

Influence of Selected Stakeholders of Construction Investment Projects on the Course of Project

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Abstract. The article presents an entity perspective of the construction investment projects. In a course of the project there are stakeholders who have an indirect influence (e.g. decision-makers in the selection of projects) or a direct influence (e.g. members of the project team). An intuitive opinion about a significant influence of project stakeholders on the project's course encouraged the authors to undertake a research in this area. The article illustrates the initial phases of the construction project life cycle in a perspective of the entities and, in particular, a role of different stakeholders in making decisions that affect a course of the project. An analysis of the structure of the construction project life cycle makes a substantial involvement of various subjects in the initial phases of the project, i.e. in an initial phase and during a creation of the structures. A key point is to underline the factors of decision-making by the participants of the construction process. It was indicated that the stakeholders have a different impact on the course of the project. In large projects, which have many stakeholders, their role in the implementation of the investment project can vary, depending on the life cycle of the project. They can have positive or negative impacts on achieving the project objectives. The paper presents the results of 100 surveys made among participants of the building processes, executors of the construction projects in the Kuyavian-Pomeranian region. The study was conducted in December 2016 and January 2017. It revealed what is the impact of individual stakeholders of the construction projects on the course of the project. A special attention was paid to a complex relationship between objectives of the project and stakeholders' goals. A great care to the smallest possible number of risks, which may arise from the different objectives of the project and its stakeholders' goals, should be focused on the augmentation of correlation of measures of the goals. It is crucial to identify the stakeholders, whereas it is a continuous and quite difficult process. However, when ignoring the impact of specific stakeholders on the implementation of the project, a duration of the project and its costs may increase. A main problem, in establishing a relationship of participants in the construction process, is to take into account the risk of all project stakeholders.

1. Introduction

Throughout the construction process there are relations between the process participants which affect the entire process. Project stakeholders are persons, or a group of people, or an organization, with a share in construction process execution.



Construction process is difficult and requires many different skills. It is a process which is staggered and which calls for an engagement of considerable funds. Throughout the process a variety of works must be performed; planning, designing, logistics and engagement of people responsible for the performance of the investment. Each person who is an immediate process participant must have applicable knowledge, occupational background, experience and, frequently, adequate professional licences. The persons managing the construction process must have additional skills which, combined with planning, schedule development, organizing and coordinating actions of other people. To perform those actions, the knowledge of specialist procedures, or IT tools, etc., is required.

Stakeholders demonstrate different levels of responsibility and power. Their role in investment project execution can be changing, depending on the project life cycle. Stakeholders can have both a positive and a negative effect on project goals. Interestingly, identifying stakeholders is of key importance here as the process is continuous and quite complex. It is critical. Ignoring the effect of specific stakeholders on project execution, it can prolong the project execution time and increase the costs.

As for construction company relations management, one should note especially the entities responsible for project risk management. The issues can be critical points of communication among project stakeholders. A large construction enterprise, executing an investment, must pay attention to cooperation between people both in terms of project management and the level of immediate contractors. The risk must be also considered in terms of personal risk since the project requires hiring people with various qualifications. A growing problem of a lack of employee qualifications is essential, which has a direct effect on the revenues generated by construction companies [1].

2. Life cycle of construction project

The construction process can be basically divided into three stages, involving the execution of the following actions [2]:

- investment preparation for execution,
- construction works performance,
- commissioning of the construction facility.

All the stages are interlinked. The success of the first stage determines an adequacy of the course of the next stage. The construction process participants' obligations vary across investment stages.

The project management process usually covers successive phases, namely [3]:

- I. *Project concept phase*: initial identification of problems related to project execution, taking a decision about launching the project, appointing the project manager.
- II. *Preparation phase I – prior to contract – planning the course of the project*: start of the project course planning, appointment of the basic core of the team: project executors planning the actions indispensable to satisfy the requirements and negotiating the contract; the phase ends up with the customer signing the contract.
- III. *Preparation phase II – post-contract-signing – organizing actions in the project*: the project manager together with the team prepare project plan details and develop a thorough and integrated basic project plan.
- IV. *Execution phase – implementation – of project tasks supervised by project manager*: the team executes the project program compliant with the basic plan.
- V. *Closing phase – project control and review*: the project manager closes the project internally and with the customer; collecting the entire documentation and handing over respective items to be taken care of by applicable individuals; a review of the entire project by the project manager and formulating conclusions – experience for the next projects.

