

RISK MANAGEMENT ISSUES AND PROBLEMS OF PROJECTS IMPLEMENTED BY COMPANIES AND CO-FINANCED BY EUROPEAN UNION FUNDS IN LATVIA

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The aim of the research is to study the correlations of the risk degree of the projects co-financed by the European Union (EU) funds and implemented by companies in Latvia with the amount of non-obtained project co-financing during their implementation.

Findings: The research shows that in all phases of the project cycle, starting with planning and finishing with implementation a great role in achieving of project aims is paid by a qualitative risk management process that allows identify early and prevent different risks of project implementation.

Although, to obtain project co-financing of the EU, the risk management process is stated as obligatory requirement already in the project financing phase, the practice shows that not always entrepreneurs have sufficient capacity to carry out a qualitative risk management process.

Research methodology: Research quantitative and qualitative methods of data analysis have been applied to carry out the research. To summarize the project risk management experience in the world and to analyse the results of the previous research the monographically descriptive and logically constructive method has been used. To assess the risks of the projects co-financed by the EU and to analyse their correlations with other indices that characterize projects the primary data obtained with the permission of the system holder from the information system of the European Structure and Cohesion funds of the Ministry of Finances of the Republic of Latvia have been used in the research. The obtained data have been analysed applying the sociological research data procession program – Statistical Package for the Social Science, using both descriptive and analytical data procession methods, including frequency measurements, crosstabs measurements and nonparametric statistic Kolmogorov - Smirnov test.

Conclusions: The risk management process in the projects mostly takes place only in the project planning phases when it is stated as the obligatory requirement to get co-financing. The research shows that the obligatory requirement compliance quality and obtaining of co-financing depend on the risk management process quality during the project implementation. It allows conclude that it is necessary to research additionally and look for deeper regularities between the risk management process organisation and the ability to run projects qualitatively in companies.

Keywords: *project risks management, projects management, EU funds, business organization co – financing, entrepreneurship development*

Introduction

Since Latvia joined the European Union (EU) in 2004 business organisations have significant financial resources available for entrepreneurship development financed by the EU funds. Companies with their ideas can apply for two activity programmes of the EU fund 2007-2013 planning period – *Human Resources and Employment* and *Entrepreneurship and Innovations*. In the activity programme *Human Resources and Employment*, financed by the European Social Fund, entrepreneurs can receive co-financing for training of employees, implementation of export promoting activities, thus increasing company creativity and competitiveness of human resources point of view. But in the activity programme *Entrepreneurship and Innovations*, financed by the European Regional Development Fund, the projects are supported which can both increase the effectiveness of production processes by purchasing equipment and carry out research and new innovation activities (www.esfondi.lv, 2012).

The above mentioned ways of support for company entrepreneurship give a possibility to develop and enhance

their competitiveness which is especially important during the economic crisis the Latvian economy is recovering now.

To be able to successfully implement these EU fund co-financed projects entrepreneurs have to fulfil all administrative requirements of the EU funds stated not only by the EU legal framework – directives and guidelines, but also the national legislation on the EU fund administration and project implementation. Otherwise, the supervisor institutions of the projects when conducting project documentation inspection state non-compliances and improper expenses are taken that from the point of view of entrepreneurs are losses for the company that it has to cover using own finances. To minimize the risk for the companies- implementers to allow non-compliances to the stated requirements during the project implementation and thus lose the co-financing of the EU funds project risk management is stated as an obligatory requirement when implementing the EU co-financed projects in Latvia. Entrepreneurs already in the project preparation phase have to identify project risks. It is necessary to state the possibility

of setting in a range of various risks – strategic, financial, etc. and their effect on project aim achievement. Besides the risk prevention plan has to be developed. During the implementation of the project the receiver of the financing has to manage the risks. Project risk management on the level of the EU fund programmes is made by the institutions involved in the EU fund administration. The Ministry of Finances which is the EU fund managing authority has developed the methodology of stating project risk degree (Guidelines on Making Financial Corrections in Projects Financed from the European Union Funds, 2010)

According to this methodology the EU fund managing authorities divide projects into three categories – low, medium and high risk degree projects.

The following factors to state risk degree have been used:

- project implementation length,
- type of financing receiver,
- total amount of project financing,
- evaluation of project activities.

In the framework of the EU fund project administration in the projects having high risk evaluation the managing authorities pay greater attention to project implementation adequacy requirements. However, despite the above mentioned, on the programme level in the implemented projects in this EU fund planning period (2007-2013) already inadequate expenses of 7.7 million lats which are direct entrepreneurs co-financing losses have been stated (Informative report on European Union Structural and Cohesion Funds, 2012). It shows that risk management process is insufficiently qualitative and should be improved.

