

The Rise of the Digital Economy and Business Transformation

30 June 2021

By Faizal Yahya

On 30 June 2021, the Institute of Policy Studies (IPS) conducted a workshop on “The Rise of the Digital Economy and Business Transformation”. In 2018, the Infocomm Media Development Authority (IMDA) rolled out the Digital Framework for Action to turn Singapore into a leading digital economy. Its key plans centred around collaborations with partners and platform enablers. The aim of this IPS web forum was to examine the problems and potential solutions, in terms of policy measures, to facilitate digital transformation among companies — to not only encourage traditional linear companies to use digital technology but also transform their linear business models to platform business models. Some of the concerns highlighted were infrastructure gaps, environmental impacts, data privacy, and the training and skilling of manpower to prepare the ecosystem to accommodate this digital economy.

Introduction

In May 2018, the IMDA rolled out the Digital Framework for Action to turn Singapore into a leading digital economy. Its key plans centred around collaborations with partners and platform enablers. Since then, digital transformation has emerged as a key approach to help companies through the COVID-19 crisis and the government has set aside more than S\$500 million at the height of the pandemic to facilitate the digital transformation efforts of local businesses.

In relation to digital adoption, Deputy Prime Minister Heng Swee Keat quoted a McKinsey study noting that the pandemic had achieved in weeks what would otherwise have taken five years. He added, “digital solutions will become more deeply embedded in our lives.” Continuing in the trajectory of digital transformation for businesses, the Digital Government Blueprint was updated in December 2020 and builds on the work from previous e-Government masterplans.

The areas for continued development include the re-engineering of the government’s ICT infrastructure to provide reliable, resilient and secure systems. This would enable stakeholders to not only raise their digital capabilities but also pursue innovation. This

requires key stakeholders to not only digitalise their business models by leveraging technology (e.g., creating a website and or app) but also using platforms to create holistic business models by using and creating connections. This network effect is the key that unlocks potentially new opportunities for businesses.

Companies would need to gather and enhance their abilities to monetise value created by platforms. This is dependent on the sources of value that could be exploited. This generally falls into four areas: access to value creation, access to the market, access to tools, and curation. Data is the currency that drives the digital platform economy. The government has facilitated the utilisation of this platform approach for companies through tools such as MyInfo — a government-developed data platform that enables locally registered businesses to digitalise their business operations by requesting for citizen's personal data with their consent via secure Application Programming Interfaces (APIs). Businesses are then able to retrieve verified personal data for business-to-consumer (B2C) digital transactions.

The IPS workshop on “The Rise of the Digital Economy and Business Transformation” was convened and co-moderated by Dr Faizal Yahya, Senior Research Fellow, Institute of Policy Studies and Ms Si Ngah Leong, Director Digital Transformation, Deloitte. The panellists were:

1. Mr Victor Tay, Chief Executive, Global Catalyst Recovery and Governing Council, China-ASEAN Business Alliance, Singapore Digital Chamber of Commerce.
2. Mr Jonathan Ng, Director APAC – AEC, Hexagon.
3. Mr Jerry Ah, Director, Space Scope Pte Ltd
4. Ms Evelyn Tay, Vice President, Communications and Public Affairs (APAC), foodpanda
5. Ms Radhika Chavan, Founder & Chief Executive Officer, Digital Tensor
6. Mr Abhijit Chavan, Regional Vice President, Backbase

The aim of this web forum was to examine the problems and potential solutions in terms of policy measures to facilitate digital transformation among companies, to not only encourage traditional linear companies to use digital technology but also transform their linear business models to platform business models. Some of the concerns highlighted were infrastructure gaps, environmental impacts, data privacy, and the training and skilling of manpower to prepare the ecosystem to accommodate this digital economy.

Digital Economy and Business Transformation

The first panellist Mr Victor Tay presented on perspectives from the government, businesses and consumers on the digital economy and business transformation. Due

to Singapore's development as a supply chain hub, Singapore is leading the pack amidst a small group of countries that are much more connected than the rest of the world. In the Country Connectedness Index, Singapore ranked first for goods, second for finance and services, sixth for data and 12th for people. Singapore scored 98.05 per cent on its digital competitiveness, 39 per cent for the share of enterprises engaged in digital investment in Singapore, and 26 per cent for the share of wholesale and retail trade that engaged in e-commerce activities in Singapore. In terms of digital services, it was forecast to have an annual gross merchandise volume of US\$8 billion for the e-commerce market in Singapore. Approximately, 81.5 per cent of internet users used mobile shopping apps in Singapore. In addition, the share of people using mobile devices for purchasing is around 66 per cent, where the most popular website is Shopee.

