



Value destruction associated to digital healthcare platforms

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Emergence of Research

Empirical trend

Digital platform aiming for a **sustainable innovation that improves care, efficiency, and collaboration** (Porter & Lee, 2013).

Digital platform with the form of E-health: is the **gold standard** for improving patient health (Dedding et al., 2011) and has a positive, sustainable impact, empowerment, **patient-centered approach**, Increasing **efficiency, Support for practices and workflows** (Kraus et al., 2022).

Emerging research on the value destruction of digital health platforms echoes stakeholder theory's **calls to shift the unit of analysis from value creation to value destruction**.

Empirical controversy

Their integration often introduces paradoxical effects, simultaneously **creating and destroying value across stakeholders** (Harrison & Wicks, 2021).

- Spread of **misinformation** (anti-vaccine communities) (Doty, 2015)
- Loss of **data confidentiality**
- **Discrimination and exclusion** (Mcfall & Moor, 2018), (Latulippe et al., 2017) (Halford & Savage, 2010).
- **Emotional disconnection**, inequity, and increased complexity, which can undermine intended benefits (Rivière et al., 2024).
- And the **anxiety of doctors and patients**

Unexpected potential effects that must be anticipated and managed (Cahan et al., 2020). So today, a stream of research has developed on the Value Destruction effects of digitalization on health (Yan et al., 2021).

This exploration delves into how healthcare platforms can inadvertently contribute to value destruction, challenging existing management theories that emphasize their creation. It also **explores the paradox of value destruction by digital platforms seeking sustainable innovation that improves care**.

Assessing value destruction to stakeholders **allows a firm to make a more accurate estimate of the costs of a strategy and can assist managers in allocating resources intended to reduce or remediate harm.**(Harrison & Wicks, 2021):

Theoretical lens (Value)

Management theories must account for the dual nature of technology—its potential to both **create and destroy value simultaneously** (Hardcastle 2025).

Past research has highlighted the potential negative effects of digitization in the healthcare sector (Menvielle et al., 2017), and several decades of research have revealed the importance of understanding the Value destruction caused by digitization, particularly in industries such as healthcare. (Abosag et al., 2016).

Value destruction involves any action (whether **operational errors, unethical practices, or external disturbances**) that **reduces the utility or overall wealth of one or more actors** that directly interact with each other (Echeverri and Skålén, 2011; Smith, 2013).

Ranging from **harmful outcomes to unexpected behaviors** (Carter, 2000; Lumineau, 2018) (Villena et al., 2014) or **malicious behaviors** (Narayanan et al., 2014).

These aspects can be **intentional or involuntary** and are generally motivated by concerns of competence or integrity.

In Healthcare, this is attributed to challenges identified concerning patient-HCP* interactions in health service encounters, such as **power imbalances, choice restriction, "reluctant" or unready consumers, and perceptions of care as a "negative" service** (Malshe and Friend 2018). So, we are facing a:

1. Call for **unintentional value destruction**.
2. Call for greater complexity in the destruction of platform value (**destruction of value beyond the platform**).
3. Call also for **the value co-destruction and the collaborative value co-destruction**.

Research Question: What value destruction emerged with healthcare platforms?

Question that is relevant for stakeholders since previous research has identified the destruction of the environmental and climate value of the platforms

Literature review:

Platform-driven value destruction: An investigation into barriers, failure, and risk.

A majority of the patient population is in an older age group for whom technology can be disorienting... further increasing patient anxiety and frustration. (Serrano, 2023)

The use of eHealth among vulnerable population groups is still minimal. (Arsenijevic, 2020)

Unauthorised access to content which may jeopardise patient safety was a frequent source of concern. (Davidge, 2023)

The challenges related to telehealth vary and are viewed from different perspectives, including acceptance, adoption, functionality, understanding, quality and legislation. (Garfan, 2021)

The “success” or “failure” of telehealth to positively impact patient care outcomes may very well be more dependent on interpersonal attributes than on technological access. (Henry, 2017)

Methodology

Goal: Understand the value destruction of the health platform

Date collection: empirical, already published case study on a health platform that has at least one value destruction that describes

Data bases: Web of science EBSCO, ScienceDirect, Pubmed,

("Value destruction", "Value co destruction" "Unexpected" OR " Unintended" OR "Darkside" OR "Value Destruction" OR " uncertain★" OR "conflict★" OR "opportunis★" OR "manipulat★" OR "neglect★" OR "unfair★" OR "misuse" OR "trade-off★" OR "mistake" OR "threat★" OR "vulnerab★" OR "fail★" OR "destroy★" OR "distrust" OR "unethic★" OR "malfeasance" OR "malpractice" OR "transgress★" OR "misdeed" OR "lawlessness" OR "scandal" OR "embezzle★" OR "misbehav★" OR "adverse effects," OR "data breaches," OR "user dissatisfaction," OR "downside issue★" OR "privacy and security concerns" Or "user experience issues" OR "drawback★")