3. Stakeholders of construction project

Executing the construction investments, one can differentiate between stakeholders who affect the investment indirectly (e.g. the project selection decision-makers) or directly (e.g. project team members). It should also be considered that project stakeholders interact with one another [1].

Of the construction investment project stakeholders, a special role is played by construction process participants. Each performs specific tasks. The function of controlling the adequacy of the course of the entire process and the adequate performance of responsibilities, mostly by the process participants, is held by construction supervision bodies. Each physical person representing respective institutional process participants should be adequately qualified. The qualifications should be related to having the applicable licences for performing independent technical functions in construction engineering [4].

One should also consider the relations among specific construction process participants. Each participant must perform their tasks, however, some of them, more or less considerably, depend on the execution by another participant; e.g. relations between the constructor and designer. The relations between contractors and designers are especially noteworthy [5]. They also depend on the project execution formula. In “design” and then “build” system a cooperation between the contractor and the designer starts at the construction process execution stage, once the bidder selection is made and the investor signs the construction works contract with the contractor. However, in “design and build” system a cooperation between the contractor and the designer starts from the very beginning (frequently already at the stage of the invitation-to-tender procedure). The relation is also affected by the attitude of the investor who takes the final investment decisions. Frequently the investor not only settles disputes between the contractor and the designer but also postpones the occurrence of any potential problems.

Figure 1 presents the investment process participants engagement level depending on the process stage.

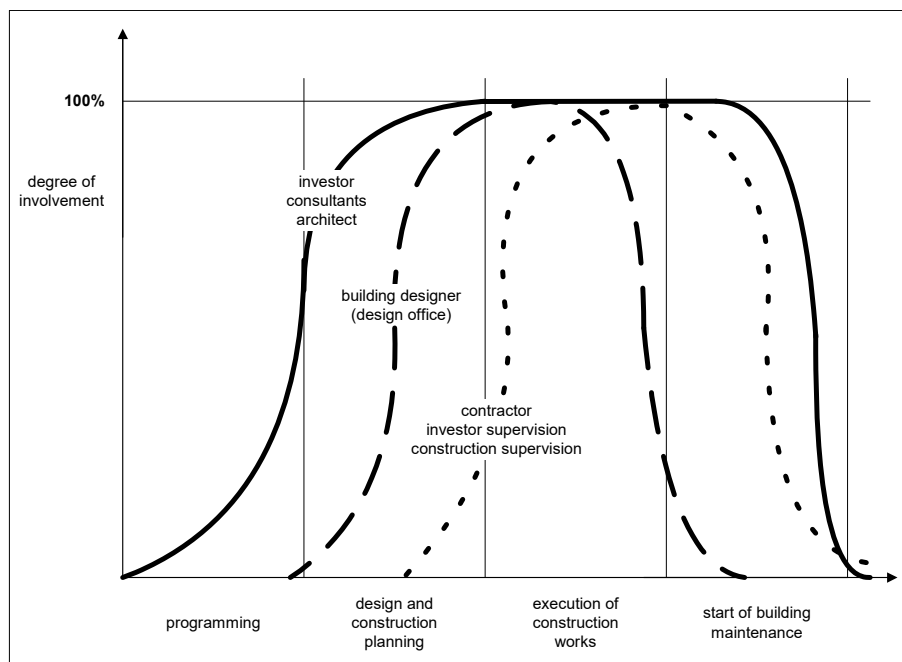


Figure 1. Investment process involvement level, depending on its stage (source: [6])

As seen in Fig. 1, the investor operates at all the construction project execution stages, whereas the designer joins the investment execution at the end of the programming stage, and ends at the stage of the beginning of the facility's use.

The contractor participates in the investment process from the middle of the designing stage, through the investment process execution stage, until the beginning of the facility's use [6].

Investor is an important stakeholder of the construction investment project. The construction investment project life cycle, considered from the investor's perspective, covers a wide range: from the idea of erecting a structure, through the programming phase, planning, organizing all the construction processes and their execution, to the phase of use or liquidation of the facility. The perspective focuses on the structure, as a product of construction activity [7].

With large investment projects, with many participants and stakeholders, changing throughout the life cycle, a special attention must be paid to a complex pattern of relations between the project goals and its participants. Acuteness to the possibly lowest number of threats which can be posed by various goals of the project and the company, focusing on increasing the coefficient of correlation between the measures of those goals. A construction company can count on a good opinion only when it is able to succeed thanks to timely and budget-meeting investments. A construction investment project success will be affected by adequate relations between the goals of business processes and technological processes of the project; namely the scope (together with quality requirements), time and costs, reflected in investment financing liquidity [1].