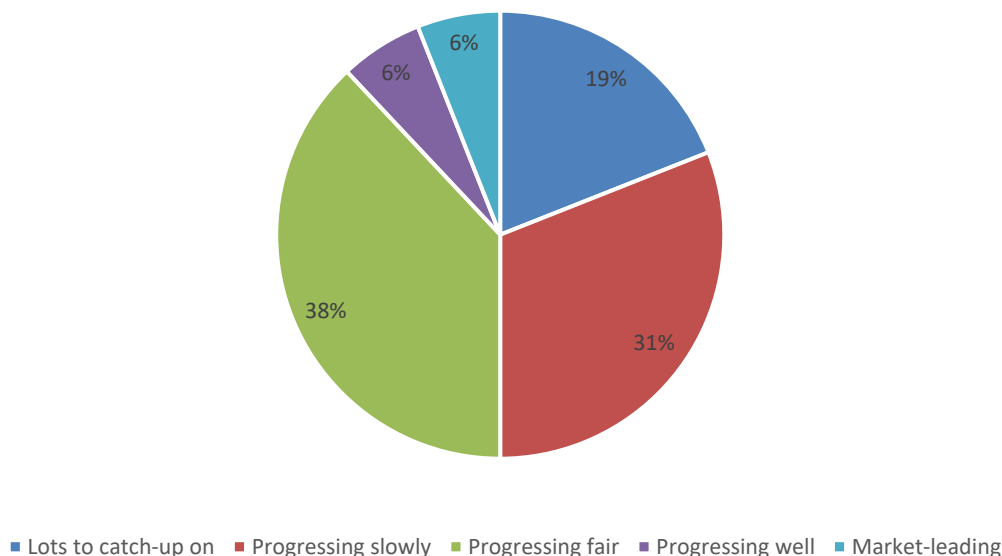
The new challenge SMEs face is how to go deeply into the digitalisation process — and the pandemic has slowed this process as well as their plans to internationalise. In a survey conducted by *The Straits Times*, some of the constraints that impede SMEs going deeply digital include: high cost (56 per cent), lack of digitally skilled workforce (40 per cent), uncertain economic environment (30 per cent), and not having the correct technology partners (28 per cent). Mr Tan asked if government policy had to be tweaked to address concerns from businesses in the process of digitalisation. Some of the concerns such as the need to increase the pool of skilled labour and incentives to fund digitalisation would be beneficial for SMEs in particular.

Are Singaporeans, Consumers and Markets Not Ready?

The government has implemented a series of SMART digital projects such as identity and e-payment platforms to facilitate business and economic transformation. Smart city and urban mobility projects will also prepare the market and assist companies in their digitalisation journeys. However, consumers have highlighted concerns such as data privacy and the sharing of personal data on various platforms. In a survey conducted by Wirecard on Singapore consumers, 74 per cent were concerned that companies might sell their personal data to third parties; 70 per cent were concerned about how companies stored and managed personal information; and 60 per cent were concerned that personal data would be used to send more marketing materials.

A poll was conducted among the audience on the progress of digitalisation among their companies. Chart 1 below shows the audience responses to the question, "How would you rate your organisation's progress towards innovation?" Among the 54 responses, 38 per cent chose "progressing fairly" and 31 per cent chose "progressing slowly". Only 6 per cent responded that their organisations were "progressing well".

Chart 1: How Would You rate Your Organisation's Progress Towards Innovation?



Construction Industry Challenges

The second panellist Mr Jonathan Ng from Hexagon discussed the challenges facing the construction industry. These include insufficient planning and inaccurate estimating, poor project controls for costs and scheduling, poor communication leading to design errors and omissions — which then leads to poor project execution which is also caused by a shortage of skilled manpower. Contractors often rush to the site to start work but they are not able to coordinate well with the other partners. The uncertainty surrounding the project's estimates and costs lead stakeholders to create contingencies that only serve to delay the timeline and inflate overall project costs.

The government's push towards 3D technology is useful for the start of projects and in the design phase. However, software tools to help with the scheduling work of the projects would also be required. The sharing of documents via software such as Sharepoint also helps to facilitate projects. Meanwhile the use of Microsoft software like Excel is simple to use but hard to integrate all the information from various sources onto the same platform for the purpose of coordination. The lack of integration of design and scoping tasks leads to wasted time and inflated costs and creates silos of information.

