

ICT Infrastructure Landscape to Support Malaysian Education System



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TM at a glance...



For B2B segment

Government and Enterprise Digital technologies Services

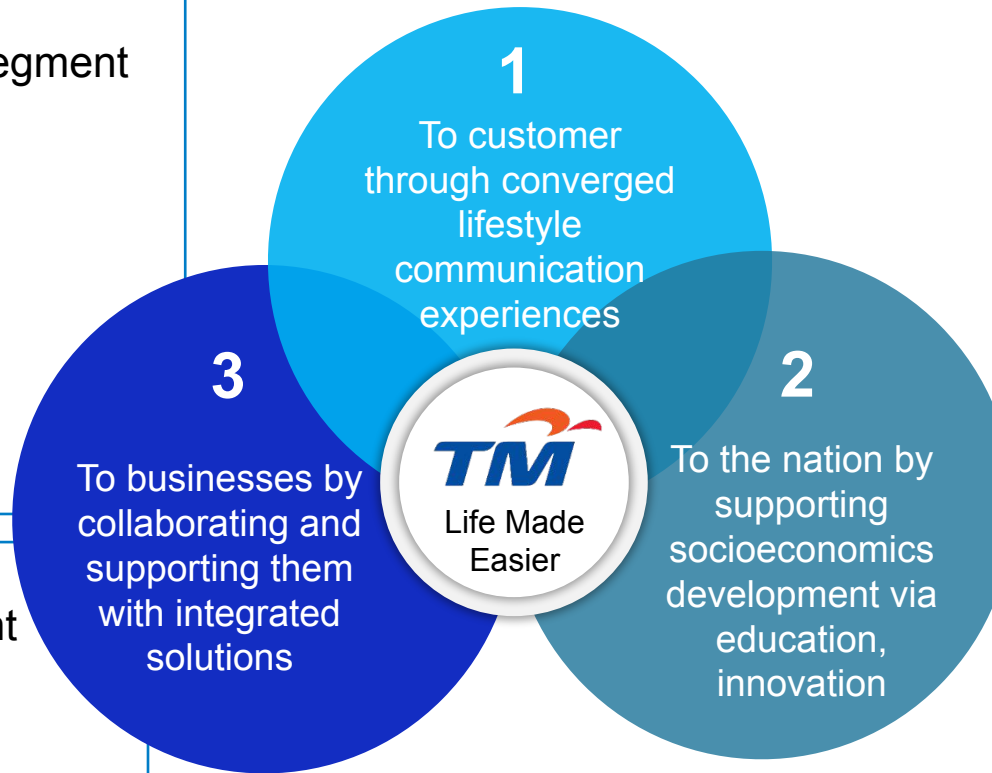
Provides Digital Connectivity, Smart Services and IoT, Cyber securities, Data Center, Cloud, Analytic and more



For Carrier (C2C) segment

Global and Wholesale Services

Offering to domestic and international wholesale business data, backhaul, voice, access, infrastructure and adjacent business service



Today's focus



For B2C segment

>3

Fixed broadband customers

m

Consumer Services

Drive **Fixed Mobile Convergence (FMC)** with seamless service experience

SME Services

Provides One-stop-service for **SME Digital solutions** as part of convergence offering beyond connectivity.



TM integrates Environmental, Social and Governance factors within our ecosystem, embedding sustainability into our initiatives and future performance - Towards Net Zero Carbon Emission

We set our future aspiration to evolve from a Converged Telco to become a Human-centred TechCo

Fixed Telco

PAST



Fixed: voice, internet, data

Convergence Telco

PRESENT



Fixed: voice, internet, data
Mobile; Content;
Cloud/data centre

Human-Centred TechCo

FUTURE



- Technology solutions that make **customers'** life & workplace better
- Drive a more **digital way** of working **internally**



Our market and industry landscape has changed...



