

Peer Response to Fahad Abdallah

Thanks, Fahad, for this post. It is well-reasoned and comprehensive. The Meditech EHR outage you highlighted is, yet another example of the weaknesses bound to exist within digital health frameworks, particularly within such massive and foundational systems like the NHS.

The impact of the incident could have been lessened with the use of redundant backup systems, both cloud and local, with the self-sustaining mechanisms. These backups would let for uninterrupted patient care even during system-wide outages. Mirrored backup in the real world, for example, allows for undisturbed patient data access (AlHogail, 2022).

Aligned with Industry 5.0, temporal focus on resilience and human centred design with cyber-resilience planning, is another crucial safeguard. These include strategic measures like testing the endurance of the utilized EHR frameworks, extensive recovery strategies for the computerized data repository, and specially designed incident management teams for the healthcare industry (Van de Walle et al., 2020).

Moreover, training in digital skills for the healthcare workforce is mandatory. This enables the staff to manage the shift to offline or other formats during downtimes. Further enhance the institutional self-preparedness and confidence is simulated system outage drills (Sturmberg et al., 2019).

I particularly want to highlight the last point on the need to balance innovation with preparedness, as that is very crucial. While integrating smarter healthcare via Industry 5.0, systems in use must be sophisticated, and not lacking in robustness, security, and focus on the patient.

Excellent work on analysing in detail and critically evaluating the case.

References:

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Peer Response to Ali Alshehhi

Thanks, Ali, for your detailed evaluation on the Apple Credit Card example. This case also serves as a reminder that biases in algorithms hurt systems and people just as much, if not more, than mechanical breakdowns which can be particularly erosive when concerning public and institutional credibility.

To avert events like this, organizations attempt to implement strategies related to biases at every level of the machine learning cycle. One such measure involves utilizing representative and balanced datasets that allow the model to build on previous inequalities. As Mitchell et al. (2019) suggest, chronic bias tends to result from discrimination-laden data, thus enduring data processing and systematized fairness checks are a necessity.

Also, in this instance, the application of clear and transparent model governance could have acted as a shielding mechanism. These algorithmic justification documents including model versioning, auditing, and control tools help explain and justify questionable algorithm-induced decisions. Models such as Model Cards (Mitchell et al., 2019) and Datasheets for Datasets mark Gebru et al. (2018) enhance explainability and accountability, thus serve as impeccable instruments of fostering their purpose.

Participating community members, ethicists, and people from the legal side are paramount in conducting interdisciplinary review boards. As Binns (2018) puts it, fairness as a problem isn't a technical problem at all, but a socio-technical one; hence, numerous needed voices during AI planning and execution make prime sense.

In the end, your example underscores the importance of positive ethics rather than responsive ones when it comes to AI.

References:

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Mitchell, M., Wu, S., Zaldivar, A., Barnes, P., Vasserman, L., Hutchinson, B., Spitzer, E., Raji, I.D. and Gebru, T. (2019). Model Cards for Model Reporting. *Proceedings of the Conference on Fairness, Accountability, and Transparency*, pp. 220–229. <https://doi.org/10.1145/3287560.3287596> [Accessed 18 May 2025].

Peer Response to Ali Alzahmi

Thank you, Ali, for your comprehensive and constructive critique regarding the case of TSB Bank system failure. This case is a perfect example of the dual-edged sword of digital transformation, offering significant benefits while simultaneously posing severe operational, reputational, and legal risks to financial institutions when not properly overseen.

Such failures can be avoided with rigorous testing before implementation. Alaassar et al. (2021) argue that a phased migration approach coupled with active system monitoring would have greatly reduced customer impact. TSB could consider pilot testing account migration prior to full launch as opposed to migrating all accounts over a single weekend.

Accountability for system reversion encompasses backup mechanisms. If critical problems arise, these frameworks should enable organizations to quickly return to prior stable conditions. Also, systems architecture should incorporate privacy-by-design principles to avert data leaks, such as the unauthorized sharing of customer's account information, which is a severe GDPR violation (Zhou et al., 2020).

Human-centric approaches shouldn't be additionally integrated to digital transformation resilience stressors like you pointed out. Employing communications with customers alongside technical governance frameworks requires system readiness, but more importantly, people readiness concerning disruptions (Gozman et al., 2018).

Trust that is considered non-negotiable, the failure of TSB acts as an example to be cautious of. There needs to be a balance between Innovation and Stability along with clear planning for contingencies.

References:

- Alaassar, A., Mention, A.L. and Aas, T.H., 2021. Exploring how blockchain capabilities impact performance in the banking industry: The mediating role of digital transformation. *Technological Forecasting and Social Change*, 166, 120644. Available at: <https://doi.org/10.1016/j.techfore.2021.120644> [Accessed 18 May 2025].
- Gozman, D., Liebenau, J. and Mangan, D., 2018. The innovation mechanisms of fintech start-ups: Insights from SWIFT's Innotribe competition. *Journal of Management Information Systems*, 35(1), pp.145–179. Available at: <https://doi.org/10.1080/07421222.2018.1440776> [Accessed 18 May 2025].
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