

## Collaborative Learning Discussion 1

### Discussion Topic

Based on your reading of the case study (Kovaitė and Stankevičienė, 2019) answer the following questions in the discussion forum:

- What do the authors mean by the term 'Industry 4.0' - give two examples.
- Give two real-world examples of risks that fit into the authors categories.
- Find another journal article that either supports or contradicts the points made in the cited study.

### Initial Post

By [Njideka Ozoemena](#) - Sunday, 20 August 2023, 1:50 AM

The case study-Risk of Digitalization of Business Models by Koviate, K. and Stankeviciene, J. 2019, explained the term Industry 4.0 as the 4<sup>th</sup> Industrial revolution due to advancement of digitalization that revolves around behavioural change in human, machine, and business models. The industry 4.0 technological drivers include Internet of things (IOT), Cloud computing, Robotics, Artificial Intelligence, and big data. The article further pointed out that 4<sup>th</sup> Industrial revolution explores decentralization of communication between people and machines.

From the articles, my understanding of meaning of few 4<sup>th</sup> Industrial revolution technology drivers such as Internet of Things refers to some of the advanced technological sensors deployed in network system, to collect and monitor data in real -time situation of a business operation. Example of IOT asset is a tracking device use in tracking location, condition, and status of an asset in a manufacturing operation process. The second example of the technology drivers is autonomous robots that are being programmed to perform tasks with minimal human intervention, ranging from inventory scanning drones to autonomous mobile robots that pick and place operations.

Two real-world examples of risks that fits into the risks in the articles are:

**Data Security Risk:** According to Cybalt White paper, the probability of smart factories been subject to vulnerability exploitation is very high. Typical examples of cyberattacks on an advanced technology companies are malware, denial of service (DoS), device hacking and so on.

**Technical Risk:** Outsourcing of cloud computing management service by most companies as result of advanced technology exposes huge volume of sensitive information to third party companies and slightest compromise of any stakeholder's password might lead to breach of personal data confidentiality and accessibility to the company's network system by unauthorized person (Sarangam, A. 2022).

Research-Technology Management article on “Evaluation of digital business model opportunity” by Linde, L. et al. (2021) also emphasized on assessment of business model of digital companies, opportunities, and the common digitalization traps to apprise before committing to implementation and commercialization of the model by decision makers. Examples of successful digitized high-tech companies such as Amazon, Apple, Netflix, Google, and Facebook were cited in the article.

A depth digital business model risk analysis is recommended for any company that is venturing into advance digitalization due to fourth industrial revolution concept. This is to minimize the associated digital business model risk.

#### Reference:

Cyball Whitepaper. Industry 4.0 Cyber Security Challenges – How real it is? Available from [:https://www.cyball.com/docs/default-source/white\\_papers/cyball-white-paper---industry-4.0-cyber-security-challenges---how-real-it-is.pdf](https://www.cyball.com/docs/default-source/white_papers/cyball-white-paper---industry-4.0-cyber-security-challenges---how-real-it-is.pdf) [Accessed 20 August 2023].

Linde, L. et al. (2021) Research -Technology Management. Evaluation of Digital Business Model Opportunities. Available from: <https://www.tandfonline.com/doi/full/10.1080/08956308.2021.1842664> [Accessed 20 August 2023].

Kovaitė, K. & Stankevičienė, J. (2019). Risks of Digitalisation of Business Models. Available from: [https://www.researchgate.net/publication/333063956\\_Risks\\_of\\_digitalisation\\_of\\_business\\_models](https://www.researchgate.net/publication/333063956_Risks_of_digitalisation_of_business_models) DOI:10.3846/cibmee.2019.039 [Accessed 20 August 2023]

Sarangam, A. (2021). Unext. Top 14 Challenges of Cloud Computing. Available from: <https://u-next.com/blogs/cloud-computing/challenges-of-cloud-computing/> [Accessed 19 August 2023].

#### Summary Post

by [Njideka Ozoemena](#) - Friday, 1 September 2023, 3:45 AM

Number of replies: 1

Further studies on the Digitalization of Business Models made me to understand emphasis on Fourth Industrial Revolution that creates opportunities for sustainability and eco-efficiency in a digitalized business. The digital transformations are inherently more sustainable, effective, and productive than current business model practice.

However, most researchers reiterated that the numerous benefits of digitalization births additional risk associated with change in business model (Kovaitė & Stankevičienė 2019).

This point was supported by peers in the collaborative discussion. Examples, Noof highlighted the behavioural risk associated with Social Engineering Attack and according to an article by COFENSE, this is one of the top five cybersecurity threats in recent years. Also, Blessing emphasised on the technical risk regarding IoT (Internet of Things) with respect to compatibility challenge of IoT and Iyad rounded it up with risk of data breach as it relates with connectivity of IoT to various internet devices. Iyad's feedback example of big malls using IoT devices to monitor and collect visitors behaviour to make business decisions got me thinking that the same IoT devices is an opportunity for cyber-attacker to collate sensitive personal information as well.

To venture into digitization business model, it is recommended that a business risk assessment and identification should be conducted to ascertain the appropriate mitigation to implement for elimination and reduction of security vulnerabilities. According to our unit 3 Lecture cast and pervious course modules, the following threat modelling techniques can be adopted by the companies to identify and assess the threats. STRIDE (Spoofing, Tampering, Repudiation, Information disclosure, Denial of Service and Elevation of privilege), DREAD, Attack Trees and Hybrid model such as PASTA (Process for Attack Simulation and Threat Analysis).

A depth risk assessment and implementation of appropriate measures promotes low probability of vulnerabilities in digitalization of business and actualize full potential of digital business model.

#### **References:**

COFENSE (June 15, 2023) Forrester: Ransomware, Business Email Compromise and AI Among Top Cybersecurity Threats in 2023. Available from: <https://cofense.com/blog/forrester-top-cybersecurity-threats-2023/> [Accessed 31 August 2023].

Kovaitė, K. & Stankevičienė, J. (2019). Risks of Digitalisation of Business Models. Available from: [https://www.researchgate.net/publication/333063956 Risks of digitalisation of business models](https://www.researchgate.net/publication/333063956_Risks_of_digitalisation_of_business_models) DOI:10.3846/cibmee.2019.039 [Accessed 20 August 2023].

University of Essex Online Lecturecast 3 (2023) Threat Management and Modelling. Available from: <https://www.my-course.co.uk/Computing/Cyber%20Security/SRM/SRM%20Lecturecast%202/content/index.html#/> [Accessed 29 August 2023].