

INNOVATION REPORT

Ensuring a systematic approach to software innovation



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Software is a major driver for product innovation. The ITEI project has developed a systematic and coherent overall approach to software-intensive product innovation with a series of new tools offering better quality and shorter lead times. Results were demonstrated in a range of industrial environments. The body of software knowledge developed is available in the first book on the topic called “The Art of Software Innovation – 8 practice areas to inspire your business”, published by Springer, and through Sinnobok.org – an on-line community established to disseminate the ideas more widely.

Software is increasingly being used as an instrument for product innovation and has become a major driver. However many different methods and approaches existed for software innovation and a new body of knowledge was required to understand how to innovate in and with software. There was therefore a strong need to integrate the many different processes into a new overall approach offering a framework to guide innovation processes in companies.

This idea was presented at the ITEA project proposal meeting

in Dusseldorf in 2007, where it attracted interest from research organisations and both large and small companies. ITEA was seen as important as it made it possible to involve many industries concerned about innovation and to obtain backing from a sufficient number of companies and countries to help establish the new framework for software innovation.

The resulting project involved 26 partners from three different countries and included large and small software developers, research organisations and universities, and industrial users of software – so covering the whole IT supply chain from basic research to end users.

Developing a framework

Software innovation is multifaceted and the approaches used by companies can be very different. The ITEI project took the assumption that there is no such thing as a universal software engineering process or innovation process. Some things work well for a certain company, others do not. The ITEI research resulted in the definition of eight fundamental practice areas for innovation with software. Each practice area contains a number of activities that can help companies to master that practice area. These findings were validated in an industrial context, successfully illustrating the applicability of these practice areas in practice. The framework of these eight practice areas was developed with an industrial target audience in mind. The ITEI consortium invites companies to challenge themselves by offering the framework to become more innovation-driven, rather than engineering-driven and to better understand the new business opportunities offered by open innovation and Web 2.0 technologies.

Series of practice areas

ITEI identified a software innovation canvas featuring 46 activities to manage innovation. These 46 activities are grouped into 8 practice areas. As an example of the practice areas, the art of openness deals with how companies can look at openness, from defining an openness strategy to implementing the optimal

¹ <http://www.springer.com/computer/swe/book/978-3-642-21048-8>

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level of product, process or organization openness supported by appropriate business model. The overall framework and descriptions of the activities and practice areas have been published in a book called "The art of software innovation"¹. This explains the approach and shows how it has been applied in 21 industrial cases developed by the project partners. The result were used to improve innovation in software intensive companies:

'Software innovation is radically changing the way we communicate, interact, and organize ourselves today. What is now, will be different tomorrow. The eight software innovation practice areas in this book will stimulate your creative assets to better use.' Suvi Keinänen, Movial Creative Technologies Inc.

'Software innovation is a major concern for IT service companies like Steria whose daily business no longer only consists of delivering innovative solutions to its customers but also of helping them on their journey towards innovation.' Pierre Paelinck, Steria

'Metso's aim is to create value continuously by improving the quality, production and environmental aspects, and the cost-efficiency of its customers' processes. Innovation plays a key role in implementing these aims.' Antti Välimäki, Metso

'Ever-accelerating technological change has moved innovation in the software sector past mere opportunity into the heart of the business strategy. We used to be amazed that young start-ups could challenge and unseat global IT giants in just a few years.' Peter Stuer, Spikes

'If you are a software-intensive company about to embark on the journey towards innovation mastery, the Art of Software Innovation book is definitely the best guide you will find. This book is written by researchers and experienced practitioners who have been exploring and mapping the complex innovation landscape for years.' Wim Soens, Director of Innovation, Research and Development at CogniStreamer

Seven new tools

In addition to the overall integrated approach, ITEI partners developed seven new tools to support the approach, some of which are already being commercialised.

These tools either support different aspects of innovation, such as advancing idea management, or take a more comprehensive approach to cover all the innovation processes: company strategy, managing all the people involved in innovation and commercialisation.

Concrete examples of the ITEA project's success include:

- The AuraPortal web-based innovation process management system – a software platform offering fully integrated enterprise-essential applications;
- The Inno-W Innovation Hub system which provides a single navigation point for data related to innovation management; and
- The Indie Group CogniStreamer collaborative tool which supports network-centric innovation based on Web 2.0 social software tools and technology.

Improving the way companies innovate

In the current market environment, however, being good at delivering software on time and within budget is no longer enough for software intensive companies to be competitive. Software companies are shifting their focus. Instead of being engineering-driven organizations, they are trying to become more innovation-driven. This is new to many software companies and can affect them in different ways, even up to the business model. The results of ITEI provide concrete industrially validated framework to support software companies to improve innovation.

Open innovation portal

An on-line portal has been established for product innovation and innovative software development going beyond the ITEI project. SinnoBok.Org will be used to disseminate the practices towards the broader industry. It is important for European companies to adopt these insights to have a real impact. ITEI partners are already transferring their knowledge to other companies through training, presentations and webinars. Moreover, while the focus was on software, the partners are now thinking how to extend this approach to other industrial sectors including services. Moreover, the tools developed are already being used in other sectors.

More information:

<http://www.itei-itea2.org>

<http://www.sinnobok.org>