Creating new connectivity habits and customer needs which lead to new opportunities

58%

of students rely on digital platform

>3k

New start-up in Malaysia

35%

Work from home, increase from 17% in 2019

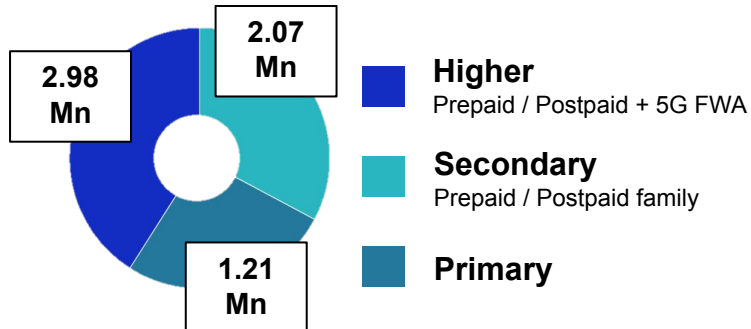
40%

5G population coverage in 2022 and up to 80% by 2024

Youth

New way of learning and lifestyle for students and youth

Connected on mobile + home is essential as **more than 70%** indicated they are learning soft skills via online resources

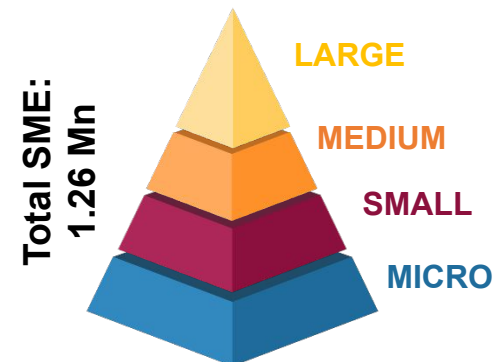


Source: Various / TM internal analysis

Micro SME

Emergence of Micro SME from new business and professional services

As of June 2022, number of Micro SME grown by 9.6% and **makes up 77% of total SMEs**



5G Mobile Home

Fixed Wireless Access offers the same speed as Fibre

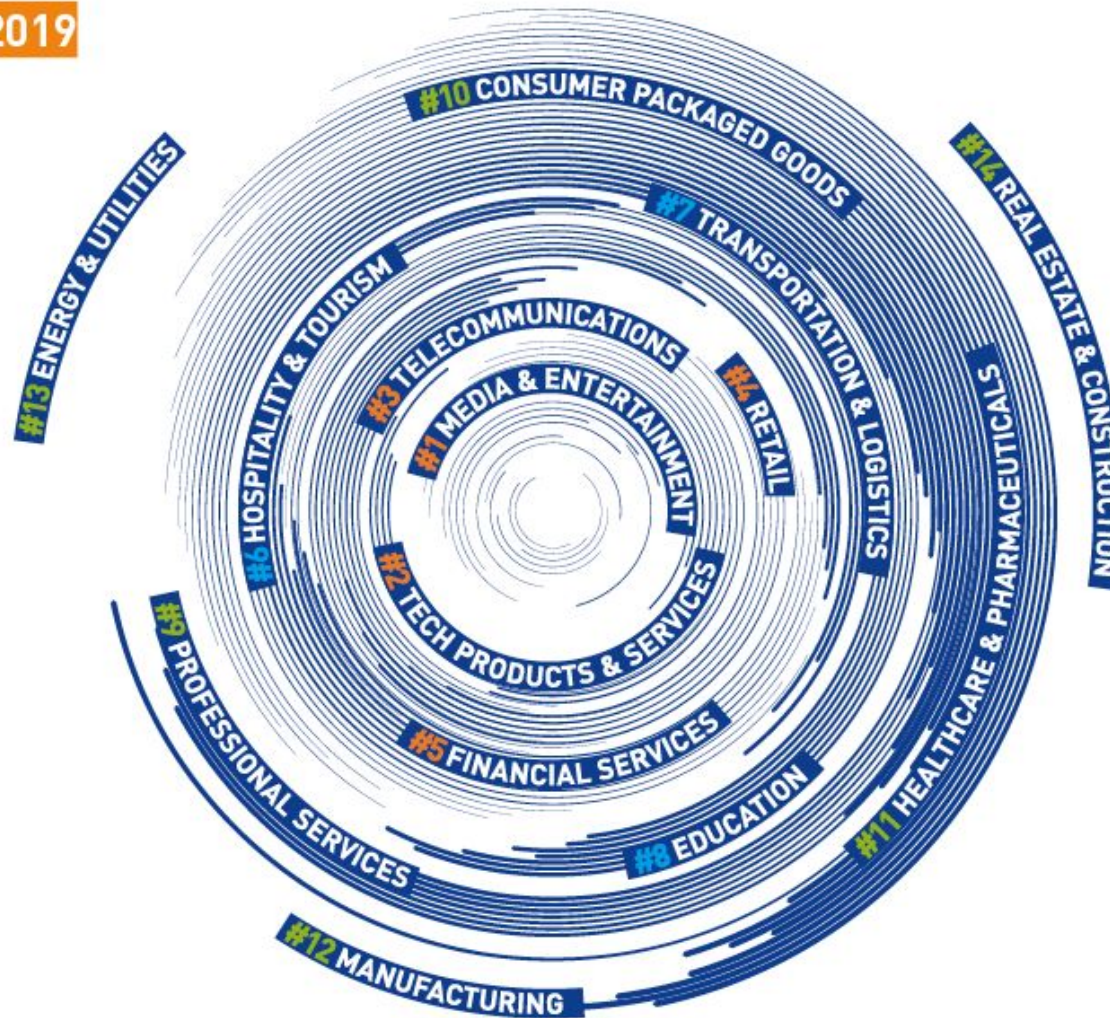
With minimum download speed of 100 Mbps, opportunity to grow FWA from the youth and nomadic segments, micro SMEs and fixed broadband customers to **mobility solutions**



