Initial Post
by Patricia Lapierre - Monday, 15 August 2022, 5:34 PM

Collaborative Learning Discussion 1

More than 10 years ago, the term 'industry 4.0' was coined by the German government to describe a manufacturing digitalization project. Since then, the term has grown to encompass new trends. As Kovaitė and Stankevičienė (2019: 380) presents industry 4.0, the article lists a range of technological drivers: "Internet of Things (IoT), big data, cloud computing, robotics, artificial intelligence, and decentralisation of communication between people and machines".

The authors divided risks linked to industry 4.0 in groups. One of them is the competency risks which was also studied by Hernandez-de-Merendez et *al.* (2020). Their conclusion aligns with Kovaitė and Stankevičienė (2019) as the study underlines "that the adoption of technology and the workforce training that has the right competencies are among the challenges enterprises must overcome to implement Industry 4.0 correctly" (*Ibid*, 1522). To alleviate the friction from high demands for expert-workers and the lack of competency from the work force, universities have adapted their training to new realities. Moreover, some governments around the world have put new programs in place. The UK have implemented a nationwide program for STEM Postgraduate studies for non-STEM students, to face the increasing demand for highly qualified workers. Similarly, in Québec, Canada, the government has sponsored a formation program for low level employability workers, providing them with knowledge, skills, and financial support during the study. The main risk of competency is if governments, universities, and enterprises are not taggling the issue quick enough versus the technological advancements, their nations will be behind or dependent on others.

Impenetrable data security infrastructure is the new Holy Grail for all enterprises. However, no one can't fully escape the threat of data breach or leak. The latest victim of data breach is Cisco System which was successfully targeted by the Yanluowang Ransomware Gang in May 2022 (Ahmed, 2022). Even thought, Cisco is a "innovative software-defined networking, cloud, and security solution" (Cisco, 2022), the enterprise has not able to guarantee data security.

References:

Ahmed, D. (2022). "Cisco confirms Network Breach after employee's Google Account was hacked". Available from: **https://www.hackread.com/cisco-confirms-breach-employee-google-account-hacked/** [Accessed 14 August, 2022]

Cisco (2022). Homepage. Available from: **https://www.cisco.com/** [Accessed 14 August, 2022]

Hernandez-de-Merendez, M. et *al.* (2020). ''Competencies for Industry 4.0'', *Interntional Journal on Interactive Design and Manufacturing (IJIDeM)*, 14: 1511-1524. Available from: **https://www.researchgate.net/profile/Carlos-Escobar-7/publication/345969744_Competencies_for_Industry_40/links/5fb3290e45851518fdaca957/Competencies-for-Industry-40.pdf?_sg%5B0%5D=started_experiment_milestone&_sg%5B1%5D=started_experiment_milestone&origin=journalDetail** [Accessed 14 August, 2022]

Kovaitė and Stankevičienė (2019: 380). "Risks of digitalisation of business models". *International Scientific Conference.* Available from: **https://www.researchgate.net/profile/Kristina-Kovaite/publication/333063956_Risks_of_digitalisation_of_business_models/links/5fa66e2a299bf10f732cb536/Risks-of-digitalisation-of-business-models.pdf** [Accessed 14 August, 2022]

Summary post
by Patricia Lapierre - Sunday, 18 September 2022, 1:21 AM
Number of replies: 0

The first part of my initial post started by underlining the origin of the concept of 'industry 4.0', and then I defined the term and listed the technological drivers of that technology. The second part looked that risks related to industry 4.0, and more precisely competency. As I highlighted in my post, competence is a high risk linked to industry 4.0 and as a response, some governments have implemented formation programs to alleviate the expertise gap in their countries. I named the British STEM Postgraduate studies for non-STEM students and Canadian sponsored program for low skilled individuals. Lastly, in my original post, I argue that having an impenetrable data security infrastructure is virtually impossible, as Cisco System were the latest victim of data breach.

As for as the comments received, the main tread was about the discrepancy between the technology adoption in developed countries versus developing countries. It is true indeed that developing world have skipped the communication infrastructure to go straight to wireless technology. However, it is possible to believe that some developing countries are or will be more involved in the industry 4.0. For example, founder of the blockchain Cardano, Charles Hoskinson has signed a partnership with the Ethiopian government to launch an enterprise blockchain framework "to provide financial services to billion s of people living in African countries" (Wolfson, 2019). Another example would be Adji Bousso Dieng, Princeton's School of Engineering,s first Black female faculty, from Senegal, who has created the platform *The Africa I Know* (*TAIK*) which showcases "how Africans are leveraging technology to solve developmental problems" (Wight, 2020).

References:

Wigh (2020). This AI Expert From Senegal is Helping Showcase Africans in STEM, *Forbes*. Available from **https://www.forbes.com/sites/andrewwight/2020/08/30/this-ai-expert-from-senegal-is-helping-showcase-africans-in-stem/?sh=281fe12b7481** [Accessed on September 16th 2022].

Wolfson (2019). Cardano Founder Launches Entreprise Blockchain Framework In Collaboration with Ethiopian Government, *Forbes*. Available from **https://www.forbes.com/sites/rachelwolfson/2019/04/30/cardano-founder-launches-enterprise-blockchain-framework-in-collaboration-with-ethiopian-government/?sh=7368239e4e10** [Accessed on September 16th 2022].