



Sludge and transaction costs

Shahab & Lades (2024)

Context

Sludge refers to features of a process, product, or interface that make it harder for people to do what they intend to do. It builds up gradually, often without anyone noticing, and hits hardest on customers who can least absorb the friction. Transaction cost economics has measured this kind of friction in markets for decades, yet behavioural science (which coined the term sludge) has rarely drawn on that work. This paper makes that link, giving organisations a structured way to find, classify, and reduce sludge using established audit methods.

Key Insights

Defining Sludge

Sludge as experienced cost

- Sludge is any part of a process that causes someone to bear a cost they did not need to bear
- The same process can feel frictionless to one user and deeply frustrating to another, depending on familiarity, cognitive load, and vulnerability
- Most sludge is unintentional, as friction creators already know how to navigate their own systems

3 key drivers of Sludge

- **Specificity:** knowledge built for one system does not transfer, making onboarding or switching costly
- **Uncertainty:** unclear steps or consequences increase cognitive load at every stage of the process
- **Frequency:** processes people rarely go through never become familiar, which is why friction clusters in infrequent, high-stakes moments like annual renewals/ account closures

Auditing Sludge

1. Map the journey into every required action first — friction is easier to pinpoint per step than per journey
2. Complete the process as an outsider before surveying anyone; what feels routine internally is often the most friction-laden moment for a first-time user
3. Recruit the users who find it hardest: infrequent users, those less confident digitally, those most affected by errors — they reveal what average satisfaction scores hide
4. For each step, ask which cost type users experienced (search, evaluation, implementation, psychological) and capture both direct costs (time, money) and indirect ones (stress, confusion)

Table 1. A typology of four different types of sludge leading to different experienced costs.

Type of cost	Definition	Examples
Search costs	Aspects of the choice architecture that lead to the experience of search costs by making it more difficult to acquire relevant information about different options	Offering too many options; confusopolies; ordering of search results by profit margins rather than price
Evaluation costs	Aspects of the choice architecture that lead to the experience of evaluation costs by making it more difficult to evaluate the advantages and disadvantages of different options	Hidden add-on costs and drip pricing; hidden extra fees; untrue discount claims and moon pricing; long and confusing fine print
Implementation costs	Aspects of the choice architecture that lead to the experience of implementation costs by making it more difficult to get what you want and avoid what you do not want	Hidden subscriptions; automatically renewing subscription; unnecessarily complex paperwork; difficult return policies; complicated tax filing
Psychological costs	Aspects of the choice architecture that lead to the experience of psychological costs by creating negative experiences such as stress, stigma, disempowerment, and loss of autonomy	Misleading messages that put psychological pressure on buyers to purchase; misleadingly highlighting the popularity of a product; false scarcity messages; pressure selling

 **FORGOOD sludge audit & organisational examples on the next page (author's interpretation)**



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FORGOOD Sludge Audit (author's interpretation)

	What to audit for	Examples in practice
FAIRNESS	Is the burden of friction distributed equally across customer/ employee groups?	Elderly users bearing higher costs navigating online services; lower-income customers disproportionately hit by time costs of complaints processes; juniors facing more implementation sludge in HR or compliance systems
OPENNESS	Can customers/ employees find, read, and act on disclosures in the default decision flow?	Fees or charges revealed only at the final step of an order; key terms buried in the fine print; unclear communication and understanding of employee performance criteria
RESPECT	Can people exit, opt out, or raise concerns without disproportionate effort?	Cancelling a product or service requiring more steps than signing up; customers unable to withdraw consent without calling a helpline; employees facing multi-stage processes to raise a concern or request a transfer
GOALS	Does the friction serve a justified purpose? Does it protect business metrics at the user's expense?	Customers who stop claiming a benefit simply because re-applying is too burdensome, not due to being ineligible; employee wellbeing or development programmes that are difficult to access
OPINIONS	Would customers/ employees consider this friction acceptable if they could see it clearly?	Cancellation flows that would not survive public scrutiny; consent or data collection steps embedded so deep in a sign-up flow that users don't realise; mandatory reporting or approval steps that waste time, which staff would flag
OPTIONS	Does friction make it harder to compare, switch, or choose an alternative?	Switching providers made deliberately complex relative to signing up; comparison pages that obscure true costs; internal mobility harder to navigate than external hiring
DELEGATION	Do you have the authority and competence to impose or resolve this friction?	Automated systems/ outsourced processes creating sludge no individual in the organisation has chosen or can be held accountable for; friction discouraging customers from exercising rights they are legally entitled to