



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SECI 1513 - Sec 07

INTRODUCTION TO ENTREPRENEURSHIP

ASSIGNMENT 1 : POSTER OF 4IR, INDUSTRY TALK 1 AND 2

LECTURER: Hairudin Bin Abdul Majid

DUE DATE: 13/11/2021

Group leaders contact number: 018-2175343

GROUP MEMBERS					
	Chok Rong Jie ** (Group Leader)	Tan Zeng Chai	Yam Yuan Zhan	Darren Leong Kah Xiang	Chin Jun Er
MATRIC NUMBERS	A21EC0169	A21EC0136	A21EC0146	A21EC0021	A21EC0168

4TH INDUSTRIAL REVOLUTION

Internet of Things

The Fourth Industrial Revolution (4IR) is expected to change how we live and communicate. Significant disruption to culture, business model and business models and employment trends are also to be expected. As technology advances, jobs that are repetitive and rule-based are most likely to be automated. 4IR brings more than just technology related changes as we humans are required to equip ourselves with new knowledge and techniques together in order to keep up the changes of 4IR.



Description

Description
Internet of Things (IoT) is a network of physical things that are embedded with sensors, software, electronics, and connectivity that would enable it to perform better when exchanging data with other connected devices, the operator, or the manufacturer. Baby monitors, wearable health monitors, logistics tracking, and etc are examples of the Internet of Things. It is also one of the advances in the 4th Industrial Revolution (4IR)

EXAMPLE

Smart Home

We can switch on air-conditioner at home from outside through our smartphones

We can switch on air-conditioner at home from outside through our smartphones

Wearables

We can make phone calls, send text messages through smartwatches

We can make phone calls, send text messages through smartwatches

Transportation

We able to know our tire pressure, temperature, and many more

We able to know our tire pressure, temperature, and many more



Smart Home System



Wearables



Transportation

Picture 1: <https://techjournal.org/internet-of-things-in-the-smart-home-system/>
Picture 2: <https://apacbusinessheadlines.com/10-Most-Innovative-Wearables-for-Fitness-and-Sport/>
Picture 3: <https://www.zoondia.qa/blog/iot-in-transportation-and-logistics-industry/>

REFLECTION

In our opinion, the invention of IoT is one of the best things in the world.

- allow us to access information at any location and any time
- ability to communicate to other connected electronic devices

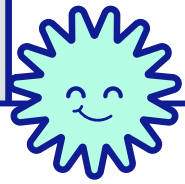
Even though IoT has a lot of advantages, there are some disadvantages too.

- security problem, there are risks that our information might get stolen
- complex system for maintenance

Last but not least, we learnt that IoT is very impactful to human's life so that we need to appreciate the invention of IoT and continue to improve ourselves so that the IoT will improve along side with us.



TECHNOLOGY INFORMATION SYSTEM & 4.0TH INDUSTRIAL REVOLUTION



Industry talk 1

The 4th Industrial Revolution (4IR) is a confluence of advances in cloud computing, cybersecurity, the Internet of Things (IoT), augmented reality (AR), and etc. Its purpose is to enhance and ameliorate the quality or standard of living for populations all over the world from different aspects.

Content of Talk

- Briefing of 4.0 Industrial Revolution, 4IR
 - TM's effort in implementing 4IR
- How Market Forces are adapting to 4IR
 - Digitalization of Business Models
- Benefits of Digitalization Transformation
- Smart Services for the Implementation of Smart Cities
- How TM is enabling and promoting 4IR



Executive Summary

A talk related to the effort of TM in supporting the Fourth Industrial Revolution and implementing it in Malaysia. TM's commitment is represented by continuously improving their data centre, cloud services and the implementation of Internet of Things in Malaysia. TM also explains digital transforming business models and how they are expected to be like. TM also explains about the implementation of smart cities.. By continuously getting feedback from their systematic customer services, TM will continue to improve and spread awareness in making 4IR a reality.

TM's effort in implementing 4IR

- Build Data Centres
- Develop Cloud Services
- Internet of Things

Digitalization of Business Models

Digital Government

- Smart traffic light
- CCTV
- Smart Water system

Digital Economy

- 1Drone
- Digital Payment
- DC/Cloud

Digital Society

- 5G
- Electric car
- Smart home

Cloud

Digitalization of services

- Payment service digitally
- Taxi service digitally
- Education digitally



Outcome of transformation

- Innovative business model
- Differentiated value proposition to beat the competitor
- Enhances customer experience
- Operationally efficient

5G

Benefits

- High peak data rate
- High connection density
- Low latency



Future IMT

- Enhanced Mobile broadband (EMB)
- Massive Machine Type Communication (MMTC)
- Ultra Reliable and Low Latency Communication (URLLC)

Way forward

- Connecting Malaysians with enriched digital lifestyle
- Empowering business through borderless digital possibilities
- Supporting government initiatives for the betterment of the country
- Protecting nation's sovereignty and critical infrastructure
- Responsibly helping Malaysian in time of need

Reflection

-5G is the next generation of mobile network evolution compared to the 4G, capable of connecting everything while also providing better internet speeds experience for our daily life. For instance, 5G is having better performance such as **peak data rate, edge throughput, area traffic capacity, spectrum efficiency, network energy efficiency, mobility, latency and connection density.**

-5G brings **gigabit internet, machine intelligence, and ultra-reliable low latency** to our daily life. As an example, gigabit internet improved consumer experience while browsing websites or applications, fast connection speeds to upload and download documents and being able to connect more devices.

