

Risks of Digitalisation of Business Models

Kovaitė and Stankevičienė, 2019

What is Industry 4.0?

Industry 4.0 is the latest Industrial Revolution. It refers to the integration of advanced digital technologies into manufacturing and industrial processes. This transformation emphasises the use of cyber-physical systems (CPS), the Internet of Things (IoT) and cloud computing to create smart factories and interconnected production systems (McKinsey, 2022). The goal is to achieve greater efficiency, flexibility and customisation in production.

Feature	Industry 4.0
Focus	Automation & Digitalisation
Technology	IoT, AI, Robotics, Big Data
Customisation	Mass Production
Human Involvement	Minimal (Automation-driven)
Sustainability	Not a priority
Cybersecurity	Focus on data protection

Risk Categories

Kovaitė and Stankevičienė (2019) categorise risks of digitalisation in business models into six main categories:

- **Technical Risks:** System failures, software bugs, IoT issues
- **Competence Risks:** Lack of skills for Industry 4.0
- **Acceptance by Staff Risks:** Employee resistance to digitalisation
- **Acceptance by Customers and Partners:** Reluctance to adopt digital solutions
- **Data Privacy and Security Risks:** Cybersecurity threats, hacking risks
- **Financial Risks:** High costs, investment risks

Example One

UnitedHealth Group Data Breach 2024 (Siddiqui, 2024)

What happened? A cyberattack on Change Healthcare, a unit of UnitedHealth Group, exposed the personal data of 110 million Americans, making it the largest healthcare data breach in U.S. history.

Why is this a Technical Risk? The breach was caused by not using Multifactor Authentication (MFA), a weakness in the company's IT infrastructure, demonstrating a failure to secure its systems properly.

Example Two

Krispy Kreme Cyberattack 2024 (Rogers, 2024)

What happened? Krispy Kreme's cyberattack caused major operational disruptions, leading to losses in revenue.

Why is this a Financial Risk? The company had to invest heavily in cybersecurity measures while suffering financial setbacks due to downtime.

Support

The Impact of Digital Transformation on Business Models and Competitive Advantage, Agustian et al (2023).

Kovaitė and Stankevičienė (2019) argue that Industry 4.0-driven digitalisation is no longer optional but essential for maintaining competitiveness. Agustian et al. (2023) reinforce this idea by stating that businesses must integrate digital technology to remain relevant, emphasising that digital transformation has become a strategic imperative rather than a choice.

Both highlight key risks associated with digital transformation:

- **Technical Risks:** Challenges include system integration failures, outdated IT infrastructure, and rapid technological changes, requiring heavy investment in modern systems.
- **Competence Risks:** A skilled workforce is essential, yet many businesses struggle to train employees and attract IT professionals, making upskilling a priority.

- **Data Privacy & Security Risks:** Digitalisation increases cyber threats, hacking and data breaches, making strong security measures and regulatory compliance essential.
- **Acceptance Risks:** Employee resistance to automation and customer scepticism toward digital business models can hinder adoption, requiring effective change management.

References

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