4. Research results

A study of the role of different project stakeholders was carried out with questionnaires provided to 100 construction process participants, contractors in the Kuyavian-Pomeranian region [8]. The study was performed in December 2016 and January 2017. The results are shown in figure 2. The respondents' opinions demonstrate that it is the user/customer who has the biggest effect on the adequacy and timely investment execution. That response was selected by 29% of the respondents, 25% of the participants claimed that, to a great extent, it depends on the contractor. 13% of the participants believed that the site manager is a decision-maker in that matter. 9% of the respondents selected the response: employee and 8% declared it is the Project Manager, while 7% of the respondents was of the opinion that the adequacy and timely execution are affected by decisions made by the construction supervision authority. 6% of the respondents selected the response: other; all the respondents here entered the word: investor. 2% of the respondents answered: designer and business partners.

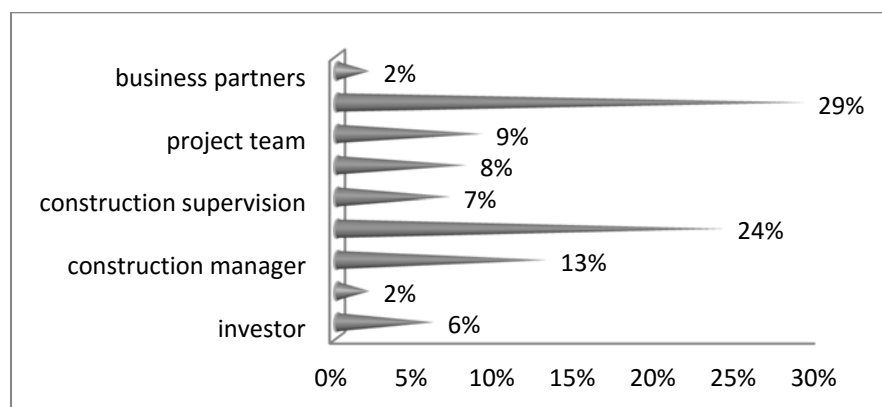


Figure 2. Person with the greatest effect on the adequate construction project execution course (source: [8])

The respondents indicated the intensity of engagement of respective stakeholders at successive construction investment project execution phases.

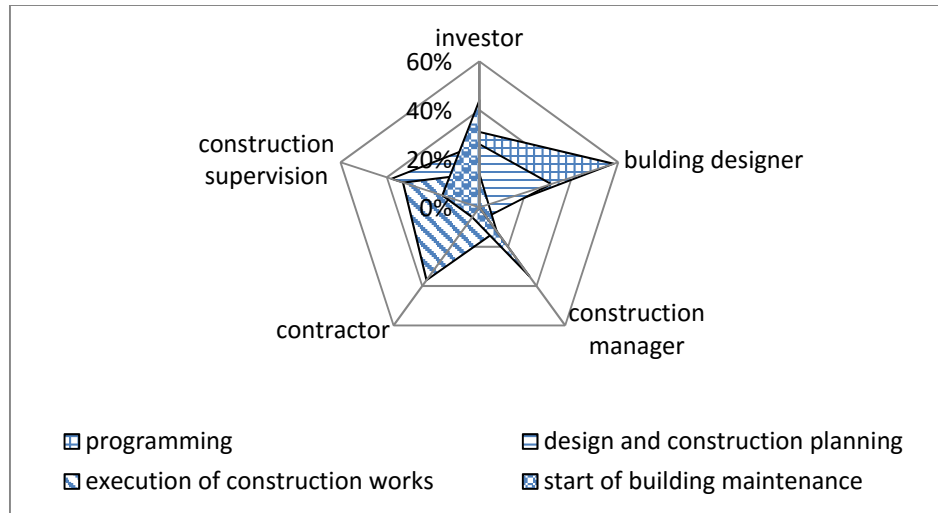


Figure 3. Investment process participants' engagement level, depending on the process stage, [8]

Drawing on the data provided in figure 3, it is the designer who has the greatest effect on investment at its programming phase. Such response was marked by 58% of the respondents. However, 31% of the respondents claimed that the investor enjoys a greater decision-making capacity. 6% of the respondents believed that the construction supervision authority has the greatest effect at that stage. Only 3% of the respondents claimed that the investment manager is the key decision maker in terms of investment execution. The lowest number of the respondents marked the response: contractor.

