

CENTERIS 2013 - Conference on ENTERprise Information Systems / ProjMAN 2013 -
International Conference on Project MANagement / HCIST 2013 - International Conference on
Health and Social Care Information Systems and Technologies

Towards a new approach to supporting top managers in SPI organizational change management

Eduardo Herranz^a, Ricardo Colomo-Palacios^{a*}, Antonio Amescua-Seco^a

^a *Universidad Carlos III de Madrid, Av. Universidad 30, 28911, Leganés, Madrid, SPAIN*

Abstract

Software is a cornerstone in the development of societies. In software process improvement initiatives, change management has been identified as one of the crucial areas to manage. Top managers are also crucial in software process improvement and their commitment and support is key to obtain the benefits of a better and leaner software process. Gamification is a new solution to foster and engage process management and has been pointed out as a solution for transformational change and, additionally, it can foster the adoption of SPI improvements and the visibility of financial benefits in order to increase top managers' commitment. This paper aims to draw a path for top managers to use gamification as a tool to get the improvement gains in SPI settings.

© 2013 The Authors Published by Elsevier Ltd.

Selection and/or peer-review under responsibility of SCIKA – Association for Promotion and Dissemination of Scientific Knowledge

Keywords: Gamification, Software Process Improvement, Organizational Change Management

* Corresponding author. Tel.: 0034 91 624 59 58; fax: 0034 91 624 91 29.

E-mail address: ricardo.colomo@uc3m.es

1. Introduction

Software is key for many industries from business to government or military operations [1] and the software industry is one of the most important sectors in the world [2]. In order to meet the increasing software needs, companies around the globe make a tremendous effort in Software Process Improvement (SPI) efforts[3]. SPI is a systematic approach to increase the efficiency and effectiveness of a software development organization and to enhance software products [4]. The two most internationally used SPI models are Capability Maturity Model Integration (CMMI) and ISO/IEC 15504 (SPICE). These models define a process improvement approach that provide organizations with the essential elements to set process improvement goals, establish a point of reference for assessing current processes and support the improvement of their performance [5]. SPI methods help to continuously refine and adjust the software process to improve its performance in terms of lead-time, quality of the software product, reduction of change requests, and so forth [6].

Normally, SPI projects are large-scale, complex organization-wide change initiatives and they require considerable investment in personnel, time and money and impact just about every aspect of software firms [7]. Thus, extensive literature has been devoted to studying its challenges and facilitators. Focusing on the first group literature underlines several aspects including, among others, change management, one of the main problems to tackle in SPI initiatives [8–11]. Traditional change management studies suggest that in order to get results from initiatives four related organizational elements must change: process, structure, management and people [12]. Regarding the latter, people can be seen as the main factor in SPI that needs to be encouraged and supported in an organization [13]. Thus, in change environments all the people in the organization are required to (i) change their attitude, and (ii) acquire and practice new behaviors and skills aimed at improvement and better performance [14]. Attitude towards change is one of the people aspects in modern process improvement management approaches [15], and given that top managers are supporting SPI initiatives, it is important to support their duties with sound tools. On the other hand, gamification, as is explained in Section 4, is seen as one of the enablers in commitment and acceptance of change from both organizational and personal side. Taking this into account, this paper presents a new approach to change management in SPI initiatives based on the use of gamification techniques to support SPI processes. Given that SPI is intended to affect all kind of organizations that include software among its assets, this paper concerns all these companies. The main contribution of this work is to gather together all fields of study in a single paper to bring an overview about the opportunities of research on the field.

The remainder of the paper is structured as follows: Section 2 presents the main concepts and implications of change management focusing the discussion on top managers, Section 3 reviews the main issues of change management and SPI initiatives, Section 4 presents gamification as a new tool of SPI and, finally, section 5 includes the main conclusions and outlines future work.

2. Organization change management in Software Process Improvement: a focus on managers

Change is inherent to software process improvement (SPI). Thus, SPI denotes the "changes implemented in a software process that bring about improvements" [16]. Organizational change basically refers to a transition from one state or situation to another in which the entire organization is required to (i) change their attitude, and (ii) acquire and practice new behaviours and skills aimed at improvement and better performance [14]. However, the process of managing organizational change is very complex and challenging, and could even lead to undesirable and unexpected consequences, producing a negative, turbulent effect in the organization [17–19].

To manage this complexity, and in order to avoid possible negative effects in the organization, it is

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات