

Digital technologies can overcome Covid-19 disruptions

THROUGHOUT time, technology has evolved to meet the changing needs of society. Technology plays a major role in advancing growth and development in societies and nations.

In the 18th century, technology that converted steam into energy powered factories.

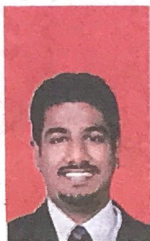
It gave birth to the first industrial revolution. The second wave of industrialisation in the late 19th century materialised with electricity providing the needed energy.

The Internet powered the third industrial revolution in the late 20th century. We are now in the midst of the fourth industrial revolution, which is powered by digital technologies.

Satya Nadella, the chief executive officer of Microsoft, in his 2017 book *Hit Refresh*, put forward the view: "Artificial intelligence, mixed reality and quantum computing are going to be game changers..."

"(They) will be more profound in (their) impact on the economy than those revolutions that came before."

Today, the world is facing a major pandemic that drastically af-



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fects social and economic growth.

The world has enforced total lockdowns to control the spread of the outbreak.

While this has saved lives, it has also destroyed livelihoods with disruptions to businesses and industries.

Technology, however, can be a succour to a wounded world.

Nadella wrote that digital technologies can again play a vital role in the "re-imagining" of society and business in response to disruptions caused by Covid-19.

It can improve productivity while making our lives better.

We need these critical digital technologies in the three phases of this crisis, from emergency response, through the recovery

phase, to the creation of a new normal.

Every organisation will increasingly need to go remote, whether in manufacturing, sales or customer support.

They will also need to simulate everything, from how vaccinations and immune response of people respond to Covid-19, to how a fault in any part of the supply chain will impact on business operations.

With working from home increasingly becoming the norm, digital technologies are more indispensable than ever.

These technologies will also enable businesses to automate for a faster, more nimble response, from triage in healthcare, through artificial intelligence-assisted bots, to smart factories and buildings.

The following suggestions can help government and businesses to exploit digital technologies in managing the disruptions occasioned by the pandemic.

FIRST, the Education Ministry should play a major role in shifting teaching and learning from the traditional physical world to a virtual learning platform.

Virtual learning is a legacy of

the pandemic.

The ministry should encourage the development of smart education systems in all learning institutions and schools.

With digital technologies, a variety of learning and teaching software can be developed for online delivery and assessment of learning modules.

As a corollary, budgets should be allocated to enable students to buy tablets so they can study remotely without having to physically attend classes.

This will prevent the formation of Covid-19 clusters in schools and learning institutions.

SECOND, the government should adopt data analytics to advance better evidence-based decision-making in government, more so as the government has accumulated mountains of data.

THIRD, the government should encourage the intensification of academia-industry collaboration.

Educational institutions should collaborate with key industry players to advance industry-relevant research.

FOURTH, manufacturing industries should be nudged through incentives to adopt the concept

of smart factories in their operating systems.

Industries should exploit robotics and automation to establish a systematic and autonomous production line to minimise crowding around the conveyor belt.

In this way, engineers, technicians and vendors do not have to physically interact with machines.

Such remote operations will also help contain the spread of infections, as industries have contributed to such a spread.

FIFTH, businesses can profitably adopt big data analytics in project design and management.

Building information modelling, simulation and construction software will improve the quality and safety in the construction industry.

Applying digital technologies to the needs of the education, health and business sectors can alleviate the destruction wrought by Covid-19. This would help sustain the economic growth of the nation.

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