

**ASSESSMENT OF THE RISK MANAGEMENT PROCESS AT THE SJSC  
"LATVIAN RAILWAY"**

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**Abstract.** Organisations in Latvia are increasingly employing project management methods to more efficiently introduce innovations and perform business processes. One of the latest and most important components of project management is project risk management.

The risk management process implemented by the Project Management Department of the SJSC "Latvian Railway" was analysed, the identified risks were assessed, and, finally, a risk management portfolio for the Project Management Department was developed in the paper. To achieve the aim, the following research tasks were set: 1) to examine the concepts of a project and its management and of a risk and its management; 2) to assess the risk assessment options; and 3) to identify and assess the risks regarding the Project Management Department of the state joint stock company "Latvian Railway" as well as to develop a general risk prevention and control plan.

**Key words:** project management, risk management.

**JEL code:** R49

**Introduction**

Project management is a complicated process in which the processing and exchange of information play essential roles. The ISO 10006 standard defines project management as the planning, organisation, supervision, control, and communication of all aspects of a project and the motivation of all the individuals engaged in the project to achieve the project's goals (International Standard ISO ..., 2003).

Kerzner defines project management as an art to create an illusion (to the management, customers, and themselves) that everything taking place in the project is a result of expected and carefully planned activities (Kerzner, 2009).

Just like in real life, in a project, too, it is important to know unfavourable events or risks that might hinder or disrupt the progress towards the established goals. It is important to understand which events and circumstances may be regarded as risks. Accordingly, the nature of risks has to be understood to be able to timely recognise and prevent them.

The risk management process implemented by the Project Management Department of the SJSC "Latvian Railway" was analysed, the identified risks were assessed in the paper, and, finally, the authors developed a risk management portfolio for the Project Management Department.

To achieve the aim, the following research tasks were set:

- to examine the concepts of a project and its management and of a risk and its management;
- to assess the risk assessment options;

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- to identify and assess the risks regarding the Project Management Department of the state joint stock company "Latvian Railway" and to develop a general risk prevention and control plan.

The following research methods were employed in the paper: the monographic method, analysis, a flowchart and quantitative and qualitative risk assessments.

As sources of information, the authors used research papers by foreign and national scientists, legal enactments, and the company's materials.

## **Results and discussion**

Risk management has become topical only in the 1960s with the emergence of a new profession – risk managers. Risk management as a tool in company management spread across the world only in the 1980s. In the beginning of the 21<sup>st</sup> century, a new risk management conception emerged – risk management became a continuous process in which all employees are engaged and which is managed by a special department (Pettere, Voronova, 2004).

The British Association for Project Management suggests that a risk is an uncertain event or condition **that, if it occurs, has a positive or negative effect on a project's objectives** (Chapman, Ward, 2003).

A risk has two key attributes:

- probability – a mathematical attribute that allows calculating the frequency of occurrence of an event if statistical data are available;
- size of loss – it is measured as a difference between the initial condition of an object before it started deteriorating and its loss.

The ISO 10006 standard assumes that a risk is an effect leading to uncertainty about reaching the established goals (International Standard ISO..., 2003). In this definition, uncertainty involves events (that may or may not occur) and unsafety that is caused by unclearness or the lack of information. It also involves both negative and positive effects on reaching the goals.

Risk management is a management process, the task of which is to:

- prevent the occurrence of a risk;
- reduce the probability of occurrence of the risk factor;
- in case the risk has occurred – to prevent or reduce the effect of the risk on the project and its results and management.

