards the economy of Malaysia during Q4 2020.

First and foremost, the major positive economic consequence for our country if technologies replace 50% of current jobs in Malaysia is, there will be an increase of revenue for our government through export and taxation activities. Based on the essay’s introduction where technologies are defined as “automation and artificial intelligence”, with Figure 2 above showing each sector’s contribution towards the economy of Malaysia during the fourth quarter of 2020, it can be implied that all sectors which currently model the Malaysia’s economy will have their contribution increased drastically

² Figure 2: The focus is on the “shares” of each sector towards the economy of Malaysia. [Department of Statistics Malaysia Official Portal](https://www.dosm.gov.my/)

if 50% of the current jobs are to be replaced with technologies. All sectors' contributions especially from the manufacturing sector towards the economy of Malaysia will increase because of the implementation of automation and artificial intelligence which further streamlines the process of producing and providing goods and services. These technologies will also increase production output as they are designed solely to operate with constant speed 24/7, improved accuracy, while having remarkably lower operating costs than hiring the conventional human labor. For example, an ³Arnold Machine Inc. article on comparison between "automation and human labor" has also proven that automation is able to significantly cut yearly production expenses compared to human labor. The article stated that, "Over two years, production with the automated system costs \$540,000, while the manual system would've cost \$900,000," thus showing a stark contrast of differences in expenses between technologies and human labor that needed to be borne by industry players.

Hence, when automation and artificial intelligence have taken over 50% of the current jobs in Malaysia, it is expected that one of the economic consequences is, our government's revenue will increase from the improved efficiency of producing goods and services across all sectors of the economy.

Meanwhile, a grim outlook on the major negative economic consequence if 50% of the current jobs are to be replaced with technologies is when it also poses a serious obstacle for low-skilled or semi-skilled workers who are constantly at risk of being displaced by technologies which eventually results in rising inequalities within the society. As established by the International Monetary Fund (IMF), these inequalities can be observed and defined with multiple interrelated perspectives such as income, opportunity, wealth and lifetime inequalities. An example of such issue is from a ⁴research made by Sungki Hong and Hannah G. Shell (2018) on "the impact of automation on inequality" has concluded that automation increases inequality because it tends to displace the lowest-paid workers such as those who work in office and food service jobs where these occupations have a large share of employment. The research

³ [Benefits of Automation | Robotic Manufacturing Automation, Robotics & Automation Solutions](#)

⁴ [The Impact of Automation on Inequality | St. Louis Fed.](#)

coincides with Allen Ng’s ⁵paper on automation for Khazanah Research Institute where it is also estimated that more than half of all current jobs in Malaysia are at risk of being affected by automation, of which four out of five of these jobs are semi-skilled and held by 90% of the Malaysians workforce.

Therefore, if 50% of the current jobs in Malaysia are replaced by these technologies, it is predicted that one of the economic consequences is the rise of already alarming inequalities in Malaysia’s society as low-wage workers are at risk of losing their jobs.

Winners and Losers

Automation	
Pros	Cons
<ul style="list-style-type: none"> • More efficient production • Higher labour productivity and higher wages/profit. • Cheaper goods <u>increases</u> disposable income of consumers. • Avoids boring, repetitive jobs • Can enable a shorter working week • Can improve safety and remove risk of human error • Can give consumers greater choice of goods. 	<ul style="list-style-type: none"> • Some workers displaced – possible structural unemployment • Creates winners and losers – possible increase in inequality • Automation could increase monopoly power • Loss of human interaction – dealing with computers leads to lower quality of life. • Automated systems can show lack of empathy with events. <p style="text-align: right;">www.economicshelp.org</p>

Figure 3: Pros and Cons of Automation.

Pettinger (2019) in his economic ⁶article on “automation - benefits and costs” has stated clearly that among the problems of automation is it can create winners and losers

⁵ [Discussion Papers - Articles - Research](#)

⁶ [Automation - benefits and costs](#)

or in short, inequalities. Winners are those who are going to benefit significantly mostly in a monetary standpoint where conventional methods are replaced with automation and artificial intelligence. Meanwhile losers are those who will have the risk of losing their current jobs as human laborers or struggling to achieve relevant employment as they realise that their jobs are being substituted by technologies that need them to possess specific skills.