...and it's all part of a bigger “Disruption Vortex”

Digital Vortex is the **inevitable movement** of industries toward a “**digital center**” in which business models, offerings, and value chains are digitized to the maximum extent possible

DIGITAL VORTEX 2019

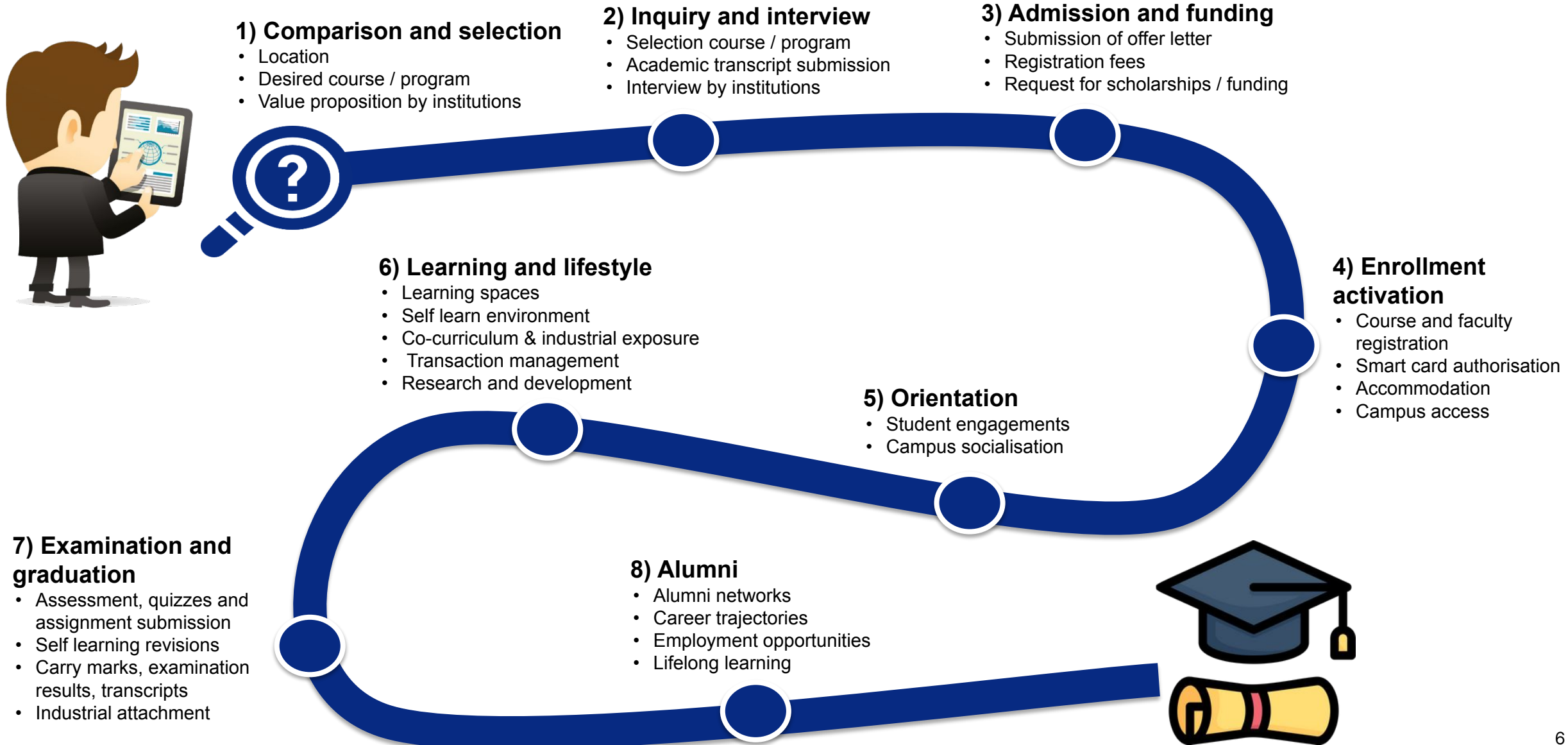


“the potential to **overturn incumbents** and **reshape markets** faster than perhaps any force in history..”

Source: Global Center for Digital Business Transformation, 2019

Understanding the needs of a key stakeholder

A typical higher learning student journey from Discovery to Graduation

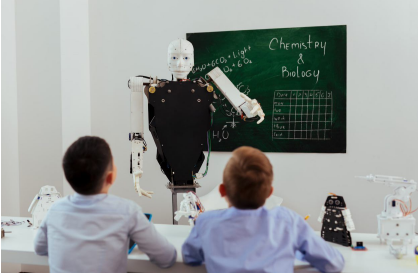


Key questions that needs attention from all stakeholders

	1	2	3	4
	Students (Customers)	Staffs (Assets)	Schools / Universities / Service Providers	Financial Funders
Stakeholders	<ul style="list-style-type: none"> • Students can be broken down into under graduate students, graduate students and international students 	<ul style="list-style-type: none"> • Lecturers, teachers, administrative staffs and board members 	<ul style="list-style-type: none"> • Including governing bodies – Ministry of Higher Education of Malaysia, certification agencies, independent advisory bodies (example QS World University Ranking) 	<ul style="list-style-type: none"> • Family members, banks and scholarship institutions
Potential Q	<ul style="list-style-type: none"> • <i>What course should I enroll?</i> • <i>Which book/articles should I read and where can I get them?</i> • <i>Who can give me a quick answer of my burning questions?</i> 	<ul style="list-style-type: none"> • <i>How can I make my student engaged?</i> • <i>How to motivate my students to self-learn?</i> • <i>How to make my students collaborate more with their peers?</i> 	<ul style="list-style-type: none"> • <i>How to improve my ranking?</i> • <i>How to attract more students?</i> • <i>How to provide content required by industry?</i> 	<ul style="list-style-type: none"> • <i>Who to award?</i> • <i>How to decrease default risk?</i> • <i>How to collect?</i>

