

The rise of data sharing and the ‘intelligent edge’

Businesses should view data sharing, collaboration and innovation as new revenue drivers. **BY PEI SAI FAN AND STEPHEN HO**

THE notion of data being the “new oil” – a phrase said to have been coined by mathematician Clive Humby in 2006 – gained currency after *The Economist* published an oft-cited article on the topic in 2017. While describing data as the “new oil” could be a useful generalisation, it risks under-estimating the power of data as compared with oil.

Valuing data is not necessarily straightforward. Commercially, data is only valuable when it can be used to reduce cost or generate income. In non-profit sectors, the value of data comes through when it leads to public good.

SAME BUT DIFFERENT?

An interesting characteristic of data, in contrast to “real oil”, is that it becomes more valuable when shared, and when disparate data sources are processed holistically to generate insights not previously available.

The concept of data sharing, leading to data innovation, is unique in this sense.

Another paradigm shift brought about by data, unlike oil, is that data is not globally diminishing, but is being generated at “warp speed” in this time of rapid digitisation.

A March 2021 IDC report described how data is generated at a mind-boggling rate, with 64.2 Zettabytes (64.2 followed by 21 zeros) created in 2020 alone. IDC forecasts that global data creation and replication will experience a compound annual growth rate of 23 per cent over the 2020-2025 period, with data sources coming mainly from Internet of Things (IoT) and social media, and that data creation at the edge is growing almost as fast as that in the cloud.

This perhaps begs the question of whether data are created equal, and hence equally valuable.

Singapore’s Infocomm Media Development Authority (IMDA) published a “Guide to Data Valuation for Data Sharing” in 2019, detailing a framework comprising topics such as valuing and sharing data, and which provides a useful guide when thinking about the topic.

The document defines data assets as identifiable and definable, holding promise of probable future economic benefits and are under an organisation’s control.

It further describes the varied data sources possible in data taxonomy, ranging from “Authored Data” such as photographs and music soundtracks, to “User-entered Data” such as social media postings, as well as “Derived Data” such as credit scores.

DIFFERENT STROKES FOR DIFFERENT FOLKS

Although the rate of digitalisation varies across industries, many organisations (and particularly startups) are pouncing on the fact that harvesting and processing data across domains can lead to new value creation. This has led to the proliferation of new industry sectors ranging from fintech, medtech, edutech as well as Smart Built Environment technology.

Common to all is the need to extract and curate data, across previously siloed data sources, and processing them in an integrated manner, through the use of various analytic tools, to uncover new trends or business value.

The need to have common data inter-



Asean countries came together, in 2018, to launch the Asean Smart Cities Framework, comprising some 26 cities. PHOTO: REUTERS

faces, in order to promote data sharing and innovation, is key.

Cognisant of this fact, Singapore – which topped the Institute for Management Development’s (IMD) Smart City Index ranking for the last two years – has implemented many initiatives to promote data sharing and innovation.

For example, the then Infocomm Development Authority of Singapore (IDA) launched in 2015 the “Smart Nation Platform” with the objectives of enhancing the Republic’s capabilities in pervasive connectivity, building new digital infrastructure and common technical architecture to enable citizens, businesses and government agencies “to leverage technology to make lives better in a Smart Nation”.

Similarly in 2017, Singapore’s Government Technology Agency (Govtech) announced the launch of the Smart Nation Sensor Platform (SNSP), a key initiative meant to enable “everyone and everything, everywhere, to be connected all the time in Singapore” with a similar intent of making the best of available technology to improve lives.

As part of the SNSP, JTC – responsible for developing the new Punggol Digital District (PDD) – announced in 2018 its intention to deploy an Open Digital Platform (ODP) across the 50-hectare district, integrating diverse smart city systems ranging from facilities management, to autonomous goods delivery, access and security, car park and autonomous vehicles within the PDD, for the purposes of optimising resources and manpower deployment and enhancing asset management.

Beyond the shores of Singapore, Asean countries came together, also in 2018, to launch the Asean Smart Cities Framework, comprising some 26 cities. Cities were encouraged to develop interoperability of digital systems among them and to leverage new technologies for the optimisation of city operations and enhancement of resource utilisation. Examples cited included the use of geospatial databases to monitor and use of data analytics to support city operations.

To achieve the objective of promoting a more integrated Asean economy, Asean developed in 2018 an “Asean Digital Integration Framework”. Soon after, Asean also provided a blueprint for a single regional di-

sources such as videos and images, and the need to process them in a timely manner, there is now a greater demand for low-latency processing and analyses, leading to the rise of the “intelligent edge”, where analyses of data and deployment of applications are done nearer to where the data is generated – also known as the edge – in order to reduce latency, costs, and security risks. Well-known examples include the need for autonomous vehicles to have on-the-spot computational capabilities to make instantaneous “operational decisions” while on the move.

Another example would be to deploy digital agriculture with a wireless network that sends data such as soil conditions, plant growth and other factors to the intelligent edge with a high-performance computing data centre for analysis and artificial intelligence (AI) development which provide insights to help farmers in the field make better in-the-moment “operational decisions” to improve the quality of farming. Such digital agriculture creates opportunities to increase the efficiency, quality, and sustainability of global food production.

UNCEASING RESOURCE

It is thus timely for businesses to take a closer look at the new and vast opportunities brought about by data sharing and the intelligent edge, enabled by this “new oil”.

They should, leveraging on frameworks and infrastructure such as those presented above, view data sharing, collaboration and innovation as potential new revenue drivers, and seek differentiation by combining previously seemingly disparate data sets, within and outside their organisations, into actionable insights and creating new business value. This “new oil” is an unceasing resource that can be made more valuable in sum than in part.

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