A lot of time is also wasted in manually calculating quantities, values, updating and analysing data. Furthermore, these changes are not updated across all the

collaborators creating inconsistencies and outdated information. Mr Ng urged for a more collaborative approach via the digital tools for all stakeholders to work together. The design and build approach is facilitating a more collaborative approach. Hexagon uses tools that enables and facilitates collaboration for their clients in their respective projects. The use of sensors to integrate and software allows assimilation of the various parts and to reduce the chances of problems. There is huge potential in making better use of data and AI to facilitate work processes and tasks.

Challenges Faced by SMEs

The third panellist Mr Jerry Ah from Scape Scope Pte Ltd presented specific challenges of an SME in the construction industry. Space Scope was established in 1999 and started with interior design, before winning a contract to develop semi-detached houses. They have moved towards developing good class bungalows (GCBs) and the average projects involve 15,000 square feet of properties worth between S\$7 to S\$9 million. Space Scope works with the building consultants leading the design and construction of each project.

Space Scope started its digitalisation journey in 2012 after the Building and Control Authority (BCA) rolled out some schemes and grants to assist the construction industry to undertake digital transformation. It was granted BIM Funding by the BCA to purchase software by Glodon International Pte Ltd for cost estimation. This reduced the time required for project estimation from 21 days to eight days. The software is still being used because the company is able to alternate the plans easily to fit the needs of different projects. In 2015, Space Scope purchased Graphisoft Archicad for modelling their projects for construction management. Archicad is a more advanced 3D software that most consultants at the time were not using. Space Scope had to transform the plans provided by the consultants, but it still was useful to be slightly ahead of time in terms of deliverables. The clarity of the images reduced the incidence of misunderstanding in the project development.

In 2018, they engaged Adventus (an IT company) to develop an integrated platform for project management. This proved to be costly error because what they required was an IT solution and not a complete digital platform. The platform was too complicated for them to coordinate effectively with their project partners. In 2020, they refocused their objectives for Adventus to develop a leaner mobile app that they could use as a tool to simplify their tasks.

While the more senior consultants and architects were familiar with software like Autocad and Sketch Up, the move towards 3D imaging is popular with the younger generation. Some of the concerns that are emerging would be the lack of true compatibility among the different systems. The lack of skills to operate 3D tasks may

result in a low degree of collaboration among the various stakeholders. The various tools and apps used may create glitches because they may not be compatible and Space Scope will have to spend time and resources to resolve these problems. Space Scope now separates projects into cost estimation and project management, to reduce potential problems from emerging.

Building a Resilient Digital Ecosystem

The fourth panellist Ms Evelyn Tay from foodpanda presented on the need to build a resilient digital ecosystem. Foodpanda was established nine years ago in Singapore and its HQ is still here despite it being owned now by the German MNC Hero. Foodpanda is present across 400 cities, 13 markets and has a large 200 pandamart network of cloud grocery stores.

The evolution of commerce has meant the need for a more actionable platform that could quickly react to customers' needs. The current third generation of q-commerce, or quick commerce, has meant the need for data-driven, hyper-local selection that is optimised for speed. It is able to speedily to your orders within 1 hour of placing your orders. The pandemic has created more problems especially during the lockdowns and circuit breakers. What was foodpanda's approach to resolve some of the problems to "onboard" merchants?

Foodpanda provided commission rebates and increased spending on marketing to help their merchants, i.e., the waiver of operations fees such as point-of-sale (POS) integration as well as expediting remote onboarding for their merchants. The merchants had to be onboarded within three to five days with training provided to ensure that they could cater to online orders. This involved working closely with the tech and product teams and enabling restaurants to use tablets to manage their orders.

