Practicing Engineer Survey Results & Discussion

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Question
What kind of work does your company typically assign to fresh out engineers to perform independently?

Results
Fresh out engineers are more likely to work on small design, analytical, and drafting projects than larger ones. While this is understandable from a risk management standpoint, it may leave fresh outs feeling isolated. Such feelings could lead to increased time to competence and job flight, both of which can lead to higher hidden organizational costs.
It typically takes fresh out engineers between 1–3 years to reach competency, and the length of time is highly variable. The longer it takes engineers to reach competency, the longer it takes employers to benefit from engineers’ contributions. There are shared opportunities for universities to produce workplace-ready graduates and for industry to onboard them.
Question
What costs and risks does your organization incur when fresh out engineers cannot perform their assigned work in ways that meet standards?

Results

- “Attrition/turnover…plus possible project delays + quality issues.”
- “…time and cost of managers and their supervisors above and beyond normal.”
- “Program delays, possibly wasted mask charges”

Discussion
Most of the cost and risks center around project delays, quality, and the additional time spent mentoring fresh out engineers. Most of these costs are hidden and do not appear within typical organizational accounting structures. However, these hidden costs and risks are real, and they can affect organizations’ ability to meet business goals.

Real-world project consequences and constraints (schedule and budget) could also play a larger role in engineering coursework.
Question
What sort of support does your organization provide fresh outs to help them reach workplace competence?

Discussion
Organizational support for fresh out engineers is highly variable, with the majority of organizations providing informal mentoring programs, performance feedback/review, and company orientations. As a lack of support can contribute to increased time to competent workplace performance, organizations may want to consider engineering efficient onboarding systems to decrease ramp-up time. Engineering coursework may want to include such supports.