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PROCESS IMPROVEMENT AND THE MANAGEMENT OF CHANGE

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ABSTRACT

The management of change is a key element of a successful process improvement program. Based on the experience described in this position paper, process improvement activities, i.e. on-site assessment, action plan elaboration and action plan implementation activities can be facilitated by carefully managing the human issues of a major change program.

KEYWORDS: Change management, change resistance, process improvement.

1 Position

The management of change is a key element of a successful process improvement program. As soon as a decision in made by management to embark on a process improvement program, a strategy to address the people issues must be developed and managed in concert with the technical activities.

2 Role

I acted as the chairperson of the Software Engineering Process Group. I was responsible for planning an on-site assessment, participating to the assessment as the on-site coordinator and team member, developing an action plan and facilitating the implementation of the action plan.

3 Discussion

Our company manufactures low-level air-defence missile systems. In the fall of 1992, senior management decided to trigger a software engineering process improvement program. Right at the beginning senior management demonstrated support for this program by establishing a steering committee and a software engineering process group (SEPG). A work order was approved with sufficient resources to staff the SEPG, conduct the training, the on-site assessment and the preparation of an action plan. An article was written in the employee's newsletter explaining why the company decided to launch on improvement program, the milestone of the program and announced the establishment of the steering committee.

In order to obtain support from the different departments, the SEPG was staffed with representatives from many departments: software engineering, system engineering, quality assurance, configuration management, planning and information system. A second article in the employee's newsletter listed the names of the members of the SEPG and explained the next milestone, i.e. the on-site assessment. In the meantime, two directors and members of the steering committee attended a three day seminar discussing issues such as the Software Engineering Institute's Capability Maturity Model (CMM), software assessment process, managing change in the software process, advancing up the CMM. Later, the president attended a one day executive seminar at the Software Engineering Institute (SEI). Finally, the chairperson of the SEPG attended two courses at the SEI: consulting skills workshop and managing technological change.

Two weeks before the on-site assessment a briefing session was held. Over 50 persons attended the briefing. The meeting was attended by those who would participate to the assessment, by managers, directors and vice presidents. The participants were explained what is an assessment, why an assessment will be conducted and, who will participate to the on-site assessment. The participants were also invited to attend the on-site kick-off meeting and the presentation of the findings at the end of the on-site assessment. At the end of the briefing, participants were requested to fill-in, anonymously, two surveys: an history assessment profile and a culture assessment profile. The history assessment provides an indication of how well change efforts have been managed in the past. The culture assessment provides an indication if the organization culture will facilitate or impede the change effort. The surveys were compiled and a list of potential barriers to the process improvement program were identified. These issues were included in the findings and recommendation report that was published a couple of weeks following the on-site assessment. Finally, as part of the action plan report, a chapter was developed to explain how potential barriers to the improvement program would be addressed.

To address the findings raised during the assessment, we decided to establish working groups. Each working group is managed like a project. It has a project leader called process owner member, an objective, a budget and a schedule. A representative from the SEPG acts as a facilitator in each working group while the process owner has the responsibility for the improvement of a particular process (e.g. requirements management), the facilitator functions as a coach/consultant to a working group. In other words, the facilitator focuses on process while the owner focuses on content. On a regular basis, facilitators of the different working groups meet to share their experiences.

In order to help the process owners and facilitators, the SEPG put together a guidebook. This document contains information on the management of meetings i.e. formats of agenda, minutes, briefings. Also the document has a section describing the rules each working group should establish on how member will interact and what kind of behavior is expected. The guidebook also contains a meeting evaluation questionnaire which is used on a periodic basis to re-assess the operation of the working group.

4 Significance

The proper management of the "people" issues is a key issue to the success of an improvement program. Before launching a series of improvement activities, an assessment of current perception must be performed as well as a continuous monitoring of the potential barriers which have been identified. The monitoring could be both informal and formal. By having a process facilitator with each working group, real-time monitoring of the barriers can be done. Also, on a periodical basis (i.e. once or twice a year) surveys can be used to monitor the employee's perception with regards to the level of sponsorship that management is showing. Also, the potential sources of resistance in

the groups affected by the improvement program should be monitored. All these activities should be incorporated in the improvement plan and tracked by management, therefore sending a clear message that "people" issues are on the agenda of the improvement program as well as the other technical issues.

5 Biography

Claude Laporte is a senior analyst and chairperson of the Software Engineering Process Group at Oerlikon Aerospace. Prior to coming to Oerlikon Aerospace, Laporte was a military officer and a professor at the Department of National Defense. He participated in 1991 to the assessment of the CF-18 facilities and in 1992 he led an assessment of the Land Software Engineering Centre of the Department of National Defense. He was the instigator for the creation of the Applied Software Engineering Centre located in Montreal. He was also the instigator for the creation of a multi-campus graduate program in software engineering.

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