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Econ 4.0: Do you still print?

Raju Chellam / The Edge Malaysia

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Here is an accounting tale with an innovative twist: After working in a bank for a decade, Tommy the teller is hired by an IT company as an accountant. Tommy is used to counting wads of cash as a cashier using the cash-counting machine that is fast and precise. However, in his new accounting job, he does not have to handle cash any more.

One day, Tommy is huddled over the office printer as it spews out page after page with nothing printed on them. “Is the printer broken?” his colleague asks. “Nope, the printer is working just fine,” Tommy replies. “My manager said she wanted 50 clean sheets of paper, which the printer is counting for me right now.”

You might consider that a spark of innovation — using an expensive office printer as a paper-counting machine. Innovation has now become a necessity. The shift to hybrid work — coupled with digitalisation initiatives — has caused organisations to rethink their reliance on paper documents and printers while searching for solutions that enable mobility, security,

According to an International Data Corp (IDC) survey conducted in the thick of the pandemic in April 2021, more than 75% of organisations across Asia-Pacific expect printed page volumes to decrease over the next two years. About half of all organisations (47.7%) expect a reduction in print devices. These trends suggest a rapid maturity and adoption of document solutions as the region looks to digitise paper processes.

IDC divides countries into “accelerated” or “gradual” transformers, depending on responses relating to the likelihood of going completely paperless — and the degree to which print volume and devices would decrease over the next two years. Countries in the accelerated transformers category are Malaysia, Singapore, Thailand, India, Australia and South Korea while gradual transformer countries include China, Taiwan, Hong Kong, Indonesia and the Philippines.



The transformers

IDC examined both types of transformers in terms of how they planned to transform the workspace, coupled with which document solutions they would use to augment their business processes. Respondents were also asked about plans to digitise

current and archived documents, whether in-house or outsourced services will be used, and which factors they will prioritise when selecting a printer vendor.

“Malaysian, Indian and Thai respondents indicated they would see print volumes and devices decrease to a larger degree than digitally mature countries like Australia and South Korea,” says Kenneth Tham, IDC’s senior market analyst for imaging, print and document solutions for Asia-Pacific. “This suggests that their short-term investments into document solutions will be focused on transforming business process while nearly



On the other hand, Taiwan and Hong Kong were classified as gradual transformers despite being digitally mature countries; that's because of the legislative value printed documents still hold in those countries. "Their document transformation initiatives will address the co-existence of paper and digital documents, ensuring data from all sources is captured and fed into core business systems," Tham says.

Asia-Pacific is the biggest region for document printing, according to a survey conducted last year by ResearchAndMarkets.com. Asia-Pacific accounted for 34% of the global printing market in 2019. North America was the second-largest with 30%, and South America was the smallest region in the global printing market.

The Dublin-based research firm says the global printing market was worth about US\$294.2 billion in 2020 — down from US\$314.6 billion in 2019. "The decline was mainly due to the economic slowdown across countries because of the pandemic and the measures to contain it," the firm notes. "The market is expected to recover to about US\$317 billion by 2023."

Commercial printers range from the low-priced dot-matrix and home inkjet printers to the more expensive laser and LED models. Laser printers use a laser beam that tracks back and forth across the print drum, while LED printers use an array of LEDs that flash the entire line all at once. A standard business gizmo is the MFP (multi-function printer), which consolidates the functionality of a printer, copier, scanner and fax into one.

"The use of digital inkjet printers is on the rise in Asia due to its faster printing rate as compared to older printers," ResearchAndMarkets.com reports. "Digital inkjet printers are ones in which the characters are formed from minute jets of ink. They are more efficient and reliable than the traditional printer technologies."