AND ("health platform★" OR "healthcare platform★" OR "digital health platforms" OR "digital health platforms" OR " telemedicine" OR "ehealth" OR "e-health" OR "telecare" OR "telemedicine" OR "telehealth" OR "digital health" OR "mhealth")

Key terms extracted from previous systematic review over the (unexpected- unintended- darkside) in other research fields (Oliveira & Lumineau, 2019)

Papers: 27511

Review
academics
articles: 7631

After Duplicates
elimination
7421

Keywords, title
and abstract:
210

After Abstract
review :
65

Emerging research on platform-driven value destruction



1. Trust Erosion:

- Digital platforms can **erode trust** if patients perceive them as impersonal or if data **privacy concerns arise**.

Trust is crucial for successful healthcare delivery, and its erosion can **lead to patient dissatisfaction and disengagement**. (Berwick et al., 2008);



2. Increased Complexity:

- The introduction of new digital tools often **adds layers of complexity** to existing workflows, leading to **frustration** among healthcare professionals. This complexity can result in **errors and inefficiencies** rather than the streamlined processes that were intended. (Harrison et al., 2010);).

Patients **reported emotional disconnection and anxiety** due to information overload (Kyprianou, 2018).

Healthcare professionals experienced **ethical dilemmas and cognitive burdens**, disrupting care quality (Jones et al., 2018).



3. Equity Challenges:

- Exacerbating **health disparities due to unequal access** and digital literacy gaps (Kowalski et al., 2024) Systemic issues included **cost inefficiencies and security concerns**, (Harrison & Wicks, 2021).