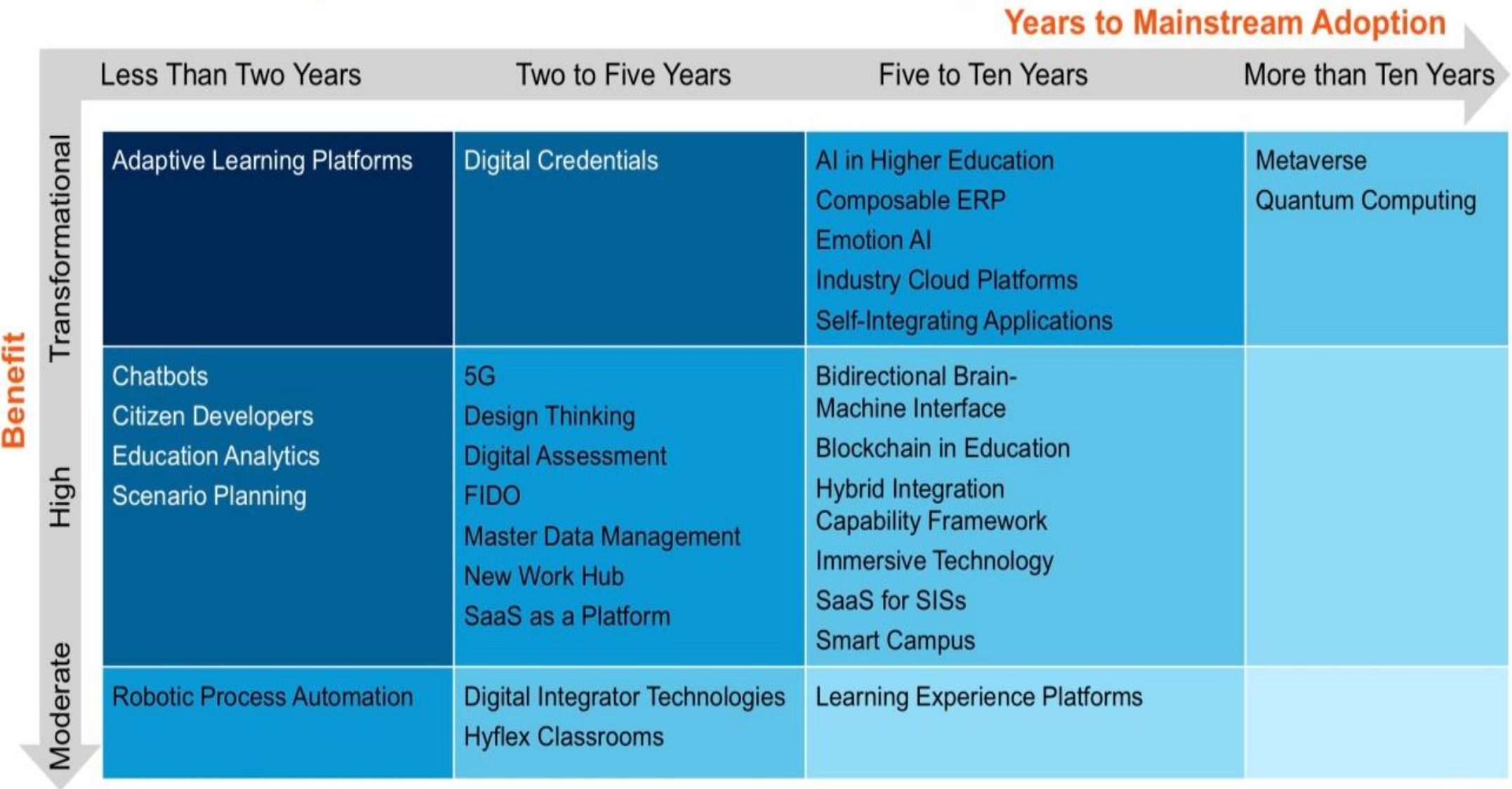
Challenges for Higher Learning Institution

It can be grouped into 4 main themes



- **Experience and Engagement** – Enhancing student experience and strengthening academic development. Making the learning experience interesting
- **Learning Environments** – Maximising learning impact and new ways of teaching. Methods of learning can be unidirectional or collaborative learning (group learning). It can also be face to face, online, hybrid, self-learning or guided
- **Operations and Integrations** – Enhancing academic productivity and cost efficiency. Automation based on student requirements i.e. language selection, class and facilities selection; all intuitive and seamless
- **Business Models** – Enhancing income generation and providing market differentiation. Universities are able to commercialise internal tools to generate new revenue and be self sustaining

