Public Sector Project Management Application and Sustainability Problems, Case of EU Member State - Latvia

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Abstract

The application of Project Management (PM) tools and techniques in public sector is gradually becoming an important issue in developing economies, especially in a new development country like Latvia where projects of different size and structures are undertaken. The paper examined the application of the project management practice in public sector in Latvia. Public sector project management in Latvia become popular in recent years as there is different type of public funding sources available. The paper describes the public sector project management practice in Latvia. Study shows the evaluation of impact factors in public sector projects of efficiency and sustainability. Research period covers the time period from January 2013 – July 2014.

Key words: *project management, project planning and initialization, efficiency, public administration*

JEL codes: *O220, H430, H540*

1. INTRODUCTION

Government and organizations usually embark on different projects with the aim of creating new service or improving efficiency of the existing ones. All these projects require appropriate skills and techniques that go beyond technical expertise only, but encompass good and sound skills to manage limited budgets, while at the same time dealing with people and organizational issues.

The **object** of the research is public sector project management.

The **aim** of the article is to evaluate project planning and initialization practice in public sector in Latvia as well as project management process efficiency.

The **objectives** of the article are as follows:

- assess the public sector project initialization practice and identify the problem areas of public project management in Latvia;
- analyse theoretical background of project management;
- provide proposals for public sector project management improvement.

The research **methods** used in the article include the project empirical data analysis and literature review as well as survey based on questionnaire.

Study shows that public sector project maturity level is low and should be improved. Research period covers the time period from January 2013 – February 2014.

1.1. Project concept

The term project is described in different ways in the research literature. This is illustrated below:

- Project is defined as a temporary endeavour undertaken to create a unique product or service, Temporary means that the project has a definite ending point, and unique means that the product or service differs in some distinguishing way from all similar products or services [1].

- Project has been termed as a human endeavour and may legitimately be regarded by its stakeholders as a project when it encompasses a unique scope of work that is constrained by cost and time, the purpose of which is to create or modify a product or service so as to achieve beneficial change defined by quantitative and qualitative objectives [18].

- Project is described as a "value creation undertaking based on specifics, which is completed in a given or agreed timeframe and under constraints, including resources and external circumstances" [48].

- A project is a regarded as a business case that indicates the benefits and risks of the venture, demonstrating a unique set of deliverables, with a finite life-span, by using identified resources with identified responsibilities [16]. The common themes in these definitions is that projects are unique in their output, having a definite starting and ending point, are temporary in nature and are carried out to manifest the organisation's strategic objectives.

These temporary structures are playing a vital role in today's modern organisations and a growing interest is recorded in the significance of these temporary structures in organisations.

Project management is defined in different ways in the research literature. Some of these definitions are as follows:

- Project Management is describe as a collection of tools and techniques to direct the use of diverse resource toward the accomplishment of a unique, complex, one time task within time, cost and quality constraint. Each task requires a particular mix of these tools and techniques structured to fit the task environment and life cycle (from conception to completion) of the task [6].

- Project Management is express as planning, organising, monitoring and controlling of all the aspects of a project and the motivation of all the involved stakeholders to achieve the project objectives safely and within agreed time, cost and performance criteria.

- Project management is term as an application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project Management is accomplished through the application and integration of the project management processes of initiation, planning, executing, monitoring and controlling and closing [1].

- Project management is also articulated as a professional's capability to deliver, with due diligence, a project product that fulfils a given mission, by organising a dedicated project team, effectively combining the most appropriate technical and managerial methods and techniques and devising the most efficient and effective breakdown and implementation routes [48].

Turner [65] suggested that project management could be described as the art and science of converting vision into reality whereas Atkinson [6] argues that perhaps project management is simply an evolving phenomenon, which will remain vague enough to be non-definable. This flexibility can be regarded as its strength. In its early days the project management was solely concerned with the implementation of single project in that era [38]. But, today many organizations have embraced the concept of project management. This is mainly because of its systematic approach of managing the projects [42]. It's a way to generate consistent results when undertaking new initiatives and a powerful business tool that can transform an organization's ability to perform well [5].