To research the possible risk factors of the EU fund co-financed projects, as well as identify whether project risk level evaluation is adequate, taking the documentation of the implemented projects as a basis it will be analysed in what projects there are the most often non-compliances and whether there are connections between different project characterizing indices and the existence of inadequate expenses and their amount in projects.

The aim of the research is to study the correlations of the risk degree of the projects co-financed by the European Union funds and implemented by companies in Latvia with the amount of non-obtained project co-financing during their implementation.

Research methodology: Research quantitative and qualitative methods of data analysis have been applied to carry out the research. To summarize the project risk management experience in the world and to analyse the results of the previous research the monographically descriptive and logically constructive method has been used. To assess the risks of the projects co-financed by the EU and to analyse their correlations with other indices that characterize projects the primary data obtained with the permission of the system holder from the information system of the European Structure and Cohesion funds of the Ministry of Finances of the Republic of Latvia have been used in the research. The data about 1733 projects which are implemented in the 2007-2013 EU fund planning period have been obtained. The research involved projects implemented by business organisations which have been finished or are being implemented right now. The research included the period from 2007 up to 2011.

The primary data characterizing projects included the information about:

- project length in months,
- project implementation region,
- risk evaluation level,
- project implementation field (according to NACE classification),
- financing receiver's type of entrepreneurship,
- project total financing amount,
- amount of inadequate expenses, if they are during a project implementation.

The primary data characterizing projects were grouped in case it is necessary, dividing them in groups for data statistical procession. The following data groups were made:

- projects according to implementation length in months were divided into three groups:
 - the first group included the projects which implementation does not exceed six months;
 - the second group – the project implementation length does not exceed twelve months;
 - the third group – the project implementation length exceeds twelve months.
- projects according to implementation field were divided into five groups:
 - the first group included the projects which are implemented in the fields of agriculture and fish hatchery,
 - the second group included the projects which are implemented in different fields of industry, except food industry,
 - the third group included the projects which are implemented in food industry,
 - in the fourth group – the projects which are implemented in service industries,
 - in the fifth group – the projects which are implemented in other fields of entrepreneurship.
- projects according to financing receiver's type of entrepreneurship were divided into five groups:
 - the first group included the projects which are implemented by stock companies,
 - the second group included the projects which are implemented by individual businessman,
 - the third group – by cooperative companies,
 - the fourth group – by state business companies,
 - the fifth group – by limited liability companies.
- projects according to non-compliance statement were divided into two groups:
 - the first group included the projects with non-compliances;
 - the second group included the projects without non-compliances.

The obtained data have been analysed applying the sociological research data procession program – Statistical Package for the Social Science, using both descriptive and analytical data procession methods, including frequency measurements, crosstabs measurements and nonparametric statistic Kolmagorov – Smirnov test. test.

Key results of research: conclusions allow think that the EU fund institution project risk analysis methodology that as risk evaluating indicators uses risk implementation length, project total financing amount, etc. project characterizing indices

analysed in the research, cannot evaluate all possible aspects of risk rising. It can be concluded that the fact that inadequate expenses in project monitoring process are evenly stated in low, medium and high risk projects indicates the significance of each individual project management quality and the ability of definite head of project to evaluate project risks. The risk management process in the projects mostly takes place only in the project planning phases when it is stated as the obligatory requirement to get co-financing. The research shows that the obligatory requirement compliance quality and obtaining of co-financing depend on the risk management process quality during the project implementation. It allows conclude that it is necessary to research additionally and look for deeper regularities between the risk management process organisation and the ability to run projects qualitatively in companies. The research authors will continue project risk evaluation research and the main risk factor analysis of the EU fund co-financed projects implemented by business organisations in Latvia.

Literature survey

Many-year project management experience shows that there are no projects during which implementation there are no risks in their aim achievement (Rippenberger, 2000). Risks can be various and contradictory, and different criteria can be used to classify them or to group them, for example, finance risks, operational risks, etc. (Verdina, Verdina 2012). Risk management is now widely accepted as an important tool in the management of projects (Wood, Ellis 2003).