Review Higher Education Priority Matrix



Source: [Hype Cycle for Higher Education, 2022](#), 18 July 2022 (G00768912)

How universities should embed or immerse technologies in their digital transformation



Value and Experience is key

Put People at the Core of Everything. The need to facilitate the experiences and services that shape the student lifecycle, plus as individuals living day-to-day in an interconnected society. Embed courses such as Design Thinking into syllabus



Multi-discipline skill is important

The rise of Digital adoption means you need skills in App Development, Data Scientist, UI/UX Designers, Digital Marketers, Information Security and many more throughout the business. RPA for example, impacted various core operations at TM and also created new experiences for our people



Adapt to shifting stakeholder needs through Technology adoption

Though the higher education industry is not the first to adopt cutting-edge technologies, it is on its way to incorporating many new modern conveniences. Innovations can help alleviate pressure on researchers and lecturers, making it simpler and more enjoyable to teach students



Transformation is a marathon, not a sprint

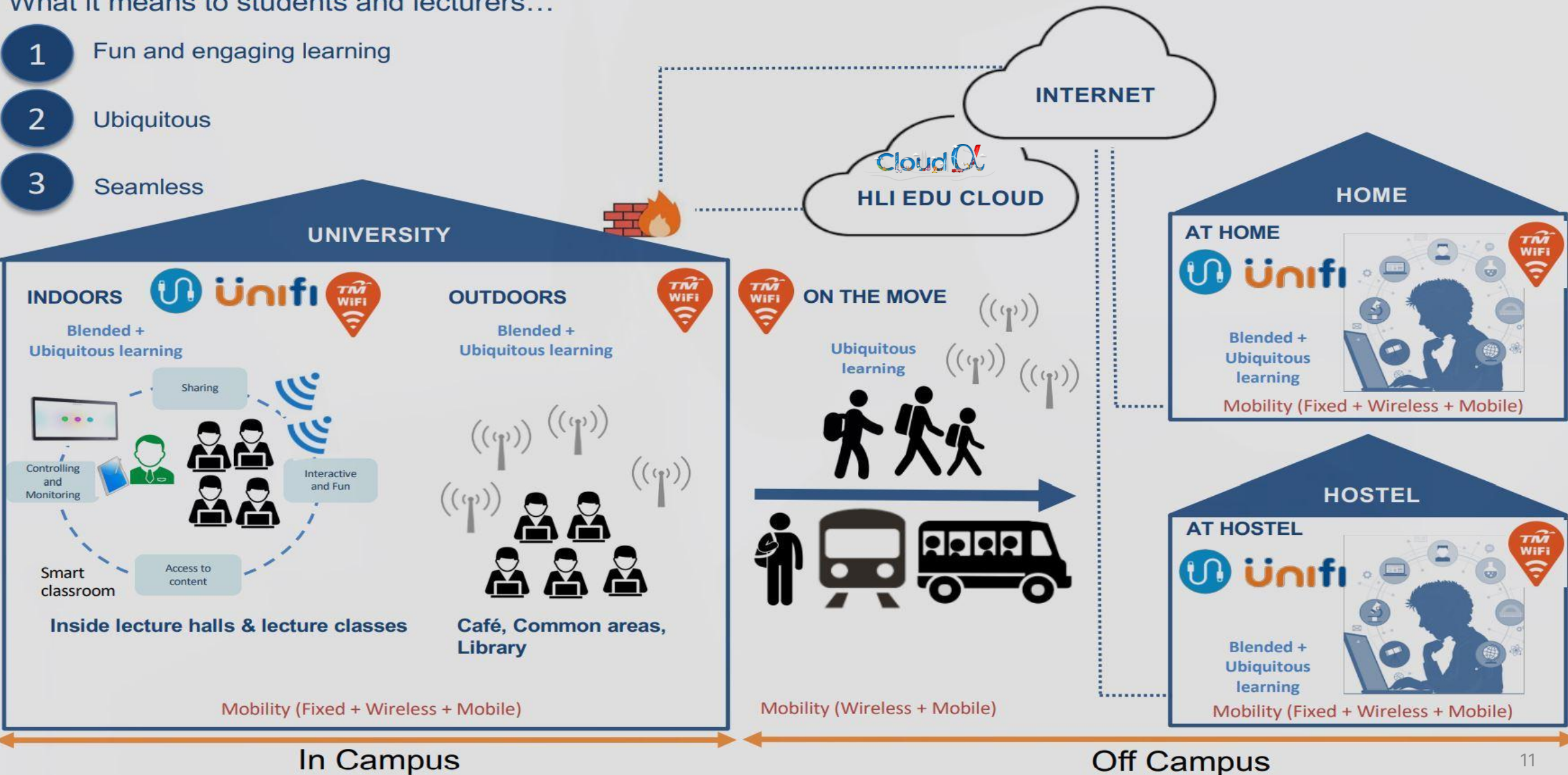
Universities must be strategic and determine their business priorities. Transformation in phases provides time to measure effectiveness and allow stakeholders to adapt to an evolving business environment

