



Talk on “ The Fourth Industrial Revolution and its Implications in Business “

by Ir. Chew Weng Yuen

Ir. Chew Weng Yuen is currently a committee member in Engineering Education Technical Division (E2TD).

The Engineering Education Technical Division had co-organized a talk titled “The Fourth Industrial Revolution and its Implications in Business” with Engineers Australia Malaysia Chapter, and the Institution of Mechanical Engineers Malaysia Branch, on 17th June 2019, at Wisma IEM. The talk was delivered by Ir. Dr. Ling Chen Hoe who is the Senior General Manager and Director of Meiden Malaysia.

There were 48 participants in the talk, and Ir. Dr. Ling commenced by describing the nature of businesses and the environment that they operated in today. It was informed that big corporate organizations that thrived in the late nineteen nineties and early twentieth century are struggling to survive and maintain relevancy in the today’s market. Corporations that were once the byword for innovation, leaders in consumer electronics, telecommunications, and others are currently shedding jobs and laying off workers in major restructuring of their respective organizations.

Ir. Dr. Ling mentioned that the challenges that overwhelmed these corporations were not unique. In today’s volatile market environment, organizations must embrace uncertainty and be prepared to be driven in unforeseen directions. In that sense, corporations need to avoid the attachment of their respective legacies and position themselves onto new ventures and base their corporate strategy in response to their respective business environment, rather than on obsolete business model.

Disruptive technologies are amongst the main challenges faced by organizations today. Corporations that failed to innovate their products and embrace new technology into their respective corporate strategy will eventually be phased out by the market. An example is the advent of the solid state drive (SSD) that caused the demand for the hard disk drive (HDD) to plummet and the eventual shutting down of a HDD manufacturing facility.

The revolution of technologies from Industry 1.0, 2.0, 3.0, and 4.0 was then briefly explained to the participants. Industry 4.0 or sometimes being referred to as the fourth industrial revolution is a name given to the current trend of automation and data exchange in manufacturing technologies that combines advanced manufacturing techniques with the internet of things (IoT) to create manufacturing systems that are not only interconnected, but also communicate, analyze, and use information or data to drive further intelligent action back in the physical world. It includes cyber-physical systems, the Internet of things, cloud computing, cognitive computing, and other smart technologies.

An example of the impact of Industry 4.0 on current businesses is the advent of the digital supply chain in supply chain management. Driven by a technology known as “Blockchain”, it is an intelligent value driven network that leverages new techniques and methods with data analytics to create value and revenue for businesses. It encompasses digital planning, digital supply, digital manufacturing, and digital logistics that will accelerate businesses performance and power the smart economy.

Industrial internet of things is the latest wave of technological change that will bring unprecedented opportunities, along with new risks, to businesses and society. The internet of things (IoT) can help companies increase productivity, cut costs, offer new products and services, and deploy new business models. The World Economic Forum, 2015 postulated that the industrial internet will eventually combine the global reach of the internet with a new ability to directly control the physical world, including the machines, factories and infrastructure that define the modern landscape. Example is the monitoring of cold chain conditions on shipping vehicles, amongst others. This is made possible due to the convergence of the global industrial system with the power of advanced computing, analytics, low cost sensing and the new levels of connectivity permitted by the internet.

With the industrial internet of things (IoT), data becomes a source of value in addition to physical objects, and connectivity makes it possible to build smarter supply chains, manufacturing processes that are powered by networked sensors and intelligent devices, and even end-to-end ecosystem. The importance of data analytics, i.e. the ability to unlock the full value of data to become a key source of competitive advantage to businesses, and cloud computing were also discussed.

Ir. Dr. Ling informed that the nine technologies that are transforming Industry 4.0 as postulated by the Boston Consulting Group are;

- Autonomous robots,
- Simulation,
- Horizontal and vertical system integration,
- The industrial Internet of Things,
- Cybersecurity,
- The cloud,
- Additive manufacturing (3D Printing),
- Augmented reality, and
- Big data and analytics,

and concluded that organizations need to embrace these new wave of technologies to stay competitive and relevant in the market.



Ir. Dr Ling Chen Hoe receiving a memento from the session Chairman after delivering his talk on “The Fourth Industrial Revolution and its Implications in Business”.