Risk management is one of the main management responsibility fields that have to be carried out by the executive management of an organisation and its employees (Verdina, Kašētienē, Liela, 2010). Project risk management is a process that envisages identification of project implementation risks, their analysis and planning of the events to minimize the risk setting and their effect on project aim achievement, as well as planning of unforeseen expenses for project implementation (Barton, Shenkir, Walker, 2002). Although many executive managers associate risk management only with particular processes, currently there is a transition to new understanding of risk management paradigm, i.e., all level managers and employees are involved in risk management. Effective risk management covers the whole organisation and is designed to identify potential events that may have influence in the future and to obtain qualitative information for decision-making and thus to improve quality of strategic decision (Pettere, Voronova, 2003). Systematic risk management is expecting the unexpected – it is a tool which helps control risks in construction projects. Its objective is to introduce a simple, practical method of identifying, assessing, monitoring and managing risk in an informed and structured way (Mills, 2001).

If uncertainty management practice in risk leading will run more smoothly, there will be less problems and benefits of the uncertainty management activities will be more easily achieved (Karlsen, 2011). The comprehensive risk management is structured, integrated and continuous process in all levels of organisation to identify, to assess and to report on opportunities and threats that influence achieving goals of a organisation, as well as to make a decision about them (Parker

D., Mobey A., 2004). Each organisation can individually choose methodology for applying risk management process. It is important that all persons and person groups involved in organisation process are completely aware of chosen methodology and risk management process covers all basic goals (Verdina, 2010). The risk management approach detailed here identifies the risks, checks for dependence amongst risks, and assesses the likelihood of occurrence of each risk by using linguistic variables through the medium of fuzzy sets (Wirba, Tah, Howes, 1996).

Risk grouping is an essential part of risk management in order to choose the most effective risk management methods (Pettere, Voronova, 2003). Equitable risk allocation is critical to the success in project management (Yongjian, ShouQing, Wang, Albert, Chan, 2011). Project risk management is specific because like a project itself it has limited time, however, classical risk management methods can be used in project risk management. Project risk management is a process that envisages identification of project implementation risks, their analysis and planning of the events to minimize the risk setting and their affect on project aim achievement, as well as planning of unforeseen expenses for project implementation (Barton, Shenkir, Walker, 2002). Project risk management process can be dividend into several phases. The first phase is risk evaluation phase when risk analysis is made and every risk setting probability, as well as risk effect on project aim achievement is evaluated. The second phase of risk management is the phase of working out the action plan in order to envisage preventive events to avoid project risks. The next project risk management phase can be called the phase of the action plan implementation during which not only the previously worked-out events for risk decreasing are carried out, but also, if necessary, the action plan for risk decrease is supplemented. Research literature recommends during the project implementation to envisage also extraordinary action plans if the action plan to avoid project risks turns out to be ineffective and some of the risks has set in during the project implementation and is a threat to successful project implementation (McGrew, Bilotta, 2000). Effective project risk management is a continuous process during the whole project implementation time (Barton, Shenkir, Walker, 2002). Effective risk management includes all organization and is developed to identify the possible events which can affect project implementation in future in order to receive more qualitative information to make decisions, thus improving the quality of strategic decisions, as well as to manage risks in accordance with the risk level allowable in the organization (Verdina, 2008). Today a new paradigm in risk management is described in research literature, and this paradigm, contrary to the old paradigm what stated that risk management is done irregularly and fragmentarily and allowed risk management process include only separate risks, states that risk management process is continuous and all employees of the organization are involved in it. Project risk management process according to the new paradigm includes risk management both in the project planning phase and in the implementation phase, and includes all risk groups which can influence successful implementation of the project. In the increasingly emotional and regulated business environment, effective risk management has become a basic necessity for every organisation, as has the ability to communicate

effectively with external stakeholders about risk (Loosemore, 2010).

Scientific publications about risk management in projects show that risk identification in the project planning phase is often not more than long list of risks what is not so clear for all involved a project. Project risk list can give a possibility to evaluate risks and state which of them should be set off first during a project implementation, but it does not provide qualitative risk management. In the process of risk management it is important to evaluate risks not only before starting a project, but also during its implementation (Hilton, 2003). The research on risk management shows that heads of projects do not have understanding about risk management and often risk existence in projects is ignored and risk management does not take place. Heads of projects rely on a possibility that risks will not set in in projects, however, for qualitative project management risk analysis is necessary and heads of projects should be able both to identify and to set off risks (Kutsch, 2008). Heads of a project should evaluate also the effectiveness of risk management process – the resources spent against benefits from setting off risks (Besner, Hobbs, 2012). In project management it is necessary to work out new risk management methods which are integrated in project management process (Dey, 2001). One of the ways of risk management in projects is the development of a project portfolio before starting the project implementation. Some research described in literature proves that risk assessment following project portfolio information is successful (Olsson, 2008). A good project description that includes project activities and the time schedule plays a great role in project risk management, as it is mentioned in literature that project risks are often not identified due to incomprehensible or incomplete project descriptions (Tah, Caraa, 2000). Most frequent risk sources in projects are technologies, mistakes made by staff and shortcomings in project knowledge management (Mobey, Parker, 2002).