The Value Flow Applied to Digital Healthcare

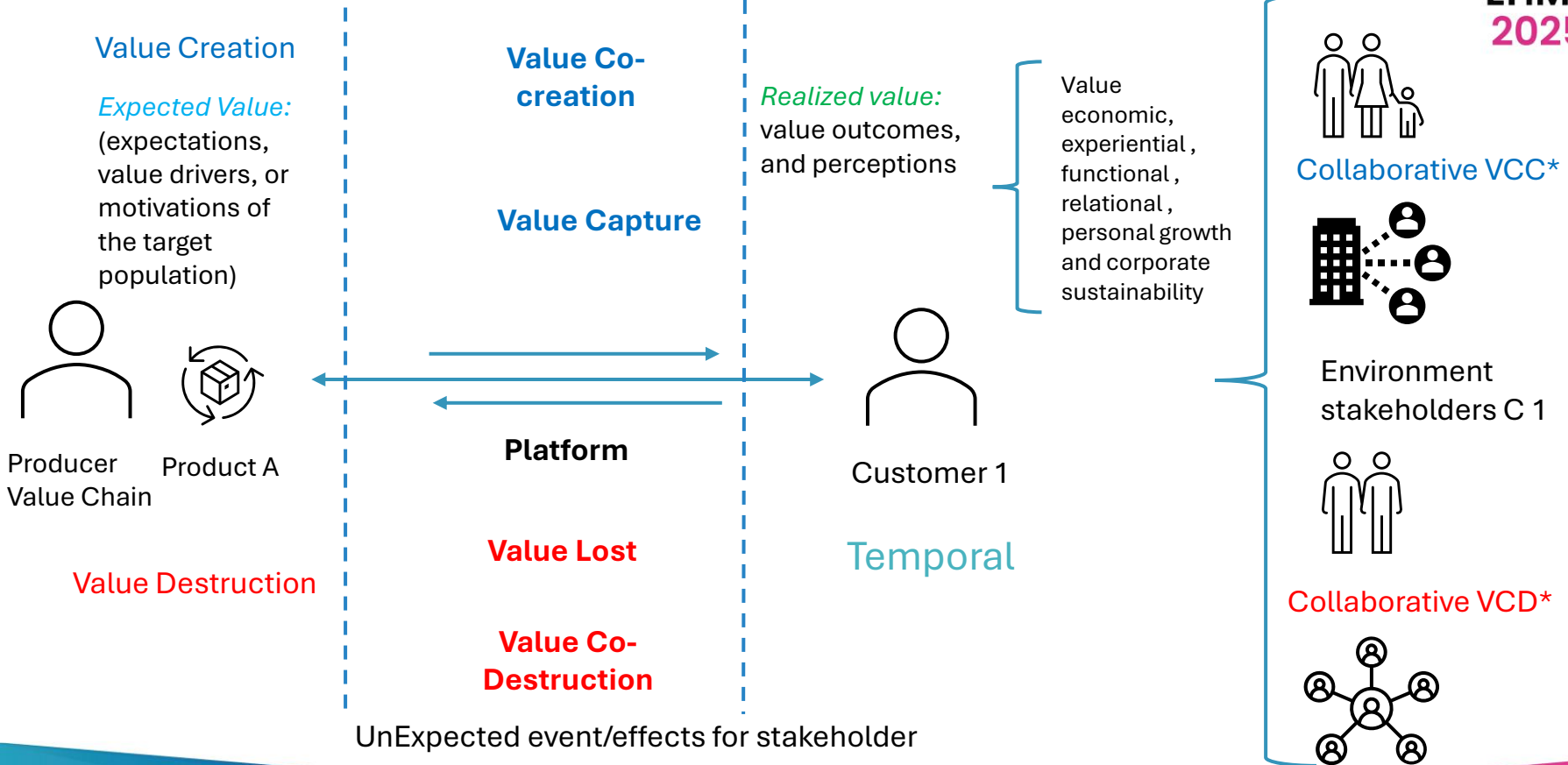




Table 1 Value destruction identified in our case studies for patients, health care professionals, health care system, and society



Patient	Value destruction categorie	Healthcare professional	Value destruction categorie	Healthcare system	Value destruction categorie	Society	Value destruction categorie
Emotional Disconnection	Communication (Almathami,2020)(Sahoo,2022)(Turner,2022)	Increased Workload and Cognitive Burden	Trust(Bagayoko,2014) Increased Complexity(Davidge,2023)(Dorsey,2016)(Granja,2018)(Serrano,2023)(Turner,2022)	Financial Burdens and Cost Inefficiencies,	Trust (Ahmed,2018) (Alehoghena,2022)(Aranda-jan,2014)(Dekker,2021) Increased Complexity (Abrokwa,2022)(Bagayoko,2014)	Misdiagnosis	Trust (Snoswell,2023)
Communication Barriers	Communication (Aranda-jan,2014)(Davidge,203)(Gunasekeran,2022)(Garfan,2021)	Alter Physician Identities	Trust (Nittari,2020)(Granja,2018)(Henry,2017) Increased Complexity (Laukka,2020)(Osman,2024)	Security and Privacy Concerns,	Trust (Ahmed,2018), (Alehoghena,2022) Increased Complexity (Cox,2018) Communication (Davidge,2023) (Osman,2024)	Privacy and Human Rights Concerns	Trust (Alenoghena,2022) Increased Complexity (Cox,2018) Communication (Tong,2022)
Anxiety and Distress from Information Overload	Trust (Guasekeran,2022)(Henry,2017) (Serrano,2023) (Osman,2024) Increased Complexity(Lagan,2020)(McGregor,2023)	Disruption of Clinical Processes,	Trust (Alenoghena,2022)(Aranda-jan,2014) Increased Complexity (Osman,2024)	Quality and Reliability of Care,	Trust (Alehoghena,2022),) (Aranda-jan,2014),(Capurro,201),(Eichberg,2021)	Accessability and Equity Issues	Trust Increased Complexity Communication Equity Challenges (Clohessy,2024) (Haimi,2023)(Tong,2022) (Alenoghena,2022)(Arsenijevic,2020) (DiLorito,2022)(Vonken,2023)(Zhang,2022)
Digital Literacy and Inclusivity Issues (Digital Divide)	Increased Complexity (Dekker,2021)(Hosley,2022) Equity Challenges (Clohessy,2024) (Haimi,2023)(Tong,2022) (Alenoghena,2022)(Arsenijevic,2020)(DiLorito,2022)(Vonken,2023)(Zhang,2022)	Impact on Professional-Patient Relationships,	Trust (Ftouni,2022) Increased Complexity (Bartoli,2009) Communication (Davidge,2023)	Impact on Healthcare Workforce and Practices,	Increased Complexity (Fitzner,2014), (Moadian,2018) Communication (Schaefer,2018)		
Privacy and security	Trust (Osman,2024) (Henry,2017)(Mitsuhashi,2018)	Perceived Decline in Quality of Care,	Trust (Dorsey,2016)(Abrokwa,2022), (Alenoghena,2022),(Aranda-jan,2014)(Capurro,2014)(Davidge,2023)	Patient-Provider Relationship	Trust (Snoswell,2023) Ftouni,2022) Increased Complexity (Bartoli,2009) Communication (Davidge,2023)		
		Ethical and Legal Concerns,	Trust (Nittari,2020) (Alenoghena,2022) Increased Complexity (Tiwari,2022)	Accessability	Trust (Clohessy,2024) (Haimi,2023) Increased Complexity Communication Equity Challenges (Tong,2022) (Alenoghena,2022)(Arsenijevic,2020)(DiLorito,2022)(Vonken,2023) (Zhang,2022)		
		Recruitment and Retention Challenges,	Trust (Bagayoko,2014)				
		Psychological and Emotional Strain.	Trust (Laukka,2020)(Osman,2024)				

