

Politechnika Śląska
Dyscyplina Nauki o Zarządzaniu i Jakości

PRACA DOKTORSKA

Model kooperacji zarządzania kapitałem ludzkim w zwinnie realizowanych projektach

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ABSTRACT

Coopetition model of human capital management in agile projects

This doctoral thesis is the result of combining the issues of project management, human capital management and coopetition. The undertaken research undertaken is an attempt to answer the problems in human capital management resulting from the induction of constant changes, while using agile project management methods.

It was proposed to solve the surpluses and/or shortages problems of human capital through the implementation of coopetition model. The analysis of the literature showed a lack of research in this area, and the identified research gap confirmed the necessity to conduct an in-depth analysis in this scope.

The main purpose of the doctoral thesis was to develop and verify the coopetition model in agilely managed IT projects with particular emphasis on the use of human capital. The cognitive-theoretical objective include the characteristics of common issues between IT project management using agile methods and human capital management in IT projects, with particular emphasis on the use of the coopetition model in these areas. In addition, the following specific cognitive goals were adopted in the thesis:

1. Problems identification resulting from frequent changes implementation in IT projects.
2. Analysis of acquiring and using human capital in IT projects.
3. Research on coopetition in the use of human capital in IT projects.
4. Determining the importance of coopetition and its impact on IT project management.
5. Comparative analysis of the use of coopetition models in agile IT projects in selected countries.

The utilitarian goal was to introduce recommendations resulting from the coopetition model implementation in the field of human capital management in the ICT sector.

The following research hypothesis was adopted and confirmed in the doctoral thesis: coopetition in the field of sharing human capital in the area of agile projects increases the effectiveness of human resources and project management.

The subjective scope of the research covered companies using agile methods of IT project management and employees participating in these projects. The subject scope of the doctoral thesis concerned theoretical and practical issues related to project management and human capital, taking into account the increase in management efficiency in the above-mentioned areas. The time range of the research covered the period from 2015 to 2021.

The thesis consists of seven chapters. The considerations undertaken in it began with a discussion of the reasons for the choice of the thesis subject and the identified research gap, followed by the main problem, objectives, questions, hypothesis and research methods.

The second chapter first describes the theoretical foundations of agile project management methods. Focusing on the general-to-detail principle, the project definitions were approximated, and then the term project management was characterized. A comparison of traditional and agile project management methods was also made.

The third chapter presents selected human capital management problems in the agile projects context. The organizational framework and human resource management content, planning, the teamwork and organizational culture were defined, as well as the essence, concept and structure of human capital, the importance of human capital in project teams and problems related to the human capital involvement in project implementation. The criteria for the effectiveness of human capital management in projects were discussed.

The fourth chapter concerned on the essence and the possibility of using cooptation in project management. The meaning and types of cooptation were discussed. Identification was undertaken of competition in the ICT sector and in project management. The recruitment and outsourcing of human resources capabilities were presented in relation to the cooptation. The advantages and disadvantages of cooptation were described, and then an attempt was made to conceptualize cooptation as a business model.

The fifth chapter presents the research process. First, the selection of the research sample was characterized. It was assumed for the purposes of the conducted exploration, that the companies selected for the analysis should operate in the ICT industry and use agile project management methods. The stages of the research were divided into preliminary research, main research and the design and verification of the cooptation model. During the preliminary research, the following research methods were used: analysis of domestic and foreign literature, market and IT projects observations, diagnostic survey in the form of surveys and interviews, descriptive statistical analysis. During the main research the following methods were used: observations, individual and group interviews, brainstorming and individual cases method. To the cooptation model development and verification stage, the following methods were added: field research and interviews, experiments and comparative analyzes.

The sixth chapter of the thesis presents the results of preliminary and main research. It has been demonstrated, that the most important reasons for using agile project management methods were the need for constant cooperation with the client, changing client requirements, increasing flexibility and adaptability, and reducing the level of processes formalization. Then, the focus was on examining the problems arising from the use of agile methods.

Among the problems, that were assigned the greatest importance were: additional costs resulting from changes, lack of required detail multiplying the number of changes, difficulties in planning the size of project teams, as well as a decrease in the effectiveness of human capital management in projects under the influence of changes. Then, the research concerned an in-depth analysis of the impact of agile project management problems on human capital management. Among the greatest threats, that may result from the inability to assign tasks to

employees, the following have been identified: fixed costs of maintaining regular posts, that do not generate income, decrease in the motivation of employees, who do not perform their tasks, employees leaving when the problem repeats itself many times, chaotic activities of the sales department to acquire new projects, undertaking difficult projects.

The seventh chapter of this thesis includes the proposal and the results of the verification of the cooptation model of human capital management in agile IT projects.

Initially, assumptions were developed in formal, organizational and financial terms for the network cooptation model, which was to be implemented in order to cooperate with as many competitors as possible. During the research, it turned out, that representatives of a significant part of enterprises interested in cooptation preferred cooperation with only one competitor. This provided the basis for developing a dyadic cooptation model, which in the further research course was divided into two different models: the dyadic cooptation model with limited trust in the competitor and the dyadic cooptation model with the creation of a combine base of specialists. The effects of the developed cooptation models implementation concerned primarily the increase in the effectiveness of human resources management and project management, which confirmed the research hypothesis adopted in the thesis.

The implementation of the network cooptation model streamlined the process of acquiring human resources. Replenishment costs and shortage levels in ongoing projects have been reduced. The level of employee resignation from work was reduced, and at the same time an increase in the use of available man-hours was observed in the surveyed entities. As a result of the implementation of the dyadic cooptation model, supplementing shortages in human resources in relation to outsourcing activities was improved. The costs of acquiring and implementing employees have been reduced compared to outsourcing and recruitment. The number of employees resigning from work was limited and the costs of employees relieved from tasks have been reduced. In the area of project management, the number of missed deadlines has been reduced and the number of project budget overruns has been reduced. Cooptation also allowed for the acquisition of previously unavailable projects. Moreover, gaining access to an increased number of IT specialists has improved the management of the multi-project portfolio due to increased possibilities of allocating human resources. This chapter also indicates the identified negative effects resulting from the use of the developed cooptation models.

At the end of the doctoral thesis, the considerations undertaken in it were summarized and conclusions resulting from the conducted research were presented, which confirmed the adopted research hypothesis. Limitations appearing in the course of the research were also included and the possibilities of continuing research in aspects that were not included in the thesis were indicated.