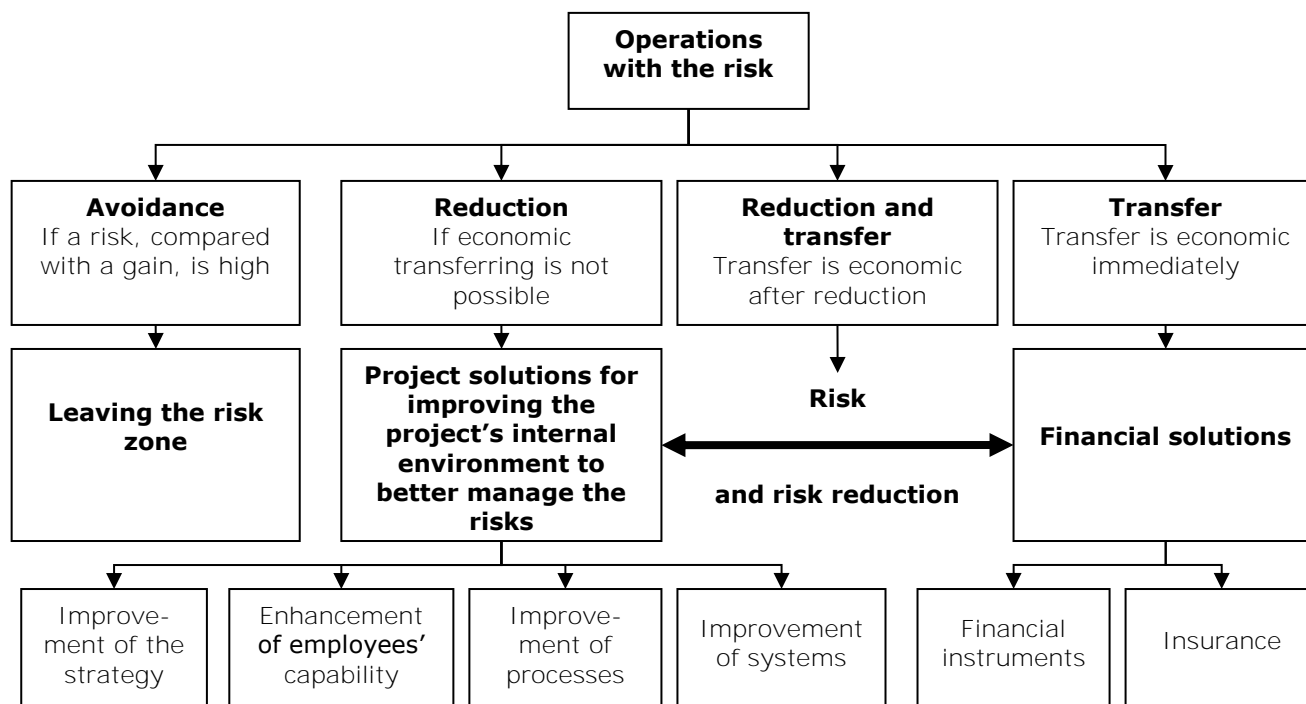
One of the attributes that evidences in favour of project risk management is that it has to be proactive. It means that one has to seek to identify all project risks and to decide on how to deal with risks before they occur.

Project risk management is necessary for every project. It is needed when starting a project and when **managing and completing it. If risks are not controlled, they will cause negative effects on the project's course or hinder the achievement of the project's goals. To be successfully able to control risks and prevent their occurrence, one has to be well aware of risk management guidelines.**

After reviewing the risk prevention methods available in various bibliographical sources, the authors selected, in their opinion, the most important methods and summarised them in an illustrative scheme (Figure 1).

The principle of its usefulness – the cost of application of the method may not exceed the potential loss – has to be taken into consideration before selecting a certain risk prevention method.

A risk is not a constant value; it is a variable. Accordingly, a register of risks has to be systematically reviewed and improved.



**Source: authors' construction**

**Fig. 1. Choice options for preventing risks**

Risk control is a process throughout the project period, in which risks are monitored and controlled through a multi-iterative process of identification, assessment, and processing of risks (International Standard ISO..., 2003). All impossible, expected as well as immanent risks have to be identified in this process. The risk control system is also affected by the organisation in which the particular project is implemented.

The state joint stock company "Latvian Railway" is one of the largest government-owned companies that provides services related with Latvia's railways.

The state joint stock company "Latvian Railway" is the leading company within the Latvian Railway Concern that consists of the SJSC "Latvian Railway" and six subsidiary companies.

The leading company – SJSC "Latvian Railway" – ensures the maintenance of railways, the management of train traffic, the operation of railway stations, the management of real estate, the lease of the rolling stock, the distribution and trade of electricity, and the provision of information technology and electronic communication services.

The SJSC "Latvian Railway" is one of the oldest rail transport companies in Latvia and it operates for more than 93 years. However, railways exist in the territory of Latvia for more than 150 years.

The company's strategic goals are to ensure: the capacity of its railway infrastructure meets the medium-term demand of up to 85 million tonnes of cargo a year (until 2015); a competitive cost level of

its railway infrastructure; the supply of railway infrastructure services meets the demand of carriers for these services.