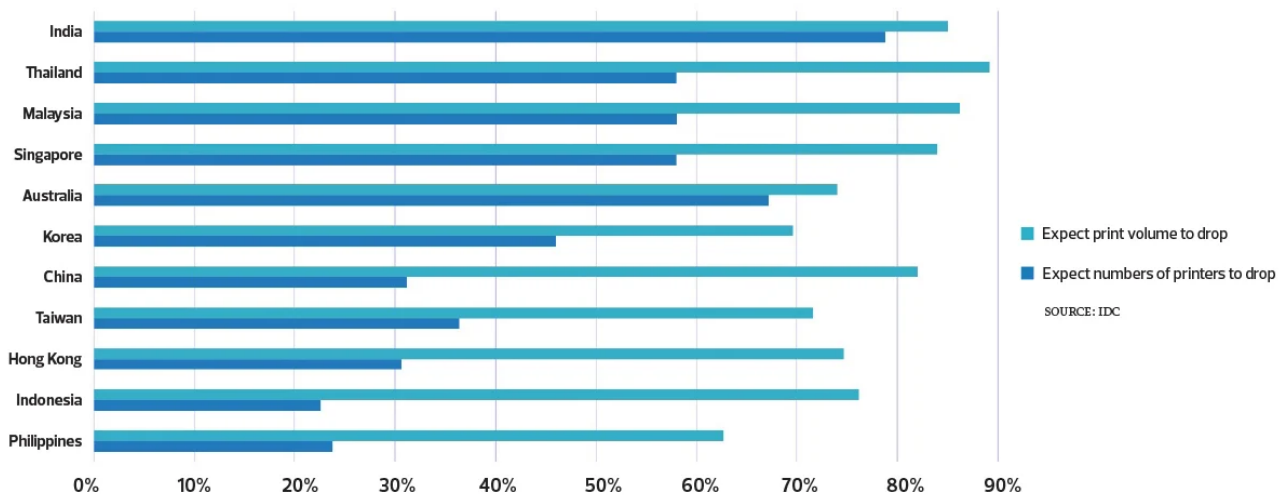
Here comes 3D

The newest kid on the block is 3D printing, which constructs a three-





Asia/Pacific expectations on print volume and print device reduction



to cross US\$23.6 billion (RM98.4 billion) by 2023 — from about US\$12.6 billion in 2020 — a CAGR of 17% between now and then. General Electric has the most 3D-printing patents in the US, says Statista.

3D printing (also called additive manufacturing) utilises a slew of materials — such as metals, metal alloys, plastics, polymers, resins, graphite, graphene and even biomaterials and medical compounds like ninitol — for a range of 3D applications. Ninitol is made from a mixture of nickel and titanium and can be bent or moulded without breaking. Even if folded in half, the material can be restored to its original shape. Nitinol is one of the most robust materials with flexible qualities and is ideal for medical implants and prosthetics.

Malaysia announced its National Fourth Industrial Revolution (4IR) policy on July 1, which listed a range of cutting-edge technologies, including 3D printing and the Internet of Things (IoT). “IoT is also being used to improve road safety as it enables quick information exchange for the relevant authorities to act more efficiently in reducing road fatalities and carbon emissions,” the policy document notes. “3D printing is being used widely in engineering, aviation, healthcare, architecture and even fashion. Drones are already being deployed to perform tasks such as delivery services.”

“Namic was set up to help accelerate and expand the 3D printing industry ecosystem in Singapore towards value creation in the digital economy,” says Dr Ho Chaw Sing, managing director of Namic. “We have established sector-specific initiatives to address industry vertical pain-points. We aim to seed companies with industrial 3D printing know-how, establishing joint funds in the co-creation and commercialisation process, thus lowering the barriers to industry adoption.”

The big bets are on 3D metal printing. Currently, 3D printing is a tiny part of the metals industry. However, it is growing rapidly, and this market is expected to be worth as much as US\$10 billion by 2030 to 2035, according to a McKinsey study. Already, several healthcare and aerospace companies have adopted the tech. Some are running pilots to see how 3D metal printing can contribute to their operations, while others use 3D printers to produce metal prototypes in-house.

“We expect the current low-scale experiments to shift to broader industrial adoption within the next 5 to 10 years, especially at the high end of the metals market,” McKinsey noted in a 2017 study. “By significantly lowering production costs and lead times for a variety of metal parts, 3D printing has the potential to reshape the industry structure.”

Where is the sweet spot in the 3D value chain? Industry players can enter this promising market in several ways — powder production, 3D-printing end-products, servicing 3D printer operations and manufacturing 3D printers. “For the metals value chain, perhaps the biggest opportunity lies in producing high-performing metal powders or innovative products with enhanced properties,” McKinsey says. “As the technology increasingly takes hold, we expect powder producers and creators of the product designs to hold the greatest power in the value chain, with those in the middle increasingly squeezed.”

The bottom line: To print or not to print? That’s the billion-dollar question, especially if you are printing on paper. That’s because of the millions of trees that need to be cut to produce paper. “It’s a lose-lose situation either



you print a ‘perfect’ job, somebody will always find a typo in it and force you to print another sheet — wasting time, effort, paper and ink — to print the corrected version.”

The writer is vice-president of new technologies at Fusionex International, Asia’s leading big data analytics company

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