

https://www.ricksoft.jp/lp/solution/109_0017.html

- VUCA - DX is important
- In VUCA era we have changing needs of customers
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https://www.nri.com/jp/media/column/scs_blog/20220610_1.html

- Japan sucks at DX
- Back then waterfall became the standard for DX projects but had difficult adaptation to real life or process
- Japan company sucks at DX
 - Large numbers of Japanese companies can't feel the impact of DX
 - One factor different from US
 - Consider failure as a path to success
 - In Japan; rigid planning is necessary for development
 - Making it incompatible with DX
- Waterfall is incompatible with DX
 - Japan to this day still uses waterfall approach
 - But in era of DX, service and system needs to match with market condition and consumer changes, essentially the era of VUCA
 - If pushing for waterfall - you can't harness uncertainty and change in scope
 - Despite gaining success at PoC, the complete overhaul of plan limit forces projects to stop at the planning level
 - Even if you push through - you end up with a product that is useless
- Business department
 - Lack of IT literacy in the department
 - Lack of awareness in the management for IT
 - Need for management to understand IT information

<https://www.freee.co.jp/kb/kb-trend/cliff-in-2025/>

- 2025 cliff
- The main purpose of dx - legacy system
- 2025 Cliff METI report that promotes the need for DX
- After 2025, Japanese companies would lose competitiveness and by 2030 12 chou en loss annually
- DX
 - Using digital technology to improve business and expand business opportunity
 - Beyond operational effectiveness - changing the business model, culture,
- Legacy system

- Obsolescence of legacy systems in technology
 - Enlargement and complexity of legacy system leading to a black box due to people knowing the system is retiring
 - Cannot adapt to market changes
 - Adding customization making it incompatible to cloud and AI
 - Cost of maintenance
 - 80 percent of companies have legacy systems
 - Not just a problem for large companies but SME firms
- Blocking DX
 - Lack of commitment to management and executives
 - Requires strong executive commitment to the DX process
 - But lack of commitment - especially in prioritizing update and not overhaul of the legacy system
 - Bender reliance
 - Most firms rely on IT vendors or system integrators to rely on knowledge

Agile or Waterfall

<https://rebuilders.jp/agile-or-waterfall/>

Point 1: - Waterfall is not suited for offensive IT

- In DX, its called offensive IT in terms of software development - a process of iteration
- Reuiqres only small scale production and releases, test market responses and apply improvements to features
- Shotert time to market, lower cost, and iterative design changes
 - Waterfall cannot achieve the same advantages
 - Due to rigidity of waterfall unable to accommodate this
 - Has to perfect design
- In Waterfall - contractors have to set up perfectly on requirements and place a contract which requires time
- Unable to identify which requirement is important and which is not

Point 2: Motivated engineer prefer agile

- The contracting process and requirement phase leads to little time for engineers to actually develop
- Leads to a unfortunate quality of service
- Agile places priority on customer satisfaction over contract and perfection
- Waterfall also limits innovation on what needs to be built
 - Agile gives the freedom for engineers to test more
- Agile leads to growing incentive for engineers to improve leading to higher quality engineers with strong motivation

Point 3:

- But waterfall is necessary

- Benefit of waterfall - not impacted by engineer skill
- Waterfall puts documentation clearly which makes easier for any engineers to implement
- You can produce results in a small timeframe
- Agile in many ways require high level engineers to perform, very difficult for those working in System integration to back away from the industry due to lack of agile talent and in house teams
- Good agile engineers already work at Unicorn, Venture startups making skills rare
- Waterfall allows to minimize the impact of skillset mismatch'

Japan's DX crisis

- DX report released by METI in 2018 - warning to Japanese companies
- 2025 Cliff
 - Loss of 12 trillion yen per year maintaining legacy systems
- Japanese companies have began cloud computing and AI but not reached optimization
- 30% of Companies only felt they were successful
- Adoption of open source and cloud technologies
- DX needs to be reconsidered not only as simple introduction of tech - but fundamental transformation redesigning society
- Reason for Cliff 2025
 - Slow adoption of open source and internet - reliance on mainframes to open systems
 - Japan has been dragging old systems
- DX is about transforming the real world itself with digital technology
 - Redesign of industrial structures and social systems using AI and IoT, sensor tech
 - DX is not a introduction of technology but fundamental initiative that involves transforming organizational culture and institutional design
- Japan missed out on trend
 - Wave of earthquake
 - Lack of education etc
- DX began in 2008 - Airbnb