Conceptualization according to Pinto [53] refers to the development of the initial goal and technical specification for a project. The scope of work is determined, necessary resources (people, money, material & machine) identified, and important organizational contributions or stakeholders signed on. Also, feasibility study is conducted at this stage to investigate whether the project can be continued or not. **Planning** is the stage in which detailed specifications, schematic, schedules and other plans are developed. It is also a stage where the project solution is further developed in as much detail as possible and steps necessary to meet the project's objectives are put in place. At this stage the individual pieces of the project called work packages are broken down, individual assignments made, and the process for completion clearly delineated. Project schedule, the actual work and the estimated cost of completion are also identified. Anything that might pose a threat to the successful completion of the project is also identified at this stage. Finally all the project stakeholders must be identified at this stage of the project so as to establish a communication plan that describes information needed and the delivery method to be used to keep stakeholders informed [49].

Project management is defined as an application of knowledge, skills, tools and techniques to project activities to meet project requirements. This is accomplished through the application and integration of the project management processes of initiation, planning, executing, monitoring and controlling and closing [1]. Mintzberg (1983) cited in Soderlund [63] states that most of the emergent industries since world-war II are project intensive. This widespread use of projects in organisations demanded an approach that can efficiently manage these temporary endeavours which are critical to the organisations strategic objectives. This led the researchers and professionals of the field to devise an approach that can efficiently manage the projects. Initially the focus of research on projects was exclusively on the implementation of a single project [19].

Project research in general now spans a variety of level of analysis. Concept such as the management of projects and the management by projects clearly point to the current devotion of project research [62]. An important factor here is that the researchers suggest management of projects to be at the core of understanding the modern firm (ibid). Public sector organisations are differentiated in comparison with their commercial counterparts in the private sector. There is no profit maximising focus, little potential for income generation and, generally speaking, no bottom line against which performance can be measured [12]. The vast majority of public sector organisations still generate most of their income from the State (ibid). However, the capability

of the public sector is pivotal to the growth of the economy [60]. Furthermore, the need for project management expertise in public sector organisations has become fundamental in order to deal with the enormous responsibility of managing a number of projects (ibid).

In less developed countries the implementation of project management tools and techniques is still in its early phases of development. It is a relatively modern practice that attempts to achieve planned objectives within specific time and cost limits, through optimum use of resources and using an integrated planning and control system [2]. According to Atkinson [6] project management has led a number of organisations to be more effective and efficient in delivery of their products and services, to have more accurate budgeting and scheduling and improved productivity. The growth and acceptance of project management is continuing to increase as resources become scarce in less developed countries.

Effective and accurate planning is required at the start of the project for the project to be successful. In public sector projects the planning and decision making inevitably become political activities [20]. Planning becomes a process not only of analysing problems, goals and alternative course of action, but also of advocating position, influencing behaviour and intervening in the policy making process to affect the outcome of decisions [59]. Planning consists of a set of procedures whereby decision makers attempt to:

- Identify and define major problems and goals,
- Analyse relevant environment and strategic conditions,
- Project trends, needs, opportunities and constraints,
- Transform goals into operational targets,
- Identify alternatives course of action for achieving goals and targets,
- Calculate cost and benefit of each alternative,
- Estimate the probabilities of future events,
- Projected trends occurring,
- Determine the potential non-economic gains,
- Losses and consequences of each alternative,
- Choose the optimal alternatives or set of actions,
- Integrate the chosen course of action into a comprehensive plan.

In addition to understand the above characteristics of planning in a public project there are number of processes that need to be followed to plan project effectively. These are:

- Defining the deliverables
- Defining the work packages
- Estimating the work
- Scheduling the work packages
- Managing resource availability
- Creating the budget
- Integrating schedule and budget
- Identifying key performance Indicators
- Identifying critical success factors [34]

Author analysis of the scientific literature in the field of project management found that very little role has paid to project initiation and the problem definition importance in the frame of project management. Study shows very broadly analyse and present methods and tools for

project planning and problem solutions. British PRINCE2 project management standard requires that in some situations, a feasibility study might be required to investigate the situation and determine options for the way ahead. Using PRINCE2, the optimum approach would be to handle the study as a separate and distinct project and then operate a second project to implement the results of the study.