However, practice shows that in Latvia in the risk management process of the projects co-financed by the EU still the old approach when risk identification and evaluation is done only when risks have already set in dominates, and risk evaluation in the project preparation phase is done mostly only formally. It should also be pointed out that heads of projects do not have understanding about the significance of risk management process.

Results

The research includes the analysis of 1733 project characterizing indices. Analysing the project data using the descriptive methods of statistics it can be seen that in general business organisations in Latvia in the EU fund 2007-2013 planning period implement project with the total sum – 1.2 million lats. The analysis shows that the average project total sum is 641 336 lats.

As it was mentioned in the introduction, the EU fund monitoring authorities state the risk degree for every project, then adequate project supervision is made. The research data show that most part of projects are evaluated as low risk (45.2%) and medium risk (46.2%) projects. Only 8.6% of 1733 projects implemented by entrepreneurs are evaluated as high risk projects.

Table 1. Entrepreneurs the EU co-financed project division according to total Project risk evaluation

Project risk class	Frequency	Percentage
Low risk project	784	45.2
Medium risk project	800	46.2
High risk project	149	8.6
Total	1733	100

However, despite this, mistakes are often made in projects during their implementation what causes losses to entrepreneurs – inadequate expenses are stated in projects (22.7% from all projects included in the research). The descriptive analysis shows that the average non-compliance in projects is 172 695 lats.

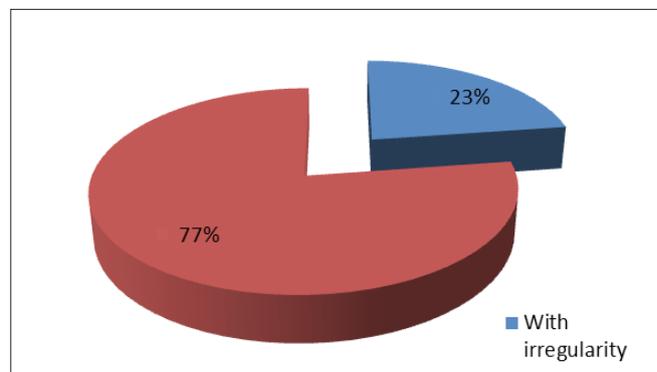


Figure 1. Share of EU co-financing project's following an irregularity

Analysing other project characterizing data included in the research it can be mentioned that according to project length projects can be divided into similarly equal groups:

- projects which are implemented for less than six months – 33.4%,
- 35.4% of projects are implemented up to twelve months,
- 31.2% of projects are implemented longer than twelve months.

Table 2. Entrepreneurs the EU co-financed project division according to project length

Project length	Frequency	Percentage
Less than six months	578	33.4
Up to twelve months	614	35.4
Longer than twelve months	541	31.2
Total	1733	100

Taking a look at project division according to the type of financing receiver's entrepreneurship it can be concluded that most often projects are implemented by companies which are limited liability companies – 85.2%, other types of entrepreneurship are not often represented among the EU fund co-financed project financing receivers.

Table 3. Entrepreneurs the EU co-financed project division according to the type of financing receiver's entrepreneurship

The type of financing receiver's entrepreneurship	Frequency	Percentage
Joint stock company	115	6.6
Sole trader	84	4.8
Cooperative enterprise	30	1.7
Local government/ state enterprise	27	1.6
Limited liability companies	1477	85.2
Total	1733	100

Projects divide more evenly in the research sample if they are analysed according to project implementation field (according to NACE classification). Most of projects are implemented in production industry – 48.3% of all projects, then 22.2%, implemented in service industries. Only some projects are implemented in agriculture and fish hatchery industry – 0.6% and food industry – 2.2%. 26.7% are implemented in other above not mentioned industries.

Table 4. Entrepreneurs the EU co-financed project division according to project implementation field

Project implementation field	Frequency	Percentage
Production industry	837	48.3
Service industries	385	22.2
Agriculture and fish hatchery industry	11	0.6
Food production industry	38	2.2
Other	462	26.7
Total	1733	100