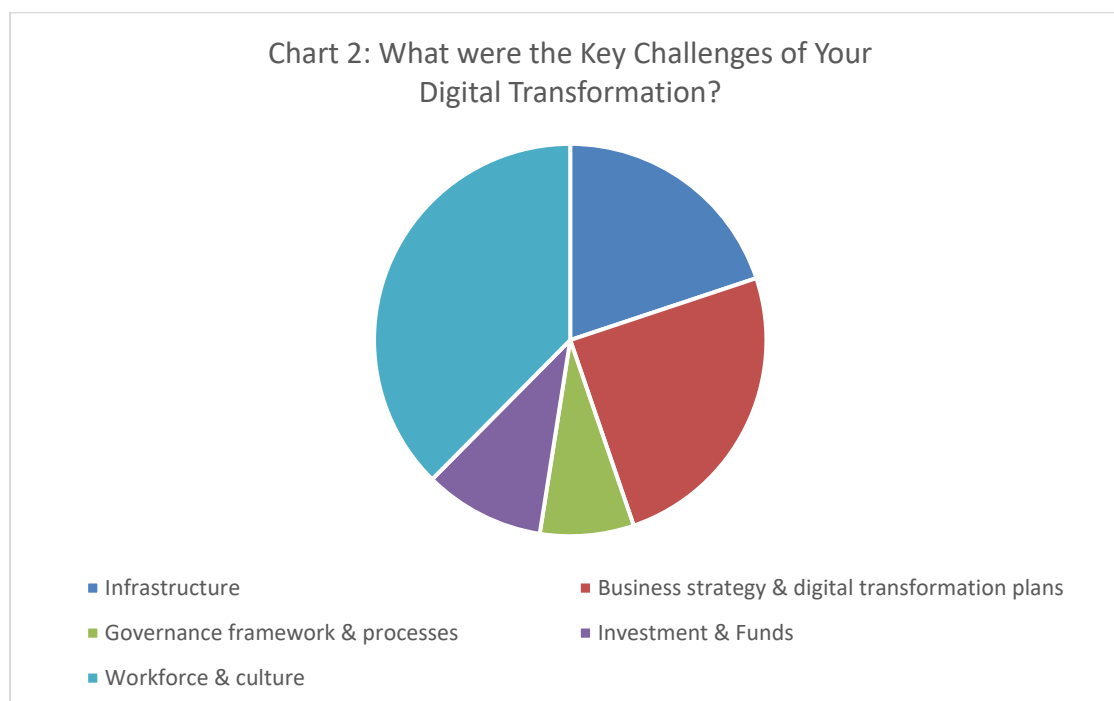
Foodpanda had used several approaches to help their merchants across the ASEAN region. In Singapore, in collaboration with the relevant agencies, foodpanda is trying to onboard Singapore hawkers onto their platform. The hawkers were charged no commission fees for the first month if they signed up by 15 July 2021. The onboarding and training materials were also translated into Mandarin. Foodpanda is collaborating with Enterprise Singapore (ESG) and the IMDA to assist the entire Singapore F&B ecosystem to digitise access to local grants in order for them to transform their businesses. Qualifying vendors receive S\$2,500 for onboarding and transacting through foodpanda. Working with ESG, foodpanda facilitated more than S\$6.3 million worth of grants to more than 2,000 F&B operators in Singapore.

Training is a key element in digitalisation. foodpanda has delivered e-learning portal to upskill riders. In collaboration with Temasek Polytechnic and Gnowbe (a micro-learning platform), foodpanda aims to upskill their riders. Currently, foodpanda is

exploring other collaborations with SkillsFuture SG to promote more upskilling initiatives for their riders.

The opportunities in food delivery is growing. Digital acceleration is here to stay because 94 per cent of new digital service consumers intend to continue with this service post-pandemic. To support the growth of a resilient digital ecosystem, digitalisation should first be localised to align with the needs of local businesses. Second, digitalisation should be sustainable in the long run. Third, regulatory frameworks should take into account the costs and benefits of all stakeholders.

A second poll was conducted among the audience on their experiences in digitalisation journeys in their companies. Chart 2 shows their responses to the question, “What were the key challenges of your digital transformation?” The majority of the responses highlighted “workforce & culture”. The other key challenges were “business strategy & digital transformation plans” and “infrastructure”.



Digital Business Models

The fifth speaker Mr Abhijit Chavan from Backbase discussed various digital business models using the banking sector as an example. He advised that there was no hiding from digital disruption. Companies with no assets were creating global businesses through the power of their networks. These cycles of disruption were occurring more frequently and incumbent business models were threatened. It is better to disrupt

one's own business as a pre-emptive measure rather than being disrupted by outside forces.

The price of delaying the process of digitalisation will be costly. Nonetheless, companies need to have a human centric approach in their digitalisation journeys. Currently, customers expect the “big tech” experience and companies have to undertake the paradigm shift from products to people. The objective is for the companies' platform to become the preferred app. For example, e-commerce platforms are able to integrate suppliers and consumers through the process of payments, supply chain and delivery logistics. The rise of digital platforms had resulted in rapidly scalable businesses in contrast to traditional businesses that are asset heavy.