The America's national project management standard PMBOK defines project scope planning as "the process of developing a written scope statement as the basis for future project decisions including, in particular, the criteria used to determine if the project or phase has been completed successfully" [1].

Problem analysis identifies the existing situation and establishes the *'cause and effect' relationships* between the problems that exist. It involves three steps:

1. Precise definition of the framework and subject of analysis.
2. Identification of the major problems and dangers faced by target groups.
3. Visualisation of the situation.

Typical investment projects include construction of new buildings, hospitals, roads, power plants, water reservoirs and other infrastructure items; replacement of old facilities; renovation of existing facilities; acquisition of new facilities; or purchase of equipment. Investment projects normally are large, non-recurring expenditures which involve multi-year funding, have a useful life greater than five years, are based on a comprehensive needs assessment, meet an essential public purpose, and require public accountability for funds. An investment project always has direct implications for future operating budgets. The recurring costs of investment projects on completion will have to be clearly understood and estimated by Public Bodies before embarking on the decision to go ahead with the projects. Investment projects may be funded from Government-owned resources, grants or loans from foreign institutions and/or by the private sector.

According to A. Walton project planning may be considered a form of information development and communications. As the project team develops the project plan, the project team should learn more about the project goals, strategies, and team member roles. The project objectives then can be decided in terms of cost, schedule, and technical performance. Satisfaction of project goals is accomplished through the completion of the project work packages. The project strategy is a plan of action with accompanying policies, procedures, and resource allocation schemes, providing general direction of how the organizational effort will be used to accomplish project goals and project objectives. Simultaneous project planning is the process of having the project team considers all aspects, issues, and resources required for the project plan on a concurrent basis. Concurrent planning means that everything that can or might impact the project is reviewed during the planning phase to ensure that an explicit decision is made concerning the role that all resources, however modest, might have on the project [47].

The Project should be defined in the initialization phase, and the definition should show that the project will be conducted in a logical and proper manner [16].

Project problems are ordinarily complex, consisting of many aspects that require analysis and insight [35]. We need to invest an appropriate amount of time to fully understand all aspects of the problem. Very often, what appears to be the problem is actually masking a bigger, more

fundamental problem. Uncovering that fundamental problem is referred to as *identifying the true need*.

Governments in some jurisdictions provide guidance on how to appraise proposals, using cost-benefit analysis, before committing significant funds. For example, the governments of Australia, New Zealand, the United Kingdom, and the United States provide guidance on the issues and techniques that should be considered when assessing new regulatory, revenue or capital policies, programs, and projects. Such guidance advises public sector departments and authorities on how to undertake conventional analysis however; such guidance can offer advice on a broader economic cost-benefit analysis that can be more valuable to the public interest.

P. Drucker commences by stating that an effective decision making process must go through some basic steps. These steps will not "make" the decision – it will always be a judgement call – but if the steps are ignored, the decision is not likely to be neither effective nor right. The 6 steps he recommends are:

1. The classification of the problem
2. The definition of the problem
3. The specifications that the solution to the problem must satisfy (the "boundary conditions").
4. The decision as to what is "right", rather than what is acceptable, in order to meet the boundary conditions
5. The building into the decision of the action to carry it out.
6. The feedback, which tests the validity of the decision against the actual course of events [23].

Justification of a problem situation should make sure it describes a controversy, not just lists a number of various facts. A typical mistake is to indicate in the project submission the desired situation, not describing the existing. In such a case the problem justifying the need for the project is not demonstrated. Therefore, the problem results from the problem situation. Whereas a problem situation is one that encourages formulating and solving the problem. If a problem situation is not analysed in sufficient detail, the solution, too, can be incomplete. To justify the necessity for the project, it is best to start by describing the issue in question or the problem topicality. Municipalities are forced in their work to solve problem situations involving various target groups.

Definitely the most important thing in the project development process is the topicality of the problem and its accurate definition. The project goal is determined when performing the justified problem analysis. Next, the definition of project problems, target groups, and goals is analysed in the project submissions of particular municipalities.

