Paying Up Front for Better Tools

Using assembly language for programming generally went out of style in the 1970s and early 1980s when C language compilers became available for microprocessors. Yet, when I started consulting for Quantum Corporation in 1983, assembly language was still the basis for developing the "embedded" code in their hard disk drives. As Quantum grew, I encouraged the engineering managers to make the switch to C, a "high level" language with numerous advantages for the programmer. To make the switch without delaying a development program, they would need to hire and train a new team of programmers. Thereafter, as the new tools became familiar, they could be adopted team by team for each new development.

Quantum did not make the switch, however, because engineering management was not willing to make the up-front investment in a new team. If the new tools had promised a reduction in manufacturing costs of at least 2 or 3 percent, however, I think they would have bought in.

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