Teaching and learning

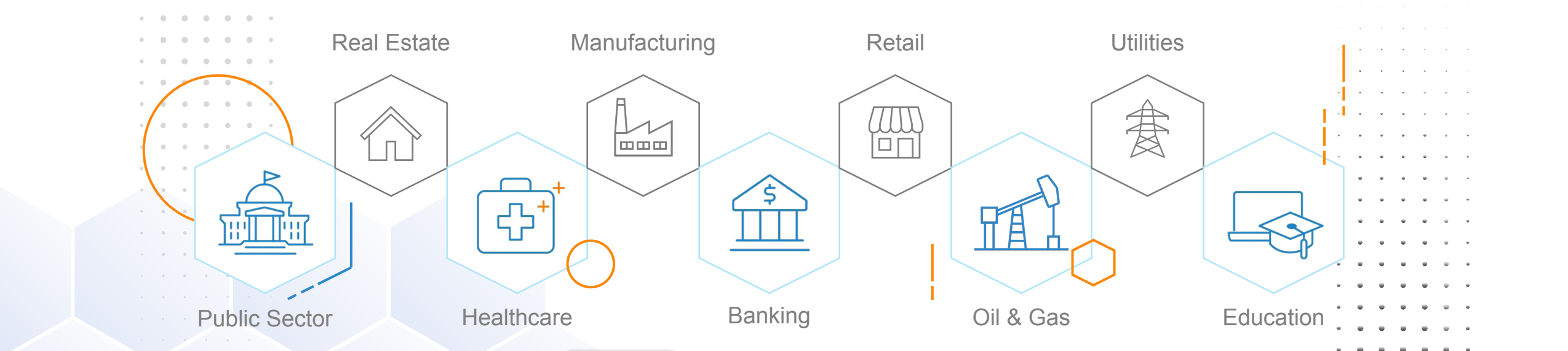
Seamless ubiquitous learning anytime, anywhere and personalized

What it means to students and lecturers...

- 1 Fun and engaging learning
- 2 Ubiquitous
- 3 Seamless



TM is well-equipped to revolutionise industries, reshape businesses and cities, bringing new possibilities to Malaysia



Digital Foundation

Built on a robust and secure foundation with the latest technologies

Digital Infrastructure

Digital Connectivity

CYDEC
Cybersecurity



- Big Data
- Analytics

- Artificial Intelligence
- Machine Learning

- Collaboration
- Automation
- IoT



Public Cloud



Private Cloud



Hybrid Cloud



- Managed Hosting
- DC Internet

- DC Infrastructure Management
- Disaster Recovery



Fixed (Fibre)



Wireless (4G & 5G)

So are you ready?





**Thank
you**