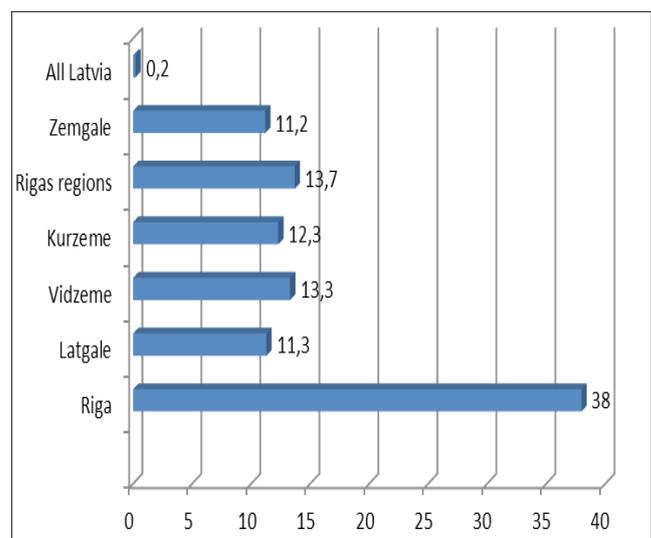
Project division according to Latvia regions is analysed as the last project characterising index, and it can be seen that project division is even among Latgale, Vidzeme, Kurzeme, Riga and Zemgale planning regions, where on average about 12% of projects are implemented in each region. However, the analysis of the research data shows that among regions Riga, the capital of Latvia, stands out in term of project number with 38% implemented projects of all projects included in the research.

To analyse the mutual division of project indices according to groups and that one how risk degree evaluation divides in these groups crosstabs measurements were made, including also Chi-Square Tests.

To evaluate whether risk degree evaluation is even between different project characterising groups two hypothesis were forwarded:

- H0 hypothesis – between project characterising groups (division according to project implementation length, financing receiver's type of entrepreneurship, entrepreneurship industry division and existence or non-existence of inadequate expenses in a project) risk degree evaluation is statistically even;
- H1 hypothesis – between project characterising groups (division according to project implementation length, financing receiver's type of entrepreneurship,

entrepreneurship industry division and existence or non-existence of inadequate expenses in a project) risk degree evaluation is not statistically even.

**Figure 1. Share of EU co-financing project's according Latvia regions**

Analysing the obtained results of data procession, it can be concluded that among all project characterizing groups of indices there is statistically even project risk degree division (Chi – Square Sig value is less than 0.05).

To evaluate whether inadequate expense stating in a project is evenly divided among different project characterizing groups of indices and whether non-compliances are not seen more often in some definite groups, for example, in the projects which are implemented longer or in the projects in some definite entrepreneurship industry, non-parametric statistics test – Kolmogorov – Smirnov Test was used.

Two hypothesis were forwarded before the analysis:

-H0 hypothesis – between project characterising groups (division according to project implementation length, financing receiver's type of entrepreneurship, entrepreneurship industry division and existence or non-existence of inadequate expenses in a project) non-compliance stating in projects is statistically even;

-H1 hypothesis– between project characterising groups (division according to project implementation length, financing receiver's type of entrepreneurship, entrepreneurship industry division and existence or non-existence of inadequate expenses in a project) non-compliance stating in projects is not statistically even.

Analysing the obtained results of data procession, it can be concluded that among all project characterizing groups of indices there are statistically even non-compliances (Kolmogorov – Smirnov test sig value less than 0.05).

Conclusions

Summed up the results of the analysis of the obtained research data it can be concluded that:

- Most part of the projects are evaluated as low risk and medium risk projects;
- Rise of inadequate expenses is stated in 22,7% of all projects included in the research;

- Projects implemented by business organisations are evenly dividend according to the length of project implementation;
- Most often projects are implemented by companies which are limited liability companies;
- Most percentage of projects are implemented in production sector;
- Most percentage of projects are implemented in Riga, the capital of Latvia, but in other regions of Latvia the number of the implemented projects is even;
- Among all project characterizing groups of indices project risk degree division is statistically even;
- In all project characterizing groups of indices non-compliances are stated statistically evenly.

The last two conclusions allow think that the EU fund institution project risk analysis methodology that as risk evaluating indicators uses risk implementation length, project total financing amount, etc. project characterizing indices analysed in the research, cannot evaluate all possible aspects of risk rising. It can be concluded that the fact that inadequate expenses in project monitoring process are evenly stated in low, medium and high risk projects indicates the significance of each individual project management quality and the ability of definite head of project to evaluate project risks. The risk management process in the projects mostly takes place only in the project planning phases when it is stated as the obligatory requirement to get co-financing. The research shows that the obligatory requirement compliance quality and obtaining of co-financing depend on the risk management process quality during the project implementation. It allows conclude that it is necessary to research additionally and look for deeper regularities between the risk management process organisation and the ability to run projects qualitatively in companies. The research authors will continue project risk evaluation research and the main risk factor analysis of the EU fund co-financed projects implemented by business organisations in Latvia.

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