The economic output generated by digital connections amongst people, businesses, devices, data and processes 24 by 7, 365 days.

The global economy is undergoing a digital transformation faster than before.

Today, there is a prevalent need to rethink on how businesses are structured, how people, cities and organisations can be hyper-connected, and how services, information and processes can be disrupted, optimised, managed, shared, secured and deployed.

Both leaders and technologists need to urgently co-curate and transform businesses to break the norm, for growth and even, for survival.

The question is what, when and how can you go about shaping a digital transformation.

Here we take you through a glimpse of what seeded the start of digital economy. We next share how organisations can harness the power of emerging technologies to ride the digital wave.

It’s your turn now.

Rethink to turn a seemingly everyday situation and customer interactions into an area of exploration and transformation, to ignite ideas for digital economy.
THE START OF DIGITAL ECONOMY

1991 World Wide Web (www)

1995 First book on the Digital Economy: Promise and Peril in the Age of Networked Intelligence by Don Tapscott

1997 WiFi

1998 Google

1991-2020

1995
First book on the Digital Economy: Promise and Peril in the Age of Networked Intelligence by Don Tapscott

1997
WiFi

1998
Google

1999

1999

2001 2002
Wikipedia
3G Networks

2003 2004
Taobao, Alipay,
Facebook
LinkedIn

2005 2006
YouTube
iPhone

2007
Twitter
Netflix
Dropbox

2008 2009
Airbnb
WeTransfer
Uber

2010 2011
4G=WiMax + LTE
WeWork
WeChat

2014
Google Glass
Blockchain
OFO Bike Sharing

2016
FinTech, Edtech,
Medtech, Oculus Rift,
Pokemon Go and Netflix
Streaming

2018
Digital Twin

1990s
The Global Tech Transformation started with the Rise of World Wide Web and Mobile Technology
Brought us into a world of endless information and spurred:
- Interconnectivity between people, organisations and governments
- Access to information and services
  -> Systems Engineering and Integration
  -> Computer-based Training into Web-based Training

2000s
Rise of Business Disruption with Mobile Transformation and Social Media
Witnessed a surge in social media, crowdsourcing and evolvement of transaction websites into e-commerce:
- New business processes and models reaching out to new unserved markets
- New and nimble players contesting in uncontested markets
  -> Data Analytics + Cloud + IoT + Cybersecurity
  -> Blended e-learning + Simulation

2010s
Advancing into Industry 4.0 and Digital Economy Transformation
Where tech is fully integrated into our daily life, with a surge in digital apps and sharing economy:
- Economic growth and productivity
- Evolution of service provision
  -> AI + Data Analytics + IoT + Cyber + XaaS
- ARVR + Wearables
- Edge Computing
- Robotics + Autonomous Systems
- Mixed Reality Training Simulation

25% of World Economy will be digital by 2020
Source: Digital Economic Value Index

US$2.1T
Global Spending on Digital Transformation by 2021,
Two times that of 2016
Source: IDC

US$1.8T
Lost to Insights-driven Businesses by Less-Informed Peers By 2020
Source: Forrester Research

23X
More Customers by Data-driven Businesses
6 times as likely to retain customers, and 19 times as likely to be profitable as a result.
Source: McKinsey Institute

Up to 10% GDP
Contributed by Digital Solutions and services among ASEAN economies.
Source: Frost and Sullivan
HARNESS THE POWER OF TECHNOLOGIES
A PEOPLE CENTRIC, ANTICIPATORY APPROACH TOWARDS A DIGITAL ECONOMY

DATA
LIFEBLOOD OF COMPANY = USEFUL REAL-TIME INSIGHTS + ACTIONABLE INTELLIGENCE

AI-IN-IOT
NOT JUST SENSING BUT SENSEMAKING

AI-IN-CYBER
TO LURE AND TRAP PERPETRATORS WITH NOT JUST THE DEFENSIVE APPROACH, BUT OFFENSIVE AS WELL.

AI-IN-THE-CLOUD + XAAS
NOT JUST HOSTING BUT WITH ANTICIPATORY CAPABILITIES

AI + DATA ANALYTICS + MACHINE LEARNING
ANTICIPATORY ACTIONABLE OUTCOME

For Business Survival and Growth
Efficient Supply of Data = Data Supply Chain + Organisation Architecture + Legacy Process + Interoperability

For Operating Efficiency, Enhanced Risk Management, Development of New Products and Services, and Reduce Unplanned Downtime
Detection of Patterns + Speech and Pitch Recognition + Anomaly Detection, e.g. Temperature, Pressure, Humidity, Sound, Colours

For Increased Cyber Resilience, Preemptive Detection and Identification of Lone-wolf Acts vs Organisational Attacks
Reverse Deception = Tracking of Sources + Depth Analysis + Profiling of Attackers

For Scalable, Robust and Resilient Platform, Seamless Migration of Server to Cloud and Differentiated Services with On-demand Usage-based Model
Next-gen Cloud Computing + Edge Computing + Machine Learning Algorithm

For Enhanced Operations and Maintenance, New Customer Experience and New Growth Opportunities
Unifying Silos + Digitising Manual Labour Intensive Logs + Data-driven Culture + Deep Learning

Curated by David Tan, Chief Technology Officer, Electronics.
THE IDEATION CHECKLIST

Here’s a list of questions to help you to curate ideas, mitigate risks and back your transformation with validated information.

YOUR INDUSTRY VALUE-CHAIN AND ECOSYSTEM

- Overall digital readiness and maturity – Which stage of business transformation is your industry at now? What technologies have been adopted with disruptive outcomes?
- Blind spot – Any vital or useful information that your customers do not have visibility today?
- Data consumption and insights - Any potential huge data consumption and usage required across the value-chain to advance performance and growth?
- Surplus or available capacity and resources - What can potentially be spinned off for co-sharing and to monetise?
- Middlemen roles - Any such roles in the value chain that can possibly be shaped into a collaborative platform?
- Consolidation of competitors – Any possibilities to collaborate with smaller players?

YOUR CUSTOMERS

- Sourcing challenges – Do your customers have challenges in solving their explicit needs?
- Pricing models – Consider changing existing stagnant pricing model for growth such as value-added pricing, subscription-based, co-funding?
- Purchase frequency and size – Any new ways to scale up or down?
- Delivery format and time – Can you change the way services or products are delivered and accessed?
- Switching cost – Any resistance or barrier for the customers to switch?
- Social upsides – Any platforms to bring together a shared interest community?

YOUR COMPETENCIES

- Strategic fit – Does it align to your broader vision and business principles?
- Footprint – Does it help expand your footprint and pipeline?
- Financial sustainability – Is it sustainable to implement the model? Can the model be asset-light?

With the trilogy of neuroscience, supercomputing and nanotechnology, neuromorphic engineering is in the watch list. The Brain-on-a-Chip technology will spike up the human neurons in the brain to have perception beyond detection, reasoning beyond surveillance and doing so at very low power in a very small form factor – addressing the challenge of smart unmanned and thinking robotics in terms of size, weight and power.

THESE ARE THE INFINITE POSSIBILITIES WITH DIGITAL TRANSFORMATION