Hence, people who are considered as the “winners” in the case of automation and artificial intelligence being implemented across 50% of the current jobs in Malaysia are, the factories or technology firms owners, and high-skilled workers such as software developers. Employers who owned factories and firms clearly understood the advantages of shifting to automation and artificial intelligence as soon as possible in terms of increased competitiveness, productivity and reduced production cost when compared to human labors, meanwhile high-skilled workers such as software developers will continue to be in high demand in the employment market encouraged by employers who want specialists to either improve or operate the automation and artificial intelligence that have been installed. Thus, these employers and high-skilled workers can respectively expect a higher return of investment and a profitable income as automation and artificial intelligence become even more integrated with the process of goods production and services, making them the major winners in this shift.

Conversely, “losers” from this shift are those who are currently being employed as low-skilled or semi-skilled human laborers in the production of goods and service providers sectors. They are the major losers in this shift because they are the most susceptible to job displacement and loss when employers start to favour automation and artificial intelligence to achieve increased efficiency, and productivity in their businesses. For instance, when these workers are laid off, many would either stay unemployed or take a long time to learn the necessary skill to adapt or navigate to the current labor market that is increasingly technology-centred. Therefore, these workers may find themselves in a difficult position in finding a job that provides a stable wage, especially when it is assumed that automation could have displaced up to 25 percent of hours, or 4.5 million equivalent workers, in Malaysia by 2030 as asserted by Ee Huei

Koh and Nimal Manuel on “automation and adaptability: How Malaysia can navigate the future of work” ⁷article.

Thus, this proves that the implementation of these technologies can create a situation where there will be “winners” and “losers” among the workers and employers, which further widening the inequalities particularly in income disparity among them.

Technologies or Conventional Method

Finally, with regards to the question of whether we are better off ultimately with these technologies replacing 50% of Malaysia’s jobs, the best answer would depend on the government’s policies on ensuring the welfare of low-skilled, and semi-skilled workers are taken care of while continuously providing opportunities and supports for them to move forward into the technology-centred employment market, and Malaysians’ efforts and awareness in pushing themselves to adapt to the inevitable change.

Hence, it is strongly believed that we will be better off ultimately since technologies are remarkably proven and tested in producing and providing goods and services efficiently when compared with their human laborers counterpart. Hideki Nakmura and Joseph Zeira in their ⁸article argues that the fear of “technological unemployment” is not new and has surfaced many times since the First Industrial Revolution where workers feared that technologies might drive them out of jobs. Although such fear merits its own attention, but, history has shown that technologies can also create new jobs. Based on an ⁹article by Carlos Bonilla for Econsultations Inc. with regards to the topic of “Will Automation Lead to Mass Unemployment,” Bonilla has given a few examples when technologies create new jobs such as when ATM machines were introduced in the 1980’s. It was widely believed that bank teller jobs would quickly stop existing, instead ATMs had caused more bank branches to open as they made it cheaper for the managers to operate bank branches which unexpectedly created more bank teller jobs. A similar case was observed when spreadsheet software was first

⁷ [Automation and adaptability: How Malaysia can navigate the future of work](#)

⁸ [Automation and unemployment: Help is on the way | VOX, CEPR Policy Portal](#)

⁹ [Will Automation Lead to Mass Unemployment?](#)

introduced, Bonilla asserted that its introduction had caused approximately two million bookkeeper jobs to be displaced. However, it was soon noted that the spreadsheet software also had opened the path in creating millions more new jobs in the form of auditors, accountants and financial analysts.

Therefore, it is possible that the same scenario where implementation of technologies will also provide various pathways in creating more jobs in Malaysia to compensate for the jobs that these technologies have displaced as history has shown in the past when other countries were tackling the same issue. Hence, such examples above are an evident proof that we will be better off ultimately if 50% of current jobs are replaced with technologies.

Conclusion

In conclusion, this essay has successfully touched upon the major positive and negative economic consequences for Malaysia if these technologies replace 50% of current jobs in the country, while discussing further into the people who would benefit or lose from the shift, before concluding whether we are better off with regards to these technologies replacing the jobs in the country.

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