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Adopting the SW-CMM in a Small IT Organization

This article is about how small organizations now have the opportunity to sell their software development services in the global market. But, to succeed in this competitive market they must make good use of internationally accepted software process practices. One of the main challenges that smaller organizations face is that they must figure out how different environments can impact software processes and find ways to improve the process for a specific environment. The article tries to help small organizations by analyzing the relationship between the organizations environment and the success rate it has while implementing the Capability Maturity Model for Software (SW-CMM).

When considering small organizations and their relation to the SW-CMM, they found that for many organizations, they don’t think that the SW-CMM applies to them. Organizations that DO follow the SW-CMM typically have a layout that looks something like this. Hundreds of employees that are stationed over different places around the country/world. Multi-million dollar budgets for multi-year projects that include dozens of employees. Up-to-date software and hardware. And projects that develop real-time, embedded, mission-critical, defense, or aerospace systems. Link, a Chilean software organization, had an organizational environment that was almost the opposite of what is supported by the SW-CMM. Link had two to three month projects which involved four or five people and the budget typically costed less than $5,000. They had only one customer who had an annual IT budget of $200,000. Their projects were to develop point-of-sale, credit card, and enterprise resource planning applications. Some developers had a four-year degree, while others only had a high-school diploma.

After about five years of debating whether they should take an SPI Initiative, they finally decided to do so for the betterment of the company. Even though they didn’t see improvements immediately, over time they became much more efficient with the rate it took them to complete projects and lessening failures. The article focused on ten main factors relating to their organizational environment: Management commitment, process-related training, developers’ involvement, maintenance of momentum, cultural awareness, group focus of SPI, separation of process and product concerns, presence of champions, frequency of process assessment, and visibility into the SPI process. For process-related training, Link trained everyone in the software development unit on all the roles of the SW-CMM. For developers’ involvement, Link improved by encouraging all its software development personnel to choose a SW-CMM key process area. For maintenance momentum, Link ensured software development teams that their opinions get serious consideration so they must be aware of the initiative’s status always. For group focus of SPI, Link had small teams propose and initiate improvements instead of having one individual do it. For presence of champions, Link was lucky enough to have a champion among the developers. For frequency of process assessment, since Link was finishing projects in a few months now, they could evaluate and assess their effectiveness at a faster rate. For management commitment, Link’s senior manager was completely on board with the process from the get-go. For visibility into the SPI process, Link focused on making small changes to the original processes to continue to improve and change. For cultural awareness, the improvements made by Link always considered the organizations culture. For separation of process and product, Link tried to provide a clear view of what was happening in the software development teams.

This article helped me understand the struggles that small organizations must face and the steps they need to take to improve their processes.