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.

Question and Answers Part

1) What is a 'fully digital enterprise'?

A business that has embraced a fully digital strategy is known as a fully digital enterprise.

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

Every day, security teams still encounter new difficulties. With a distributed architecture, their organization's digital transformation ambitions are increasing complexity and widening its attack surface. In order to protect against this increased level of complexity, cybersecurity postures should be updated and modified to support transformation goals.

Challenges:

- Gain full visibility into new hazards
- Integrate security into the creative process
- Make it possible for employees to work safely

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

- Low understanding of cyberthreats
- Inadequate security for sensitive and important data
- Insufficient funding to pay for the costs associated with deploying cybersecurity measures
- Accessibility of ICT cybersecurity personnel and knowledge
- Lack of appropriate regulations suited to the SMEs sector
- Relocating online
- Low management support

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

I came to the same conclusion as all the opinions expressed. I think that their wars are related to the energy crisis. In the current era we live in, I believe that we will face worse days since everyone spends all their energies unnecessarily.