Smart city

4IR digital solutions managing logistic performance and efficiency with small feet increasing execution performance with mobile and connected workforce

- real-time tracking
- map

Driving production volume and speeding up sales transactions and managing overall manufacturing performance with smart

- Market coverage analysis
- Product performance analysis
- Sales trending

Smart water integrated management system (SWIMS)

- Reduces water usage
- Increase water revenue
- Total visibility for the water industry



Technology Information System & 4.0th Industrial Revolution



Industry talk 2

Introduction

The 4th Industrial Revolution (4IR) is the infusion of automation of traditional manufacturing and industrial operations utilizing advanced digitization, advanced technologies, and efficient resource utilization. It is used to enhance efficiency and ultimately drive competitiveness. The drivers that caused the transformation of the 4th Industrial Revolution are the global economic order, technology advancement, global supply chain, customer behavior, and etc

Executive summary

A talk about the Industry 4.0 transformation drivers that will lead us to 4IR. Issues and challenges faced by Malaysia such as high cost of investment to adopt technology and limited digitalization and digital integration of key government agencies. MITI(Ministry of Trade and Industry) has developed policy to address the issues and challenges and also created a framework that includes the vision, the national goals, the shift factors and the enablers in order to handle the issues and challenges.

Way Forward

Create knowledge worker

- Upskilling, Certification and job attachment program, Awareness program

Develop processes that are accepted by international standard

- Develop process method, SOP, and guidelines

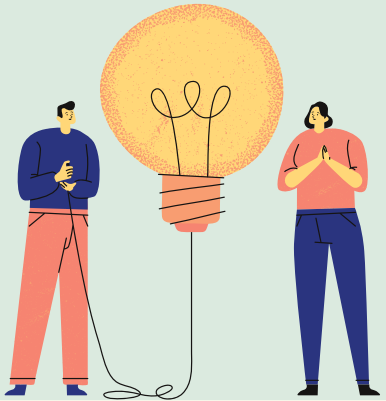
Setup labs to create and test product

- Product development and testing, Pilot project

Content of Talk

Industry 4.0 Transformation driver

- Global economic order
- Technology advancement
- Knowledge & skills
- Global supply chain
- Competitiveness
- Regulations
- Customer behavior



Factors that impact the future of manufacturing in Malaysia

- Shift of global value chains and geographies of production
- Quality and quality of labour and higher productivity, but not low labour cost.
- New technologies are disrupting and fostering a technology-based model of production

Issues and challenges

Demand:

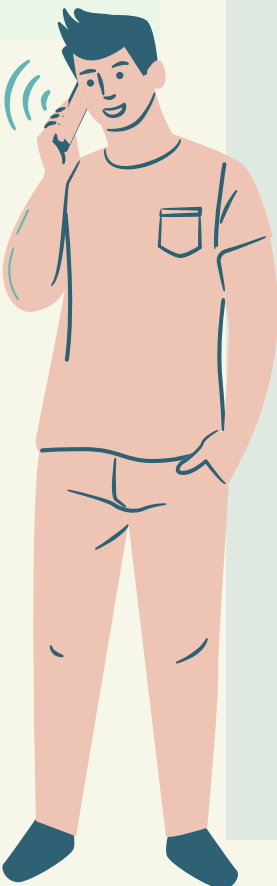
- Awareness
- Innovation
- Digital readiness and connectivity
- Skill enhancement
- High cost of investment
- Best practices

Supply:

- Governance
- Funding and Incentive
- Ecosystem support
- Training providers
- Standards and digital integration
- Infrastructure

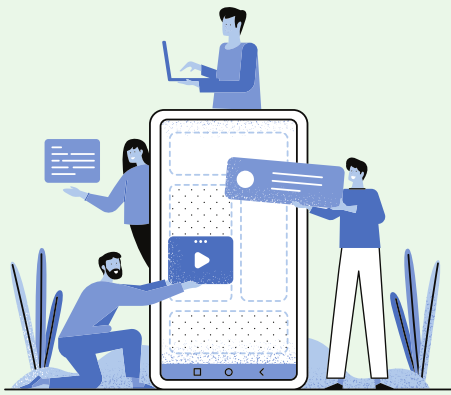
Reflection

- Big data analytics are becoming highly important in predicting market trends. For example, Google will collect user information and discover consumer shopping habits to provide advertisement service to those companies that want to promote their product and services to potential customers.
- Augmented reality (AR) is a technologically augmented version of the real world that is created through the use of digital visual elements, audio, or other sensory stimulation. For example, augmented reality is widely applied to deliver information and training, and it is well-known for pilots and firefighters training.



The digitalization of the production-based industries are driven by:

- Big data analytics
- Artificial intelligence
- Augmented reality
- Cybersecurity
- Additive manufacturing
- Simulation
- system integration
- Internet of Things (IoT)
- Cloud computing
- Autonomous robots
- Advanced materials



ACT policy (Attract, Create and Transform)

A stands for attracting stakeholders to industry 4.0 technologies and processes, and further increasing Malaysia's attractiveness.

- Adoption of industry 4.0
- SME inclusion
- Preferred manufacturing location

C stands for creating the right ecosystem for Industry 4.0 to be adopted and align existing and future development initiative.

- Talent supply and skill levels
- Collaborative platforms
- Digital infrastructure
- Funding support
- Data availability and sharing
- Innovation capacity



T stands for transforming Malaysia's industry capabilities in both a holistic and an accelerated manner.

- Labor productivity
- Cost efficiency
- Share of high-skilled jobs
- Technology and innovation capabilities
- Local technology development