Chapter XI

COMPETISOFT: An Improvement Strategy for Small Latin-American Software Organizations

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ABSTRACT

From the beginning of the 21st century onwards, the software engineering community (industry and researchers) has expressed a special interest in software process improvement (SPI) for small and medium enterprises (SMEs). This growing interest is due to the fact that the software industry in most countries has an industrial backcloth, made up mainly of small and medium software organisations which favour the growth of their national economies. In order to fortify these kind of organisations, efficient strategies, practices, or guides to tailor SPI to their size and type of business are needed. Therefore, in this chapter, the COMPETISOFT project is presented. The COMPETISOFT project’s main aim is to provide the software industry in Latin America with a reference framework for software process improvement and certification, which will enable it to be more competitive in the global market.

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INTRODUCTION

From the beginning of the 21st century onwards, the software engineering community (industry and researchers) has expressed a special interest in software process improvement (SPI) for small and medium software enterprises (SMEs). This is evidenced by the growing number of articles that deal with the topic of SPI in SMEs which can be seen in the analysis of the trends in publications concerning this subject (e.g., Pino, Garcia, & Piattini, 2006) and also in the appearance of a great number of standards and proposals related to SPI for SMEs. It is important to emphasize the work of the Software Engineering Institute (SEI) and International Organization for Standardization (ISO) in order to that their standards can be applied in these types of organizations:

- The International Process Research Consortium (IPRC) from the SEI is carrying out a research initiative into process improvement in small settings as one of its high-priority topics. The term “small settings” includes small teams, small projects, small organizations, and small businesses.
- The ISO has formed the SC7-WG24 workgroup in order to develop software life-cycle profiles and guidelines for use in very small enterprises.

Interest in SPI in SMEs is growing due to the fact that these companies are an extremely important cog in the gears of the economy of many nations in the world. The software industry in most countries has an industrial backcloth, made up mainly of small software organizations which favour the growth of national economies. Such companies face serious problems as they reach maturity however, as in many cases there is no common software development process known to a given firm, which leads to chaotic performance affecting the whole organization (Batista & Figueiredo, 2000) and, obviously, its products. This situation is especially critical in Latin America’s incipient software industry, with its problems of lack of competitiveness and consequent limitations of growth (Mayer & Bunge, 2004). Therefore, in order to fortify this kind of organization, efficient strategies, practices, and/or guides to tailor software process improvement to their size and type of business are needed.

Currently, the COMPETISOFT project is being developed with the aim of providing Latin-American countries with a reference framework for the improvement and certification of their software processes which will help them to be more competitive in the global market. This project deals with the creation of the software reference process, assessment, and improvement models adapted to the characteristics of the software industry in Latin America, which is mainly composed of small-sized enterprises. The COMPETISOFT approach is based on models which have previously shown their practical usefulness, such as MoProSoft, EvalProSoft, and Agile SPI, among others.

In this chapter, the current convergence of efforts to improve the software industry in Latin American countries is reported in the context of the COMPETISOFT project. First, we summarize the related works, and then the COMPETISOFT project is presented with a description of its scope and characteristics. Finally, conclusions are drawn and future work is described.

RELATED WORKS

In literature, diverse proposals and initiatives are to be found that address the tailoring of assessment and improvement initiatives for the special characteristics and problems of small and medium-sized enterprises, for instance, related to:

- The process reference model. MoProSoft (Oktaba, 2006), MR-MPS (Weber, Araújo, Rocha, Machado, & Salviano, 2005), among others. With regard to SEI models, some rep-