

# VERY SMALL ENTERPRISES (VSE) QUALITY PROCESS ASSESSMENT

**JEAN-MARC DESHARNAIS**

**MOHAMMAD ZAROOR**

**ALAIN APRIL**

École de Technologie Supérieure,  
Department of Software and IT Engineering  
1100 Notre-Dame Ouest, Montréal,  
Québec H3C 1K3, Canada

Jean-Marc.Desharnais@etsmtl.ca

Zarour.Mohammad.1@ens.etsmtl.ca

Alain.April@etsmtl.ca

## Abstract

The software industry is an important economic activity in industrial countries. Nowadays the investment in this field measured in millions of dollars, the IT organizations varies in their size and role. An area of concern to IT organizations is implementing and adopting Software Process Improvement (SPI) models.

For many years, researchers have developed several SPI models, most of which like CMM, CMMI<sup>1</sup> and SPICE (ISO/IEC 15504) have been developed to fulfill large organizations needs, but they do not take into consideration the Very Small Enterprises<sup>2</sup> (VSE) needs. This has encouraged a number of researchers to study the SPI for VSE and try to find suitable models that fit to VSE needs. This paper explores the main practice areas concerning the VSE, based on the OWPL gradual framework developed in Namur University in Belgium, to discover which processes are the weakest, and shed light on them. This was shown by three rounds of consecutive assessments, using Micro-Evaluation framework, with about 10 VSE

assessments each time. This study confirms previous studies that have already done [4] [10] [11] [15].

**Keywords:** Software Process Improvement, Very small organizations, Maturity Model, CMM<sup>®</sup>, CMMiSM, SPICE, OWPL, Micro-Evaluation.

## 1. Introduction

In the past, the organizational improvement efforts were focused on product rather than process. It has been recognized that many management and support activities are needed to produce effective software organizations, for example, cost and schedule problem as well as, inadequate product quality are key results of inadequate management. These problems are well understood today by many organizations, since project managers neither have time nor resources to address management issues. It is also recognized that mal-functioning software development process will affects the quality of the resulted software product. As a result, the companies now pay great attention to improve their processes in order to improve their product quality.

Since 1980s a large number of software process improvement (SPI) projects has launched world wide to

---

<sup>1</sup> CMM and Capability Maturity Model have been registered with the U.S. Patent and Trademark Office. CMM Integration and CMMI are service marks of Carnegie Mellon University.

<sup>2</sup> In this paper the words small organization, small enterprise, small companies are used interchangeably.