Prepare for 4.0 job changes

THE steam engine marked the first industrial revolution. The transport sector saw a major process change as steam-powered rail replaced the horse-drawn carriages of the cowboy era. Jobs associated with steam engines grew and the once thriving horse stables became history.

Then came the second industrial revolution where steam locomotives gave way to electricity-driven rail. This time, jobs related to the steam-powered railway saw an inevitable reduction.

That was also the time when mass production picked up, changing the entire manufacturing business. The automobile sector was again hugely impacted, especially the custom-made car business.

The manufacture of clothing and shoes also changed. They were all mass produced, forcing tailors and cobblers to change their business models.

The third industrial revolution came with the advent of the Internet. As traditional letter writing quickly became unfashionable, the postal services had to change their business focus.

Fortunately for them, the Internet gave rise to electronic commerce (*pic*) and logistic services opened up a new business opportunity for delivery companies.

Most such business changes were been driven by new technologies.

Take digital photography, for example. We know digital photography was invented by Kodak, a leader in the traditional film photography business.

Unfortunately, Kodak failed to recognise its potential. Instead, others saw the opportunity and invested wisely to make digital photos a business reality.

Kodak has since regretted its poor reading of the future.

The world is now into the fourth industrial revolution, or industry 4.0. The use of the Internet has entered the world of machines. It is no longer limited only to the exchange of information among people. Machines now talk directly to other machines, also referred to as the "Internet of Things".

Such machine-to-machine communications have given rise to massive data. Deciphering such big data will help man reach better business decisions. The advent of artificial intelligence (AI) has made this possible. The digital age is now very much upon us. Ignore it at our own peril.

The Government should be congratulated for taking proactive steps to embrace the digital economy. Experts believe that failure to prepare for the change can be disastrous for the country. Kudos to our Government for the forward planning.

Not every one sees it that way, though. A recent discourse on industry 4.0 hosted by the UCSI University exposed some negative thoughts among academics who warned of potential job losses from industry 4.0.

Admittedly, some jobs will be replaced, as has happened in the first three industrial revolutions. But new jobs would always appear after each revolution.

However, a more important consequent of each revolution is the growth in productivity. In all the previous three industrial revolutions, not only did jobs undergo change but business models also did the same.

What became clear with each industrial revolution was that as new industries emerged, new jobs were also created. This is what innovation is all about.

Innovation has always been the driver of the human thirst for progress. Man has always been experimenting with new ways of doing things better: Better ways of manufacturing products; better ways of growing food; better ways of dealing with diseases; and better ways of communication.

And for centuries, we have come to recognise that there is no limit to human ingenuity. We continue to invent and innovate new technologies through our investments in R&D, in the process bringing positive change to all.

Instead of lamenting on the negative, we should be thankful that we are blessed with our creative and resourceful nature.

Productivity improvement has always been the principal driver of such endeavours. We have always looked for ways to achieve higher outputs with lower inputs. Some call it "more for less". This is what sustainability is all about.

As global population grows at a time when global resources including energy continue to deplete, the need to achieve higher productivity grows even more urgent.

This is the crux of industry 4.0. This is where man has sought the support of intelligent machines to break the productivity limits that have long haunted global growth.

As a nation, we have to prepare for this inevitable change if we do not want to be left out of the global competition.

PROFESSOR DATUK DR AHMAD IBRAHIM
Fellow Academy of Sciences Malaysia
UCSI University