Data provided in figure 3 shows that the construction supervision authority is an entity which, according to the respondents, has the greatest effect on investments at its designing stage and permits and arrangements. Such response was declared by 38% of the respondents. Then 31% of the respondents claimed that it is the designer who is considered to bear most responsibility at that stage. Only 26% of the respondents was of the opinion that the investor should be most important. 5% selected the answer: investment manager. No respondent marked the response: contractor.

Then the respondents pointed to the stakeholder as the one with the greatest effect throughout the investment execution. Figure 13 demonstrates that most respondents declared the response: contractor; 37%, followed by 33% of the respondents who claimed that it is the construction supervision authority who has an essential responsibility at the construction execution stage. 14% selected the answer: investor, while a little fewer, 12% of the respondents marked the answer: investment manager. The lowest number of the respondents, namely 4%, appreciated the role of designer at that stage.

The next stage in the survey was to get to know the opinion on the person who, after the investment stages, still executes "steps" to acquire the structure use permit. Figure 3 provides a breakdown of the respondents' answers, showing that investor has the greatest effect on further actions related to investment right after it is completed, which was the response of 44% of the respondents. Then 35% claimed that the site manager is also considered to be a decision-maker when seeking a structure use permit. Only 16% of the respondents marked the answer: construction supervision authority. Only 5% claimed, however, that the key person is the contractor. No respondent selected the designer.

The next question addressed to the respondents concerned the factors affecting the relations among the investment project stakeholders. Most respondents pointed to experience; 29%, whereas slightly fewer, 27%, claimed that the remuneration can also determine the contacts between the construction process participants. The position held was pointed to by 16% of the respondents, whereas 14% claimed that all those relations depend exclusively on the corporate culture of the organization. Besides, 9% of the respondents believed that the position-related risk can also affect the quality of those contacts. The lowest number of the respondents, namely 5%, marked the response: other, including: contacts with investor, propriety, quality of the services rendered, opinions of other persons not directly participating in the construction process, education background.

According to the respondents, the investor's decisions have the greatest effect on construction investment execution; such response was declared by 33%. Then 26% of the respondents claimed that developing the right design is also very important. 17% of the respondents were of the opinion that all the key aspects of the investment success are defined in the construction law and it is the key construction investment determinant. Slightly fewer, 15% of the respondents, marked the answer: contractor's decisions. The lowest number of respondents, namely 9%, selected the response: other, including the adequate contractor, spare funds, good contractor with employees, good contacts between the investor and the contractor.

5. Conclusions

The relations of stakeholders are very important and significant at each project execution stage. They have an enormous effect on the adequacy, timely manner of execution and the quality of investment projects. Acuteness to such relations should be a key project risk management element. The most important task in terms of developing the construction process participants' relations is factoring in the risk of all the project stakeholders.

The key role in the construction investment project is played by investor. The construction process investor refers to institutions or physical persons under the name of which or who a given investment is executed. Investor also bears legal liability for the investment. Such person is also responsible for ensuring the financial inputs indispensable for a harmonious course of the entire process. Most often upon the construction process completion the investor takes over the use of the facility himself.

Investor's representative who executes the tasks he has been commissioned with is the investor's supervision inspector. As for bigger projects, such decision is indispensable. The body which issues a building permit also establishes (or does not establish) an obligation of appointing a supervision inspector of a specific specialization. The construction supervision inspector enjoys very extensive powers of controlling the investment execution course. He is responsible for a compliance of the works with the construction design and building permit. He bears responsibility for the structure meeting all the engineering practise norms and for the quality of timely execution of the construction process.

The designer is also one of the key persons performing his tasks during the construction process. He develops the construction design for a given structure in a way which was reserved in pre-design documents and compliant with the arrangements determined in the decision on land development and management conditions and in the environmental constrains of the construction project. Developing the construction design, the designer must respect the applicable regulations, norms and technical know-how.

An immediate representative of the contractor on site is the site manager, responsible for running the construction works compliant with the construction law. The site manager must be appointed during the execution of almost each construction project. He is licensed to comment on the guidelines

provided in the logbook. He is also entitled to apply to the investor for changes in design solutions to facilitate the construction process or to enhance the safety of works.

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