The paradigm shift will involve shift from non-core activities with a maintenance focus such as storage, silo legacies, and IT workloads towards core activities. These core activities are focused on growth and include areas such as customer loyalty, omni-channel experiences, capabilities, and innovation. Platforms are the future growth models are continually innovating. This involves collaboration and agility. In the corporate world — with a top-down hierarchy and bureaucracy — employees were given detailed instruction and were operating in silos. The shift towards the start-up approach involves action-focused operations with the flexible use of resources. Leadership shows the direction and teams are empowered with end-to-end accountability. There is a need to be constantly in touch with customers and reiterating the proof of concept in order to receive feedback and make changes so that the product will be what is required. This is the process of continuous innovation and requires co-development with customers.

The transformation of a business model could be approached in stages. In the short to medium term, a company could invest in the basics. This could start with digitally transforming customer experience as the company moves towards a service model that enhances customer lifecycle value and loyalty at premium pricing. The company could then develop APIs on its digital platforms that enables interoperability. In this way, the company mindset could shift towards agility and learning by doing. The staff have to upskill or reskill in the appropriate way that complements the needs of the company.

In the medium to long term, companies should study platform players in their industry. There are various strategies for digital transformation. First, the company could join a platform, such as Shopify for SMEs. Second, the company could be a capability provider for a platform. Third, the company could create a platform for an underserved industry. Fourth, the company could adopt a multi-platform strategy to develop their capability niche. Fifth, the company could be a lean back-end for B2B2C such as the

move to Asset Administration Shell (aaS). Last but not least, the company could try and monetise their data on their platforms.

However, there are always risks involved for platform operators such as in the launch phase, adoption phase, security and monetisation of their data among other things. Risks could also appear for platform participants based on technology being used, regulatory constraints, reputation and customer migration.

Value of the Digital Economy

The fifth speaker Ms Radhika Chavan from Digital Tensor presented on the value of the digital economy. In the 1990 the concept of digital was attached to core devices but this has evolved into data-driven platforms that form the primary parameters of the digital revolution. In order to create a virtuous cycle for the digital economy for providers and consumers, four factors are important, they are: digital technology, infrastructure, policies, and regulations. While only accounting for 15 per cent of the global world GDP, the digital economy consumes 10th of the world's electricity. In 2020, data centres in Singapore consumed 7 per cent of all electricity usage.

The production, consumption and innovation of technology create and consume data. This virtuous cycle is driving the AI sector that will be worth US\$13 trillion by 2030; blockchain US\$3 trillion by 2037; and Internet of Things (IoT) US\$1,567 billion by 2025. By 2025, it is projected that a person would interact 4,900 times per day with IoT.

However, this process is not without risks. These risks and challenges revolve around needs of the customers and the ability or speed of companies involved to service customers' need through their core solution values. The challenge of sustainability is the third variable that has to be considered. For example, the government has placed a pause on the development of more data centres to relook the impact on the environment, social impact, and issues of governance. From the sustainability concerns over the development of data centres to have a net zero carbon emissions profile, this would gradually move towards other developments.

The way forward for business models would rest upon three key areas. They are: sustainability maturity score, measure to progress, and nurturing the 3 Ps (people, planet and profit) together through holistic transformation. In the process of transformation, companies would need to start with an assessment of their business model, where they are going to invest and the expected returns on their investments.

In conclusion, the process of digitalisation has helped companies such as those in the construction industry to reduce time, costs and wastage incurred in projects. During discussions, Jonathan pointed out that, while digitalisation has facilitated projects' development, the lack of integration and coordination onto the same platform for larger

companies is still a key problem. The SMEs in construction has tried to keep abreast with all the latest digitalisation tools but two problems were encountered. First, there seems to be a generational difference among SMEs in the sector such as building consultants. The younger consultants were more used to 3D drawings while the older consultants were more used to 2D. Second, Jerry highlighted that SMEs need to be careful to not over invest and complicate their needs. For example, they might not need an integrated digital platform but more advanced software digital tools to facilitate their projects.

Platform providers such as foodpanda have tried to build their networks by enticing merchants onto their platforms. They pointed to training as a key element for digitalisation to maintain the skill levels among their staff, especially their riders. foodpanda has highlighted sustainability and resilience to be built into the work process as digitalisation accelerates business transformation.

Mr Abhijit Chavan from Backbase advised that the process of digitalisation should not be avoided but it could be implemented in stages. This approach would enable companies to keep their customer base happy and enable their staff to adapt to the needs of digital transformation. Finally, Ms Radhika Chavan from Digital Tensor echoed the need for sustainability in business transformation towards a digital economy. The ability to evaluate by measuring and nurturing the progress of digitalisation in companies' transformation journeys is vital. This would help companies to map out the path for their digitalisation process, where to invest and expected returns from their investments.

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