

Acquisition Archetypes

Changing Counterproductive Behaviors in Real Acquisitions

Staff Burnout and Turnover

Applying more pressure on staff can temporarily increase employees' productivity, but burnout soon sets in. This results in lower productivity, slowed progress and even greater schedule pressure than before.

Pressure!

In our sample case, the program had been active for some time attempting to update an agency's IT systems and infrastructure. As one program executive put it, "There's a lot of pressure on us since agency modernization has been going on for quite a while. The program is seen as the foundation project for modernization. If it backslides, it splashes on everything else. We have to meet these milestones, or else the agency modernization program will be seen as failing."

"I don't want to be living here 24/7 next Christmas."

Burning Hot ... and Burning Out

The contractor felt the pressure to deliver, and responded by working harder. One development manager admitted: "My people are working overtime right now. I am here every day from 9 to 9, except Friday, and more than half the team was here Saturday and Sunday." One developer complained, "I don't want to be living here 24/7 next Christmas." The government program manager was aware of the long hours being put in by the



contractor, but was not entirely sympathetic, saying "they're always 'burning hot' because they're always late."

Quality Takes a Hit

The immediate casualties of long hours were quality and productivity. These problems might have been caught and corrected under normal circumstances, but as deadlines mounted, "Code reviews and unit test reviews [were]... not maintained... because of the growing schedule pressure," one team member explained. When errors crept through, quality suffered—but when they were caught, they had to be fixed, and this consumed more time—time they couldn't afford.

The longer-term effects were perhaps even more dire. One contractor manager pointed out that with the long hours and declining morale "...the risk of burnout [became] an issue."

Let Me Out of Here

The government began to see the consequences of the ongoing high pressure, with program office team members admitting that "They've had a hell

of a turnover over there" (on the contractor's development team). The turnover began to synchronize with the release cycles as the stress levels ratcheted up.

Hiring Replacements

The loss of experienced developers exacerbated the program's plight because of the difficulty of replacing them. In the words of one technical manager, "You can always replace bodies, but it's hard to lose critical experience. I think that only a handful of people are left here, with experience, since two years ago."

"We have a 61 percent attrition rate—that's a huge, core problem."

No Way Out?

Government and contractor can now see how damaging a pressurized project environment can be, as Brooks' Law catches up with the program—bringing on new people becomes the primary need, but hiring is expensive and time-consuming.

The government believed the contractor should have prepared for staff changes, with one top manager saying, "[The contractor] should have junior programmers that they're bringing up to speed, but they haven't done that."

Now that the cycle has taken hold, is there a way out?

The Bigger Picture

Abdel-Hamid discusses the pervasive effects of pressure on a development team in *Software Project Dynamics*:

Consider[ing] the impact of schedule pressure on the workforce turnover rate.... There is evidence to suggest that workforce turnover increases when scheduling pressures persist in an organization. This can be costly, since a higher turnover rate translates into lower productivity on the project [Abdel-Hamid 1991].

Turnover is the direct result of poor job satisfaction. Employees are unsatisfied when there is a significant gap between the work environment they *want* and the work environment they *have*. When work conditions become sufficiently egregious, the employee must either improve their situation in the organization, or move to another organization. The latter is turnover. There are several different effects going on simultaneously in this archetype:

1. Continuing pressure is driving down morale and *Job Satisfaction*, leading to burnout and turnover.
2. The damage resulting from experienced workers piles up:
 - progress is reduced (primary effect)
 - *Coordination Work* is increasing (secondary effect)
 - Workload/ pressure on remaining staff is increasing

Breaking The Pattern

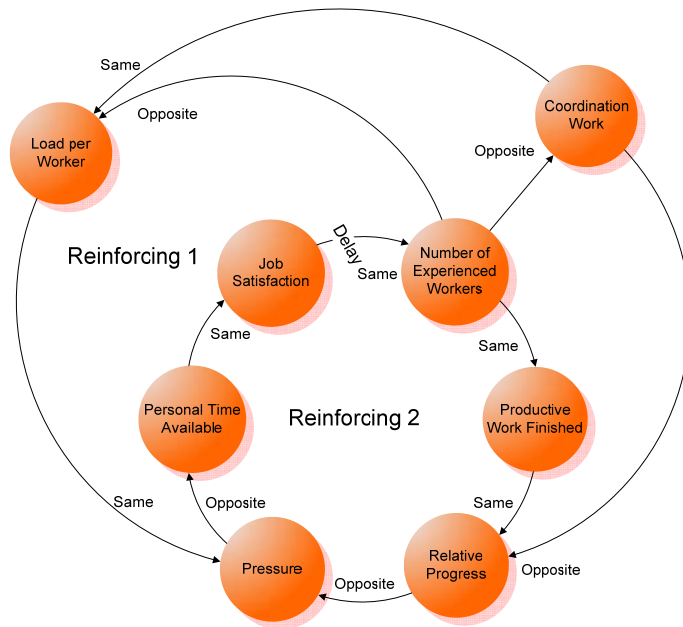
Staff productivity maintains an equilibrium. Sustained (or increasing) pressure destabilizes that equilibrium, starting a downward spiral of burnout and turnover. When such schedule pressure begins, the program must find alternative ways of relieving that pressure to maintain stability. If a program is under constant and inordinate schedule pressure and the situation is allowed to continue, the net effect will be to burn out the staff, see them leave, and then watch the program collapse under a negative reinforcing loop of turnover.

The choices to break this pattern are to: (1) reduce the scope of the project, (2) slip the schedule, or (3) add manpower.

[Abdel-Hamid 1991] Abdel-Hamid, T.K. & Madnick, S.E. *Software Project Dynamics: An Integrated Approach*. Englewood Cliffs NJ: Prentice Hall, 1991.

[Brooks 1995] Brooks, Frederick. *The Mythical Man Month*. Addison-Wesley, 1975.

A Causal Loop Diagram of the Burnout and Turnover Effect.



System variables (nodes) affect one another (shown by arrows): Same means variables move in the same direction; opposite means the variables move in opposite directions. Balancing loops converge on a stable value; Reinforcing loops are always increasing or always decreasing.

This last option lands the program squarely back in Brooks' Law territory—adding manpower to a late software project—and has the same consequences [Brooks 1995].

Prevention of the *Staff Burnout and Turnover* dynamic is more desirable. This approach requires two vital elements:

- The PM must find another solution to the problem. Passing sustained schedule pressure on to the staff quickly becomes unproductive, and then counter-productive.
- Be willing to invest in a quality work environment in order to keep your experienced people on the team—it will be far less expensive in the long-term than replacing them.