

Abstract

ICT services sector is one of the fastest growing in recent years. More and more companies decide to introduce various high-tech improvements based on the latest IT solutions to become more competitive. Size and pace of growth indicates its importance in the modern economy. Not satisfying number of projects completed with full success motivates to conduct a research on introduction of possible improvements in the team management area. Simulation games and gamification were chosen as the main direction of the conducted research that were focused on the humanistic side of the project management processes.

The positive outcomes of simulation games and gamification use in education, marketing, and even health care, inspired to examine the possibility of using this type of tools in managing teams of software developers.

The dissertation is devoted to determining whether and to what extent gamification and simulation games can be used as a tool to help in managing software developers teams in areas such as communication, motivation, processes improvement, and innovation. The theoretical aim is to demonstrate the existence of the benefits of simulation games and gamification in managing teams of software developers to increase motivation, increase self-awareness of the organizational team, manifested in self-assessment of project implementation and improvement. Whereas the practical goals is to create a set of tools to support the daily work of team leaders and developers in enhancing organizational effectiveness, and then start to popularize it in the target environment of use - ICT sector.

The main result of this paper is the Gamified Agile model and presentation of the results of its assessment. Verification of the model was done in an experimental form, as a pilot implementations in twelve teams of programmers. The goal was to find the answers to the main formed research question: whether and how simulation games and gamification can be used as an innovative tool to help manage teams of software developers. The results of the analysis of the material gathered during the research let to conclude a thesis that for many development teams working with different cultures, which are part of both organizations with a formal, hierarchical nature, as well as those of the matrix or free structures simulation games and gamification can be successfully used as innovative tools

to improve management processes, in areas such as communication, motivation, self-improvement stimulating innovation, and thus to respond positively to the main research question.

The positive results of experimental verification lead to the conclusion that the developed Gamified Agile model is an effective instrument that can support the manager in the humanistic aspects of the team of developers management.

Keywords: AGILE - EXECUTIVE GAMES - GAMIFICATION - IT TEAMS
MANAGEMENT - SIMULATION GAMES