Results: 4 value destruction's characteristics

Emerging findings 1/2:

Our analysis advances the discourse on value creation/destruction in digital health platforms by identifying **4 distinct characteristics that drive negative outcomes**, supported by a multidimensional model of interconnected effects. Key contributions include:

1. **Platform Trigger:** We demonstrate that digital health platforms exhibit unique value destruction processes distinct from analog healthcare systems. These include algorithmic bias(digital divide); Communication and connection Barriers, and privacy and confidentiality leaks
 - Critically, *value destruction is not inherent to platform adoption but arises from specific co-usage patterns between stakeholders, v.g : Anxiety and Distress from Information Overload, emotional disconnection, and depersonalized patient-provider interactions.*
2. **Dual-Service Dynamics:** The multiple dependency between digital platforms and physical healthcare services creates systemic vulnerabilities. Value destruction often emerges from misalignments in resource integration across these domains, where digital tools fail to complement in-person care workflows. V.g, Perceived Decline in Quality and reliability of care, Ethical and Legal Concerns, **Relational Transformation** since Platform integration fundamentally alters power dynamics in patient-provider relationships, shifting from collaborative care models to transaction-focused interactions. This erosion of trust and empathy constitutes a core value destruction pathway

Results: 4 value destruction's characteristics

Emerging finding 2/2:

3. Stakeholder Overload: Platforms inadvertently amplify value destruction through excessive family/caregiver involvement, generating information asymmetry and decision fatigue for both patients and providers, with increased workload and cognitive burden. This contrasts with traditional healthcare models where roles are more clearly defined because focusing on the emerging role of the family in the digital feedback platform, it calls for revising the one-to-one interaction towards a more family-oriented (including the family in the processes of value design and destruction based on the collaborative approach of co-creation and co-destruction).

4. Temporal Progression: Value destruction manifests predominantly in secondary phases of engagement, often following initial successful adoption. This delayed emergence complicates early detection and mitigation.

Discussion

Previous research has focused on platform failure and has revealed some value destruction (Yan et al., 2021)..

- Our research confirms that there is value destruction that can occur even if aiming sustainable platform (Laukka, 2025) (Lumivalo, 2023)
- We contribute by putting under the light the characteristics described by previous researchers on the destruction of value associated with health platforms.
- We go further by introducing three types of value destruction (value chain destruction, value co-destruction, and collaborative value destruction) at 4 levels of analysis: Patient, Healthcare professional, Healthcare system and Society

More precisely.

- While value destruction for the patient, for doctors and healthcare system had been stressed, our research highlights the broader value destruction that implies for other actors around the patient, such as the family
- While the platform aims for health improvement on a specific disease or care issue (Fitzner, 2014), our paper shows a paradoxical impact on patient mental and physical health (e.g: anxiety and generating responses with behaviours that can compromise patient safety, incorrect self-diagnosis, and risk of starting auto treatment)
- While the platform aims for health improvement, the communication between the stakeholders (independently of the platform) can cause value destruction. Call for research on how external drivers can lead to value destruction from a platform (while before it looked only at value destruction from the platform)

Managerial implication

The unprecedented integration of Health Platforms (HP) into healthcare signifies a transformative era, revolutionizing the quality and personalization of care. However, the adoption of these platforms comes with Value Destruction effects that necessitate careful differentiation and management:

For creating a sustainable healthcare platform, managers need to take in account the Platform-Trigger destruction Mechanisms and their Temporal Progression, Dual-Service Dynamics to minimise and mitigate the Stakeholder Overload, considering the Relational Transformation between the stakeholders.

Conclusions

Health platforms are an emerging field of research that aims to deliver promises of value creation and sustainability by improving health outcomes. Our research calls to take into account value destruction, value co-destruction, and collaborative value co-destruction.

These three different forms of Value Destruction (value chain destruction, value co-destruction, and collaborative value destruction), the characteristics of value destruction and their effects must be considered in the design of the platforms, especially when targeting sustainable innovation. To ensure that these platforms contribute to improved health outcomes, enhanced patient-provider relationships, and sustainable healthcare systems.



THANK YOU

In a few years, we will realize as doctors, managers, and those responsible for health systems that the decisions we are making today in the design, development, and co-creation of health with our patients through these platforms will be what defines our future as humanity.



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