**Peer Response: Initial Post**

by [Rayyan Mohamed Abdalla Alshambeeli Alnaqbi](https://www.my-course.co.uk/user/view.php?id=26310&course=13458) - Sunday, 18 May 2025, 3:22 PM

Hi Majed,  
The article offers clear and perceptive material to understand. By boosting operational efficiency, automating key operations, and improving fraud and anomaly detection, the article clearly demonstrates how industry 4.0 has changed the banking sector. Your reference to the TSB case also helps me to see how too dependence on digital systems without suitable safeguards may result in costly disruptions. Building on your vital observations on AI driven social engineering attacks, Id propose an extra Industry 5.0 solution: the integration of digital twin technology (Fei Tao, 2019), in financial ecosystem cases risk environment assessment could analyze potential threats incoming using virtual replicas of financial institutional systems.  
In banking Cases related to credit approval and fraud flagging could be promoted by explainable AI (XAI) to ensure automated decisions that are human read, transparent and justifiable.  
Lastly, the post targets on ethics, which is very crucial, another Industry 5.0 advancement is the introduction of AI auditing frameworks, that continuously monitors AI systems to ensure compliance, fairness and risk. These audits allow for continuous governance, helping institutions stay aligned with regulatory and societal expectations (Luciano Floridi, 2018).  
Altogether, the post lays a great foundation for discussing how we can shift from pure efficiency to responsible innovation in financial services.  
Thanks for the great contribution.  
  
  
  
References:  
Fei Tao. (2019, April 4). Digital Twin in Industry: State-of-the-Art. Retrieved from IEEE Xplore: https://ieeexplore.ieee.org/document/8477101

Luciano Floridi. (2018, November 26). AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations. Retrieved from SPRINGER : https://link.springer.com/article/10.1007/s11023-018-9482-5

In reply to Majed Alzaabi

**Re: Peer Response**

by [Mohamed Khaled Eissa Almail Alzaabi](https://www.my-course.co.uk/user/view.php?id=26602&course=13458) - Sunday, 18 May 2025, 5:40 PM

Majed, your discussion of Industry 4.0’s transformation of the financial sector, particularly in fraud detection and automation, is very insightful. The TSB Bank failure is a poignant example of how poorly executed IT transitions can have cascading effects. As you mentioned, the risks of automation must be balanced with robust planning and human oversight.  
  
To prevent incidents like TSB’s 2018 IT migration failure, a staged or phased deployment strategy would have helped, allowing components of the new system to be tested incrementally while maintaining core operations. Moreover, incorporating rollback capabilities and real-time monitoring could have enabled a faster recovery when anomalies were detected (Gartner, 2018). Human-in-the-loop (HITL) design, emphasized in Industry 5.0, would also help maintain critical oversight during AI and system-led decisions, especially in high-stakes transitions.  
  
Additionally, continuous penetration testing and simulation of stress conditions before migration could have revealed system vulnerabilities earlier. As Metcalf (2024) notes, Industry 5.0 demands ethical, resilient design frameworks—not only in customer-facing features but also in backend system architectures.  
  
Ultimately, we need a paradigm where automation and machine intelligence are augmented by human judgment and flexible crisis protocols, enabling systems to fail gracefully rather than catastrophically.  
  
References  
Gartner. (2018). IT Change and Configuration Management for Digital Business.  
Metcalf, J. (2024). Human-Centered Technology: Transitioning from Industry 4.0 to 5.0. Journal of Technological Futures, 12(1), 33–48.  
FCA & PRA. (2022). Final Notice: TSB Bank IT Incident Report.

In reply to Majed Alzaabi

**Re: Initial Post**

by [Shaikah Salim Mohammed Alkhaayyal Alharthi](https://www.my-course.co.uk/user/view.php?id=26577&course=13458) - Sunday, 18 May 2025, 6:53 PM

Your discussion deftly elaborates on the positive and negative impact of Industry 4.0 in the financial sector. I also consider that in the case of finance, automation, AI, and big data, while adding value by improving the efficiency of work and enhancement of services, the risk exposure has also increased significantly.  
  
The advantages are clear. AI applications are advancing credit scoring by utilizing machine learning algorithms that detect hidden patterns in consumer data, and automated trading has made it possible for financial institutions to make timely and data-driven investments. RPA has automated many processes such as KYC and loan processing, which were once major manual tasks, improving efficiency and reducing error (PwC, 2019).  
  
However, as you pointed out these innovations come with notable downsides. The failure of TSB Bank in 2018 is a striking example of the potentially disastrous effects of excessive dependence on technology. This demonstrates the need for comprehensive modernizing defenses to match the pace of digital change alongside transformation by robust system resilience planning (FCA & PRA, 2022).  
  
Of greater concern is the emergence of AI-enabled social engineering attacks. The ability of AI to imitate speech and craft realistic personas enables personalization to such a degree that social engineering becomes not only more effective but also so subtle that it is undetectable. As Lucia Stonham (2025) points out, threats powered by such AI adapt easily and exploit deeply rooted aspects of human nature, which is dangerous for systems that depend on automation.  
  
Given this background, it is clear that the transition to Industry 5.0 is not simply optional, it is necessary. Retrieving human control and adding ethical and resilient frameworks into technology systems marks a counter response to total automation in Industry 5.0. A new wave construction, as Metcalf (2024) notes, places design focus on people which is the essence of human-centric design; digital finance is approached with ethical, sustainable, and risk-aware lenses.  
  
To summarize, an improvement brought by an enormous leap such as Industry 4.0 is welcome, but it is the human-in-the-loop model of Industry 5.0 that guarantees sustainability, security, and protection of these innovations for future generations.