

Systems Thinking Reflection

- 1.** This diagram illustrates a common dilemma in engineering leadership that frequently arises: the need to balance maintaining quality standards with meeting tight deadlines. The reinforcing R1 loop indicates that increased pressure for deadlines, in turn, increases the chances of unit errors as more errors occur, leading to rework, which further delays the project and creates a vicious cycle. The balancing B1 loop illustrates how addressing quality control time upfront can reduce within-day defects and delays, thus decompressing end-of-day deadline pressure and resulting in a more stable delivery process.
- 2.** Systems thinking is crucial because it encourages you to move beyond linear thinking, which is based on a linear cause-and-effect model. Systems thinking moves you from reacting to superficial symptoms (e.g., late project deadlines) to understanding underlying feedback loops and the long-term consequences of short-term decisions. A more holistic view of the system yields broader ideas on solutions, as opposed to fixing one thing in one place in the system, which only creates another problem elsewhere.
- 3.** In a practical approach, leaders will apply systems thinking to plan the results of different actions, such as shifting, prioritizing, or reallocating resources within the organization (Elia et al., 2021). The primary principle for me is that I do not favor the tendency to overlook quality checks during crunch time; on the contrary, one has to strike a balance between the two. Systems thinking provides leaders with an integrated vision of the change chain, complex problem management, and a long-range, purpose-oriented decision-making strategy rather than focusing solely on quick fixes.

Reference

- Elia, G., Margherita, A., & Secundo, G. (2021). Project management canvas: a systems thinking framework to address project complexity. *International Journal of Managing Projects in Business*, 14(4), 809-835.
- <https://www.emerald.com/insight/content/doi/10.1108/IJMPB-04-2020-0128/full/html>