**IOT & Cyber Security**

~Week 1~

**Digitalization – What are the security implications of the digital economy?**

A fully digital enterprise is a company that has adopted a complete digital approach. Digital tools and technologies are used to conduct all business operations. Digital technologies can increase performance, “by cutting maintenance time and costs” (Wei et al and Spremic, 2019). Digital technologies, such as Artificial intelligence and Internet of Things empower companies to have a competitive advantage in the business sector.

Cyber threats endanger business’s as they are well thought out attacks that uncover technical vulnerabilities and challenge information security. A strategic plan to implement protective measures to avoid cyber-attacks is essential for business security. Small to medium enterprises may not have the resources to ensure such security. The risks associated with SME’s have a negative impact on company success, as it can lead to the loss in revenue and they may not be able to recover. Ultimately, smaller corporations are more vulnerable and it may be easier for an attacker to gain access to control systems.

Seeing that the electrical consumption in developed societies cannot match that of GDP growth, “utilities must operate, maintain, and modernize their systems without the benefit of increased load-based revenue to pay for it” (Wei et al and Spremic, 2019). Consequently, business are at risk of cyber-attacks, climate change and the constant need to keep up with the forever growing digital world. Nevertheless, advances in technology have led to innovation and offer a new way to approach challenges and solve problems.

The global energy crisis has led to the increase in gas and electricity, causing pricing to go up. Enterprises are dependent on energy and

therefore the lack of it can lead to their downfall. The Russian invasion of Ukraine has made the crisis worse, prohibiting some countries from receiving gas supplies (Melville, 2022). Ultimately, the rise in energy costs impacts business’s. In summary, the cost of production has increased leading to an increase in revenue.

**Q & A Section**

**Q-1) What is a 'fully digital enterprise'?**

A fully digital enterprise is a company that has adopted a complete digital approach

**Q-2) What are the cyber-security challenges/concerns with a fully digital enterprise?**

Security teams continue to face unique challenges daily. Their organization’s digital transformation initiatives continue to increase the complexity, expanding their attack surface with a distributed infrastructure. Because of this, cybersecurity postures should be updated and adjusted to support transformation goals to defend against this new level of complexity.

**Challenges:**

* **Get a complete visibility over new risks**
* **Deploy security in innovation process**
* **Enable workforce to operate securely**

**Q-3) What are the cyber security challenges for a bricks and mortar SME wanting to become a digital enterprise?**

* Low awareness of cyber threats
* Inadequate protection for critical and sensitive information
* Lack of budget to cover costs incurred for implementing cybersecurity measures
* Availability of ICT cybersecurity expertise and personnel
* Absence of suitable guidelines tailored to the SMEs sector
* Moving online
* Low management support.

**Q-4) Do you agree with the views expressed, especially in light of the 'energy crisis' experienced worldwide in 2022?**

I have come to the same conclusion with all the views expressed. Since the energy crisis is concern that the world’s demand on the natural resources, as a possible solution, governments and people as individual have to work together to make use of renewable resources as a priority. Some of the causes to energy crises are increase of population and war between countries. Linear increase of the world population and the Russian invasion of Ukraine made it inevitable.

**References used for the answers:**

* <https://atos.net/en/lp/the-security-challenges-of-digital-transformation>
* <https://www.helpnetsecurity.com/2021/07/07/smes-cybersecurity-challenges/>
* [https://www.conserve-energy-future.com/causes-and-solutions-to-the-global-energy-crisis.php#:~:text=The%20energy%20crisis%20is%20the,years%20to%20replenish%20the%20stores](https://www.conserve-energy-future.com/causes-and-solutions-to-the-global-energy-crisis.php#:~:text=The%20energy%20crisis%20is%20the,years%20to%20replenish%20the%20stores.).