ImprovAbility™

Success with process improvement

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Software is a key to many of the activities we perform every day in our working life. In all sectors of the economy, organizations are becoming increasingly dependent on software, either as an integral part of their product or to support their business process. A key factor for business success is developing software effectively and efficiently. Whilst the pace of technology and software systems grows almost unendingly, the basic single problem is that adoption of best practices has not evolved as fast. Over the past twenty years, companies have made significant progress toward understanding how to measure, consistently and quantitatively manage their software development processes.

In 1991, the Software Engineering Institute (SEI), published the Capability Maturity Model (CMM). The CMM has persuaded many organizations to concentrate on measuring the process by which they produce software, a prerequisite for an industrial engineering discipline. In 1998, the International Standards Organization (ISO) followed suit with the publication of the International Standard ISO/IEC 15504 for Software Process Assessment (SPICE) with over 5000 assessments having been performed worldwide. The overall view being that by performing a software process assessment using one of the models will help an organization identify the current status of software development practice and by providing progressive stages of implementation of good practices will help an organization to identify potential areas for improvements upon which decisions can be taken and implemented. As a result of using such models, software process improvement (SPI) initiatives have been initiated and experience of implementing SPI has grown. Modest investments in software best practice have produced significant business benefits.

When introducing improvements however, one needs to take into consideration the business, management and organizational issues as well as the methods and technology used.

The question is - what has been learned and what are the essential ingredients for success?

At the ISCN’97 (Euro SPI) conference more than 15 years ago I jointly co-authored a paper entitled ‘Learning to improve – the essential ingredients’. Based on experience of working with software organizations it was noted that
Companies frequently hold the view that process improvement is too expensive and difficult to be cost-effective.

Companies that do recognize the need for improvements often do not know how to improve.

Resistance to change as well as a low degree of organizational maturity is major factors that inhibit a better yield of improvements.

With the publication of the ImprovAbility model, organizations now have a set of ‘the essential ingredients’ available to support their improvement endeavours.

ImprovAbility does not replace the existing capability and maturity models; it complements them by appraising the ability and readiness to initiate improvements, founded on an organization’s strategy, culture, management and learning. You can say that the capability models are used to identify which engineering processes to improve whereas the ImprovAbility model is used to determine how to implement the identified process improvements.

Many factors influence the success of a project. ImprovAbility has identified 17 parameters that can be used to assess a project’s ability to succeed by encouraging activities related to success. Recommendations can then be made to increase the probability of project success. ImprovAbility also recognizes that projects are different – the authors have identified 5 dimensions embodied in a so called Star Model or project type that can be used to characterize a project. The Project Type Determination is very powerful concept that may have many potential uses outside of ImprovAbility. It provides a valuable information resource to enable intelligence in tailoring an organization’s development approach for deployment on any project.

In order to accelerate improvements, it is important that an organization is aware of the various soft factors that can affect improvement. An organization needs to choose a change strategy that is appropriate to the way of organizational working.

Experience shows that different types of improvement work require different methods for organizing improvements.

The authors have studied organizational change approaches and have identified the conditions under which specific change approach was prescriptive for an organization. ImprovAbility has identified ten prominent alternative organizational change approaches and means (methods and techniques) that can be used in a particular organizational setting to improve the success of its change efforts.
It is worthy to note that the ISO/IEC 15504 International Standard is currently being re-published as the ISO/IEC 33001-99 series of standards that incorporates ISO/IEC 33014 Guide to Process Improvement which embodies many of the concepts of ImprovAbility.

As an experienced project manager and software process improvement professional I warmly commend to you the principles and concepts embodied in the ImprovAbility model.

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