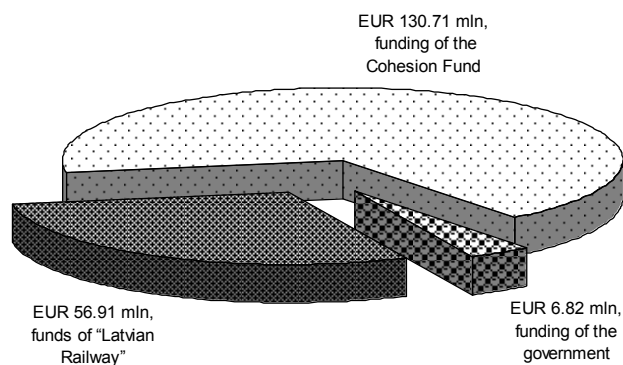
By achieving these goals, the company not only assists the national economy of Latvia, it also makes a considerable contribution to the development of the Baltic region, thus, other European countries benefit from it both economically and socially.

By performing its operations and tasks prudently and successfully, the company pays in taxes approximately LVL 80 million a year. Besides, in a long-term, the company provides jobs to approximately 12 thousand employees accounting for 1% of working age population of Latvia.

To ensure that infrastructure development projects are prepared and implemented according to the plan and to secure coordination between the company and the units of the Ministry of Transport during the identification of the projects, feasibility studies, the acquisition of funds, and the implementation of the projects, the company established the Project Management Department on 1 June 1997.

The Project Management Department has gained a long experience in implementing various projects. Projects co-financed by both the Cohesion Fund and other financial instruments are implemented, and a large number of projects are co-funded by the national government.

Figure 2 presents the distribution of sources of funding for the projects co-funded by the Cohesion Fund in the programming period 2007-2013.



**Source: authors' construction**

**Fig. 2. Sources of funding for the projects co-funded by the Cohesion Fund and implemented in the programming period of 2007 – 2013, mln EUR**

In total, LVL 91.5 million were allocated from the Cohesion Fund for projects in this programming period; thus, one can conclude that the SJSC "Latvian railway" has absorbed the funding provided by this Fund very well. For these projects, the national government allocated LVL 4.82 million, while a co-financing of the SJSC "Latvian Railway" amounted to LVL 39.84 million. As Figure 3 shows, the national government's funding is relatively small compared with the co-financing of the company and the funding of the Cohesion Fund. Accordingly, one can conclude that the allocation of funding may be influenced by various political decisions or the non-compliance of projects with the national strategic plans.

The Project Management Department of the SJSC "Latvian Railway" faces risks of various types – both external and internal ones. Since the Project Management Department is not able to affect external risks,

it focuses particularly on internal risks. Attention has to be paid to numerous external factors that can cause several internal risks, thus, negatively affecting the quality of work or the implementation of projects by the Project Management Department (Table 1).

Table 1

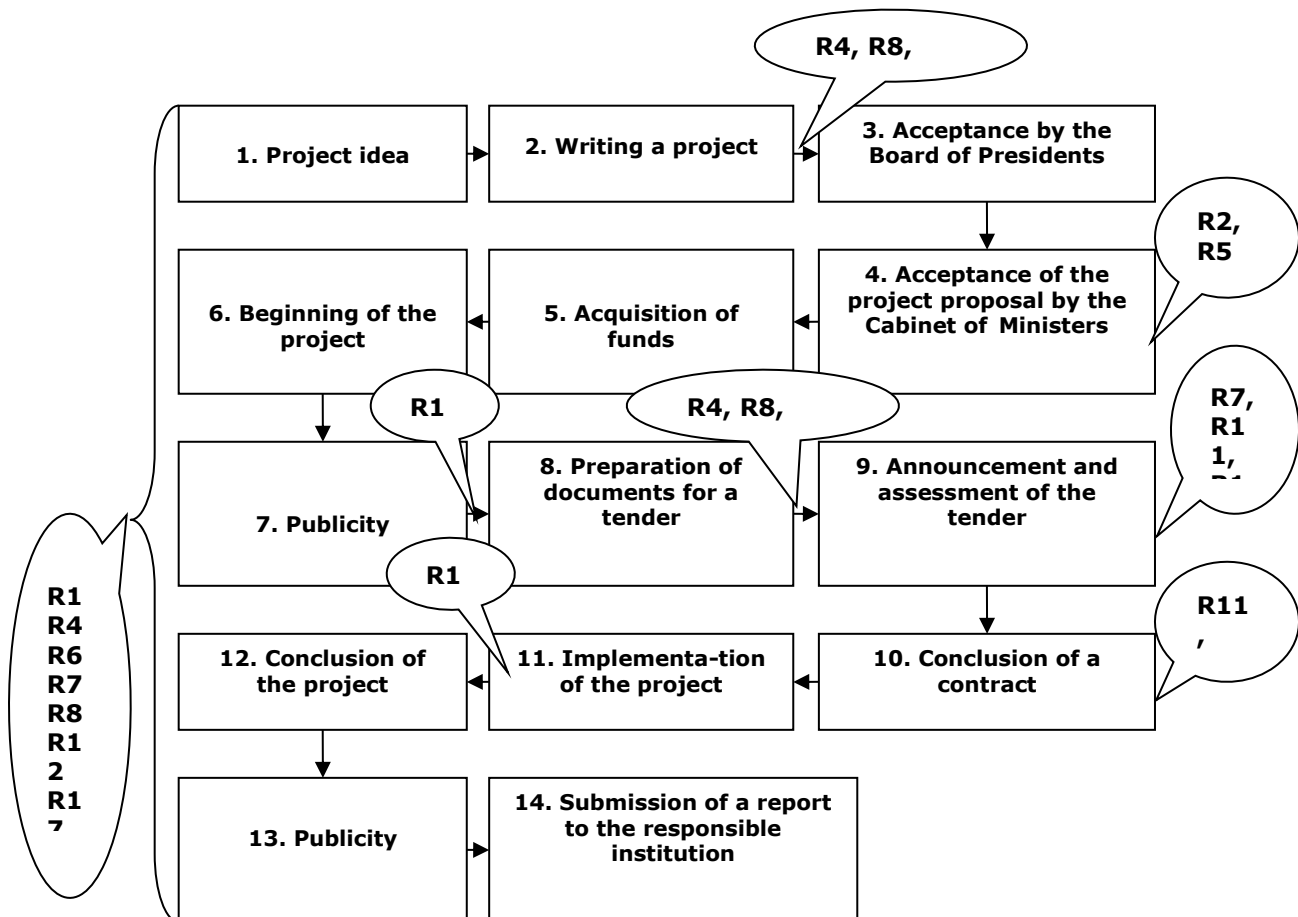
**Main risks regarding the Project Management Department**

<b>Type of risk</b>		<b>Cause of risk</b>
1	2	3
Poor quality of planning documents	R1	<ul style="list-style-type: none"> <li>➤ elaboration of planning documents is not sufficiently coordinated</li> <li>➤ succession of planning documents is not ensured</li> <li>➤ strategic goals are not achieved</li> <li>➤ planning documents are not transparent</li> <li>➤ planning documents are not associated with goal achievement indicators</li> </ul>
Poor optimisation of the organisational structure	R3	<ul style="list-style-type: none"> <li>➤ the organisational structure is not in line with strategic decisions</li> <li>➤ functions overlap or tasks are not performed</li> <li>➤ personnel resources are not optimally reallocated among processes</li> <li>➤ additional investment may be needed for the optimisation of functions</li> </ul>
Ineffectiveness of work planning	R4	<ul style="list-style-type: none"> <li>➤ <b>work planning is not associated with the institution's operational goals</b></li> <li>➤ no individual is made responsible for work execution</li> <li>➤ employees might be overburdened</li> <li>➤ employees engaged in work planning are not familiarised with the operational plans</li> </ul>
Making inadequate decisions	R5	<ul style="list-style-type: none"> <li>➤ information is insufficient for making decisions</li> <li>➤ no hierarchy of responsibility in decision-making</li> <li>➤ ineffective communication among government officials and representatives of political forces</li> <li>➤ biased information about the problem to be tackled</li> </ul>
Ineffective management of processes	R7	<ul style="list-style-type: none"> <li>➤ management of projects is unstructured and chaotic</li> <li>➤ detailed goals are not set</li> <li>➤ insufficient information exchange and cooperation</li> <li>➤ communication between the team managing a process and the rest of personnel and managers is not clearly defined</li> <li>➤ project implementation capacity is too small for the decisions made</li> <li>➤ interest conflicts may arise during the course of work</li> <li>➤ <b>the project's time schedule may be delayed</b></li> </ul>
Information exchange	R8	<ul style="list-style-type: none"> <li>➤ internal information is not timely and accurately selected and disseminated</li> <li>➤ insufficient systematisation of information and insufficient solutions to information exchange</li> <li>➤ emergence of unnecessary information</li> <li>➤ coordination of documents and decision-making is not sufficiently organised</li> <li>➤ language barrier</li> </ul>
Employee selection process	R9	<ul style="list-style-type: none"> <li>➤ too high requirements are set for candidates, compared with the specifics of the corresponding job position</li> <li>➤ limitation of varying requirements for attracting new employees</li> </ul>
Insufficiency of employees	R10	<ul style="list-style-type: none"> <li>➤ employees are overburdened in performing certain functions</li> <li>➤ insufficient personnel resources for timely and careful execution of functions</li> <li>➤ replacement of employees is problematic</li> <li>➤ lack of professionals of a certain field</li> </ul>
Poor knowledge of employees	R11	<ul style="list-style-type: none"> <li>➤ insufficient knowledge to fulfil occupational duties</li> <li>➤ lack of opportunities to develop professional skills</li> <li>➤ employees of a narrow specialisation are not sufficiently prepared</li> </ul>
Technical	R12	<ul style="list-style-type: none"> <li>➤ failure to follow occupational safety rules</li> <li>➤ information system faults due to unexpected circumstances</li> <li>➤ maintenance of several information systems containing similar data</li> <li>➤ imprudent purchases of new technologies</li> </ul>

Unsanctioned access	R13	<ul style="list-style-type: none"> <li>➤ the third party gains restricted access information or confidential information</li> <li>➤ important data are distorted</li> <li>➤ capacities of information systems are endangered</li> </ul>
Tender procedures	R15	<ul style="list-style-type: none"> <li>➤ tenders are not sufficiently optimised</li> <li>➤ all cost items regarding the procurement object have not been identified</li> <li>➤ needs are not examined in detail to specify the procurement object</li> <li>➤ the tender contract may exceed the allocated budget</li> <li>➤ <b>the tender's results may be contested</b></li> </ul>
Poor cooperation with suppliers	R16	<ul style="list-style-type: none"> <li>➤ employees of the institution are not sufficiently competent</li> <li>➤ <b>final services might not meet the institution's needs</b></li> <li>➤ suppliers do not fulfil their obligations</li> <li>➤ in public tenders, suppliers provide misleading information or use techniques of unfair competition</li> </ul>

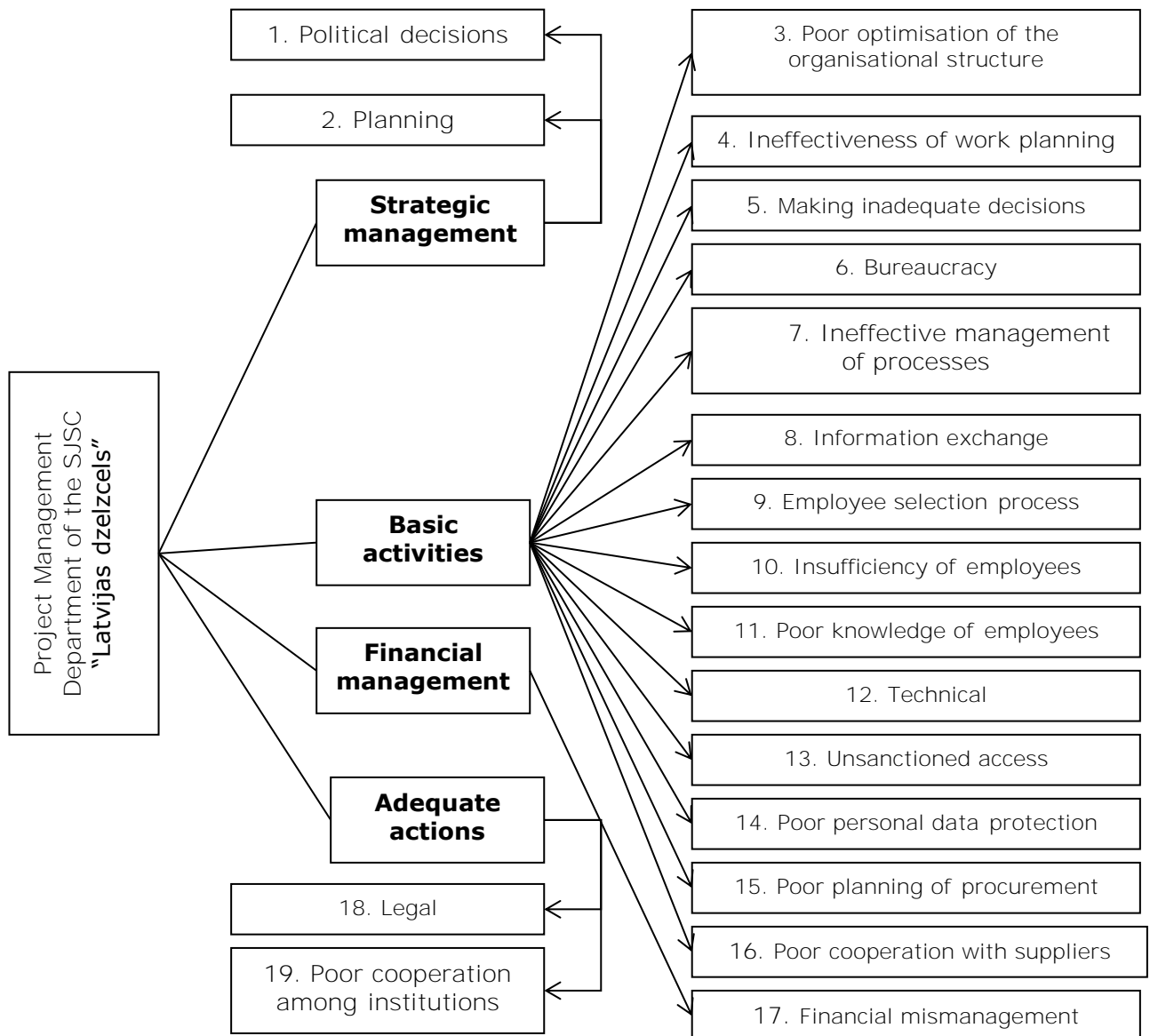
**Source: authors' construction**

Every project implemented by the Project Management Department is unique and different. Yet, the introduction and implementation of every project are based on a single process (Figure 3). An examination of each stage of this process allows us to determine easier which risk affects a particular stage. Therefore, being aware of what the risk affects, it is easier to select further methods for preventing these risks.



**Source: authors' construction**

Fig. 3. General project implementation flowchart



**Source: authors' construction**

Fig. 4. **Risks regarding the Project Management Department**

After analysing the project implementation flowchart, one can conclude that this process mainly involves the following:

- risk of ineffectiveness of work planning – employees are overburdened;
- risk of bureaucracy – documents are doubly retained – both in the system of the Document Department and in paper format – thus, impeding the implementation of necessary activities;
- risk of information exchange – internal information exchange problems, language barriers;
- risk of poor knowledge – employees have insufficient knowledge to fulfil their occupational duties;
- technical risk – information system faults, including system faults at the Document Department, obsolete technological resources.

After analysing, one can conclude that from the perspective of employees, the risks identified regarding the Project Management Department of the SJSC "Latvian Railway" consists of 4 low risks, 4 medium risks, 9 high risks, and 2 very high risks. The very high risks are the financial risk and the risk of availability of employees.

Therefore, one can suggest that the Project Management Department's employees assessed particularly the risk of sufficiency of employees as a very high risk, as they face everyday overburden and the lack of time, which affects the successful implementation of projects.

Attention has to be also paid to risks making a large effect – these are the risks of ineffectiveness of work planning, bureaucracy, information exchange, and poor tender planning and the legal risk. Although the probability of these risks is low, in case they occur, the consequences might be substantial.

Table 2

**Preventive activities for and control of some main risks regarding the Project Management Department**

<b>Type of risk</b>	<b>Activities to be performed</b>	<b>Responsible for control</b>
1	2	3
Poor quality of planning documents	<ul style="list-style-type: none"> <li>• Succession of planning documents has to be ensured</li> <li>• Setting clear strategic goals</li> <li>• Engagement in producing national strategic documents as well</li> </ul>	Executive Board Board of Presidents Heads of departments and offices
Poor optimisation of the organisational structure	<ul style="list-style-type: none"> <li>• Each organisational unit has to be assigned its own field of operation</li> <li>• Cooperation among various organisational units has to be promoted</li> </ul>	President Board of Presidents Heads of departments and offices
Ineffectiveness of work planning	<ul style="list-style-type: none"> <li>• A responsible individual has to be appointed for the particular work, so that no chaos emerges when executing the work</li> <li>• All individuals engaged have to be familiarised with operational plans, if any</li> </ul>	Board of Presidents Heads of departments and offices Project managers
Ineffective management of processes	<ul style="list-style-type: none"> <li>• Communication with the rest of personnel engaged has to be improved in the management of a process</li> <li>• Capacity of implementation of projects has to be increased</li> <li>• Information exchange has to be improved within the department and with other organisational units</li> </ul>	Head of the Project Management Department Heads of departments and offices
Insufficiency of employees	<ul style="list-style-type: none"> <li>• The number of employees has to be increased by adding project assistants</li> <li>• For specific projects, professionals of corresponding area have to be additionally hired</li> <li>• Detailed work duties have to be defined</li> </ul>	Head of the Project Management Department Project managers
Technical	<ul style="list-style-type: none"> <li>• Periodic informative activities regarding occupational safety have to be held</li> <li>• Since being on a railway requires special attention, inspections have to be carried out to make sure employees observe safety rules when staying in the territory of railways</li> <li>• Occupational safety rules have to be available in the common system</li> <li>• Performance of the electronic document management system has to be improved</li> </ul>	Safety Office Head of the Project Management Department Information Technology and Telecommunication Office Information Processing Centre

Source: authors' construction



After examining the risk prevention and control process at the Project Management Department of the SJSC "Latvian Railway", one can conclude that the majority of risks are internal and these risks have to be controlled by the head of the Project Management Department and her subordinates who are closely associated with particular projects. Of course, the head of the Project Management Department has to cooperate closely with the company's Executive Board and the Board of Presidents, especially to control the risks of financial mismanagement, poor optimisation of the organisational structure, ineffectiveness of work planning, and other risks.

Every project implemented should have its own risk management procedure, which would be integrated in the general risk management strategy, thus, reducing the effects of the Project Management Department's internal risks and the overall performance of this Department. The risk monitoring system, as a whole, has to be managed by the project manager, ensuring that information is summarised and accumulated on all the potential project risks.

Since the risk management process performed by the company's Project Management Department is a set of complicated components, it is necessary to develop a risk management strategy for the Department which would be reviewed at least twice a year, enhanced, and supplemented, if necessary. The strategic risk management plan is one of the activities that enables the company to timely react to the negative consequences of a potential risk if it occurs; it contains a lot of information about each risk and its potential effects as well as instructions for individuals on how to react in any particular situation.

## **Conclusions**

1. To ensure that a risk is prevented, numerous activities, which cannot take place themselves – they have to be managed – have to be performed in companies.
2. Every project needs risk management as a subsystem of project management, thereby, a risk management system has to be developed and introduced in projects.
3. Risk prevention methods are applied to the already identified risks based on their assessment; yet, new risks might emerge during the project period. For this reason, the management of risks has to be performed systematically and continuously to carry out risk prevention activities regardless of the moment of risk emergence.
4. During the project implementation process, the Project Management Department may face the following risks:
  - risk of ineffectiveness of work planning – employees are overburdened;
  - risk of bureaucracy – documents are doubly retained – both in the system of the Document Department and in paper format – thus, impeding the implementation of necessary activities;
  - risk of information exchange – internal information exchange problems, language barriers;
  - risk of poor knowledge – employees have insufficient knowledge to fulfil their occupational duties;
  - technical risk – information system faults, including system faults at the Document Department, obsolete technological resources;
  - risk of poor cooperation – institutions do not cooperate effectively;
  - risk of financial mismanagement.

5. Since the majority of risks identified at the Project Management Department are internal risks, they have to be controlled by this Department's head and her subordinates.

### **Bibliography**

1. Chapman, C., Ward, S. (2003). Project Risk Management. Processes, Techniques and Insights: Second Edition. Chicester. John Wiley & Sons, Ltd, p. 389.
2. Kerzner, H. (2009). Project Management Case Studies. John Wiley & Sons, p. 448.
3. Pettere, G., Voronova, I. (2004). Risks in Entrepreneurship and their Management (in Latvian). Riga: Rasa ABC, p. 175.
4. Quality Management Systems – Guidelines for Quality Management in Projects (2003) International Standard ISO 10006:2003 (E) Geneva: ISO copyright Office, p. 34.