Analysis of the initiation documentation of the selected projects reveals the main mistakes in the problem situation description:

1. Project topicality is not described – no justification of the significance, importance of the problem for the specific city, in the particular period of time.
2. Some fragments mention the region or state in general, others the municipality.
3. Terms are not understood.
4. Generally known statements are used, not sustained by facts.\

5. Part of that problem has been the lack of a structured approach for decision-making, project approval, and project execution.

All this can be satisfied with a sound project management methodology. To describe problem definition role and importance in project management author has elaborated system dynamic oriented model for problem definition. System dynamics is a methodology and mathematical modelling technique for framing, understanding, and discussing complex issues and problems. Originally developed in the 1950s to help corporate managers improve their understanding of industrial processes, system dynamics is currently being used throughout the public and private sector for policy analysis and design.

6. Problem solving models attempt to capture important aspects of the problem solving process. As decision-making and problem solving are intimately related, it is not surprising then that the Simon model of the decision-making process is the foundation for a number of problem solving models [14., 66., 64].

Problem definition involves both textual and graphical statements of problematic behaviour. Conceptualization entails identifying feedback loops that are hypothesized to underlie observed patterns of system behaviour. Model formulation is the process of moving from a theory of underlying structure to a fully specified mathematical model so that the theory can be tested. In this assignment, the skills involved in problem definition and model conceptualization are treated separately. Later assignments will bring these skills together with those of formulation and analysis to focus on a variety of strategic and operational problems. The attributes chosen differentiates a scenario assignment from an action assignment. The constraints for value assignments prevent action assignments from overriding scenario assignments. In short, a scenario assigns values to attributes (variables) that the action component must treat as uncontrollable variables. These value assignments reflect an intuitive assessment of the assumptions that the problem model will work under. By identifying some attribute assignments as scenarios, problem solvers gain greater flexibility in testing the robustness of their problem solving actions under a range of different assumptions.

Step 1 Start with a problem – characterize it in simple terms such that it would be clear to all who have even peripheral understanding of it. What is wrong? What is the root source of the problem?

Step 2 Begin defining the causes of the problem. We should start with a fact in the loop. State it in sentences such that there is a relationship between cause and effect.

Step 3 Each cause becomes an effect of the next. To find a cause, we need to answer question Why?. To find out the effect, we need to discover what happens. It's a probing process of Why's. Directional relation of the loops goes from Cause to Effect.

Step 4 Show relation between Cause to Effect as reinforcing (+) or negative (-). This does not indicate good or bad it just means as the cause goes intensifies, effects does too (+) and as cause diminishes, effect does also (-). A negative or balancing loop (-) is referred to as a "**goal seeking**" loop. There is a mechanism in this loop that is trying to maintain some level of stability.

In every project decision process we should pay full attention to processes inside the model to get the best results and found appropriate problem solution. Author provided model shows input, process and outputs for defining project problem. If there is adequate problem description we can set up appropriate goals and solutions to be achieved in the frame of project. Such a model can be used in project management practice and academic disciplines.

As well as conducting the necessary analysis, and ensuring the quality of information flows, to support the appraisal of the public investment, project managers in public sector can play a central part in:

- Recognizing the investment opportunity and subsequent assessment of the strategic impact and economic rationale of a potential investment;
- Determining the alternatives (many organizations require consideration of at least three alternative investment options in making decisions of any materiality);
- Ensuring that information is used in a way that leads to the selection of the best alternative;
- Aligning decisions with assessments of subsequent managerial performance. For example, management incentives based on accounting profit could encourage actions that do not support sustainable value generation to shareholders and other stakeholders. A potentially good project (based on NPV criteria), supported by a wider assessment of its strategic importance, could result in poor accounting returns in its early years. Managing sustainability issues could also help prevent future costs or to avoid limitation or constraints to the organization's strategy; and
- Subsequent checking to establish whether anticipated benefits have been realized

1.2. Coordination in Public Sector Projects

Coordination is the practice through which an organisation's functional divisions communicate with, and understand each other. An effective coordination is required through the project life cycle for a successful project.

In public sector organisations coordination is a mechanism through which the flow of information becomes smooth among different parts of the organisations. This flow of information is vital for the decision making process.

Low institutional capacity

The World Bank [67] defines institutional capacity as the ability of an institution to decide and to pursue its goals, to perform tasks, and to improve performance constantly. In a public sector, institutional capacity can be defined as the organisation's ability to identify problems, to develop and evaluate policy alternatives, and to operate the government's programs (Howitt, 1977 cited in Mimba et al., 2007) [41]. It is commonly believed that public sector organisations in less developed countries still have a limited institutional capacity [51]. Some of the characteristics of public sector organisation with weak institutional capacity are:

• weakness in regulatory practice,
• a low level of public accountability,
• administrative inefficiencies,
• limited human resources,

• a lack of facilities,
• and insufficient funding [37].

These characteristics lead to situations in which it takes long bureaucratic procedures, with a lack of transparency, to inadequate delivery of goods and services to the citizens [41].

Challenges for the Public Sector

Having grown progressively following the Second World War, the public sector, throughout the world, began, during the early 1970's, to experience significant pressures for change. A primary focus was 'reducing expenditures while at the same time improving government operations' [21].

According to the OECD (OECD, 1995) [47], catalysts for change have included:

- need for increased efficiency and cost-effectiveness to control and reduce public spending
- reduction in national differences in public sectors and increasing desire to enhance competitiveness of national economies as a result of globalisation
- rising service quality expectations from individuals and business
- need to respond flexibly and strategically to external changes opportunities offered by new information Technologies

Since the early 1980's, common themes have emerged in the responses by national public sectors to the need for change:

- emphasis on strategic management and planning [51] efforts to increase service quality and become more responsive through debureaucratisation', allowing initiatives such as integrated service delivery [7., 15]
- increased public consultation in design and execution of policy [51]
- introduction of performance measurements associated with emphasis on and accountability for results [51.,19]
- attempts to replace the 'tradition of predictability and regularity that was the trademark of old public administration' with adaptability and flexibility

1.3. Public investment – role and importance

Investments can be seen as a bridge between generations, both for creating jobs for the young generation, and for inheriting the fixed assets, which it receives from previous generations. Also, investments are the material support for introducing the technical progress in all sectors of activity, while systematic updating allows maintaining them within the superior performance parameters.

The concept of economic sustainable development means both resource protection in terms of raw materials, and environmental protection and restoration of ecological balance in order to provide equal opportunities to the future generations. Any investment project has an environmental component on which the investment decision will be built. Public investments are defined as funds allocated by the authorities of the central or local public administration to

achieve objectives or works of general interest in a certain administrative unit (Adriana Grigorescu, *Management of public sector investment projects*, course support, National School of Politic and Administrative Studies (SNSPA) in Bucharest) [4]. Public investments are designed to ensure the development of the society in general, seen as a whole. The effects of the public investments can be found in the social, cultural, health, science, and public order, etc. fields.

Public investment funds are limited through budget restrictions, however consuming and exceeding the limits granted in the originally approved budget can be made only by obtaining additional allowances or by redistributing the funds within the budget.

The whole community benefits directly or indirectly by the effects of public investments because they are designed to improve infrastructure, relationships, and services, all of them being available to all citizens.

Strategies, represented by the goals of the public projects, are a need for local authorities which have the possibility to implement investment projects based on the following: election programs, making a poll of the public opinion, establishing a long- or short-term thinking, establishing the way forward so that the relationship authority - community can run in the most harmonious manner possible. Public investment projects provide a direct correlation between the fundamental objectives, which take the form of capital expenditure, which in their turn, lead to producing public assets [52].

The broader governance of the public sector affects public investment management processes and practices. In the UK and Ireland, for example, the public administration has adopted a more managerial culture, while many EU counties still rely extensively on laws and decrees for policy implementation. This can mean that the process of innovation and adaptation is likely to be much slower. Moreover, the reach of politicians into the detailed management processes of individual ministries can be extensive in some EU countries.

Although there are differences in administrative and political tradition, the experiences of Ireland and the UK can be useful for other countries in Europe. This note suggests the following recommendations for the EU countries:

- Public investment strategies need to be closely linked to budgets. Strategies need to be periodically reviewed for relevance, including by relying on external experts.
- Capital projects need multi-year funding commitments that cover the duration of the project or the project phase.
- Cost-benefit assessments of competing projects should be the key tool for selecting individual projects to ensure value for money.
- Evaluation of past project experiences should be required and needs to be built into future planning, guidance and regulations. Evaluations could be undertaken by any number of institutions, including ministries of finance.
- Effective audit and reporting processes are needed to facilitate transparency and encourage feedback to improve the quality of the decision-making and management process.
- Project planning and management skills need to be enhanced and retained within the civil service.

Despite the high demand for public infrastructure investment, the capacity of the EU10 countries to use the funds effectively can be limited by various factors. Public investment planning in the EU10 countries tends to be shorter-term and often politicized. While all countries have prepared various medium- to long-term economic development strategies, they tend to be all-encompassing with strategic investment priorities not clearly defined. Project appraisal is weak, especially the link to the budget process. Accountability arrangements also tend to be weak both in terms of identifying the full cost of projects and in comparing anticipated and actual outcomes.

Strong planning and management systems are essential to ensuring productive infrastructure investments. The experience from earlier EU accession countries shows that it can make a difference how well countries plan for and use the available structural funds, and there is ample evidence also from other parts of the world that good public investment planning is key to ensuring productive infrastructure investments. Among the cohesion countries, Ireland stands out in terms of its effective planning and good results. High quality processes and procedures for planning and managing capital investment have also been important in other high-growth countries, including Chile, South Korea, and Malaysia.

The strategic planning processes by which the EU10 countries define their allocation of resources to transport infrastructure satisfy the form, but not the content of EU guidance. The objective is generally to maximize absorption of EU funds. On that basis, the national strategic planning documents cover a seven to eight year period (aligned with EU budgetary cycles) and are geared toward the types of investments that fit within EU priorities and that will utilize large proportions of the available funds (i.e., high cost projects). Furthermore, because projects funded by the EU have a requirement for counterpart funding, the domestic resources that go to transport are guided by that consideration.

Although long-term national development strategies exist (intended to put transport within a broader context), in practice they provide only very general rationale for the EU programming decisions that have been taken. In Latvia, the government recently produced a 25-year "Long-term Development Guidelines." In Slovenia, there is a Resolution on National Development Projects 2007-2023. Characteristically, these plans provide only broad visions of government directions.

Like the broader national strategies, the sectoral strategic planning processes in the EU10 countries result in wish lists of possible options rather than a well-defined set of priorities that reflect the interdependencies between different policy areas and among individual projects within the same policy area. For example, in Poland the draft Transport Policy of the State for 2007-2020 does not provide indication of specific projects, their relative prioritization/sequencing, or estimated costs. While it provides a comprehensive picture of overall needs and how to meet them, some linkage to a resource envelope is needed to form a basis for sequencing. In Slovakia, the Public Works Plan is a three-year rolling document with a list of potential public works (not just transport) projects, but without a clear attempt to prioritize them or to reconcile them with resource envelopes. In Slovenia there are some similar shortcomings in sectoral planning documents. The 2006 Resolution on Transport Policy of Slovenia provides SWOT analysis for the transport sector and identifies several objectives covering railways, roads, maritime, and airport infrastructure. The document encourages the Ministry of Transport (MoT) to develop programs that support the objectives in the resolution,

but provides no link to resources. More focused planning documents exist for railways and motorways, but again neither is linked to a realistic resource envelope.

Effective prioritization is sometimes undermined by "path dependency," with projects based upon out of-date plans and assumptions. In Poland, although there is now a considerable emphasis upon planning in practice, the network of planned expressways and motorways has changed only slightly in the last 15 years and remains similar to that defined in the late 1970s. For example, on some major routes traffic has been growing fast but these routes have kept the same status as (originally projected) expressways since the 1980s,2 whereas traffic density would suggest that they should be upgraded to motorway status. This also conflicts with the priorities of more recent transport strategy plans that stress the crucial importance of good transport connection between the largest Polish cities for economic development reasons. On other routes, traffic is relatively light and yet proposals to upgrade the roads have high priority.

The impact of project appraisal on project selection

The quality of project appraisal practices is difficult to assess accurately. However, in most of the EU countries the results of the appraisal process do not necessarily determine the decision about which projects will go forward and the system still allows a wide political discretion in the selection of individual projects.

Though cost-benefit analysis is a standard component of project appraisal in all countries, especially for EU funded projects, the quality of the analysis is typically not independently reviewed and the resulting analysis is not necessarily a significant factor in the project selection. While various projects could generate positive economic benefits, it is rare to assess their relative value-for-money. Moreover, project appraisal processes in the EU countries give much less attention to business case justification, project management arrangements, risk mitigation, and procurement strategies than is the case in the UK or Ireland.

While there is formal compliance with risk assessment for all EU-funded projects in the EU10, some evidence suggests that it has little significance in terms of actual project planning. Risk assessment is usually seen as a formality and does not have a bearing on project selection or management arrangements. In some cases, risks specific to an individual project are not identified but instead referenced back to a more general risk catalogue for all EU-financed projects. Even where there is an attempt at risk assessment, the impact is questionable because many serious risks emerge during the implementation. In contrast, in Latvia the Ministry of Transportation appeared to have a more active approach to risk management. For the projects reviewed in this study, the identified project risks were classified and registered in the ministry's risk register, and a responsible person assigned to take mitigating actions and to report back to the Risk Management Committee.

Substantial progress has been made in the EU10 countries to establish a good framework for public investment. Yet, the urgency to catch up on infrastructure investments and to utilize more fully EU funds sometimes competes is seen as competing with the application of robust value-for-money analysis to projects. This note has argued that the use of such funds should be more strongly linked to good investment practice, beyond merely requiring that cost benefit analyses be undertaken. Although many projects may demonstrate positive cost-benefit ratios, the relative cost- effectiveness of project designs and policy options needs more attention. Since the sector

strategies themselves are often broad prioritized lists, many potential projects can be loosely linked in support of the strategy. This note's recommendations are:

Strategies linked to budgets: Strategic plans have to be linked to published government policy and to a reliable resource envelope if they are to generate genuine prioritization among competing policy options. To the extent possible the strategic plans should be updated on a rolling basis and indicate how specific programs or projects contribute to the policy objectives established for the sector.

Multi-year funding commitments: Spending authorizations for capital projects need to be made for a multi-year period covering the duration of the project or the project phase. At the same time, implementing agencies should also have flexibility to program the actual resources according to the specific needs of individual projects, e.g., by grouping projects within a "program" and authorizing moderate reallocations to occur between faster and slower moving projects.

Cost-benefit assessment: The selection of individual projects within the overall strategic plan should be driven by high-quality analytical assessments of competing projects which in turn could more effectively inform political judgments. Projects need to be assessed against alternative options to assure appropriate value for money.

Ex-post evaluation: The public investment management system should require evaluation of past project experiences and incorporate the lessons into future guidance and regulations. These reviews could be undertaken by any number of institutions, including ministries of finance.

Investment in skills: Project planning and project management skills need to be enhanced and retained within the civil service. Such skills are needed for effective management both within the public sector and the private sector (the latter may be undertaking investment on behalf of the government) [33].

1.4. Effectiveness in the Public Sector

In the public sector there is a vast number and diverse range of potential uses of resources and the efficient use of resources has a significant impact on the welfare of citizens. As resources are finite, a decision to implement one proposal may preclude implementing others. There are always alternatives that need comparison even if the choice is between 'doing something' and 'doing nothing or the minimum'. In considering a spending proposal, decision makers need to be assured that the overall welfare of society is raised as a result of the proposed action. CBA attempts to evaluate the proposal from the perspective of society by placing all the costs and benefits on a comparative monetary scale (Gray, A. W., EU Structural Funds and Other Public Sector Investments - A Guide to Evaluation Methods, 1995) [31].

According to Kazanovski [20], a cost-effectiveness analysis requires the fulfilment of three conditions:

- determining a common goal or application that must be achieved;
- the existence of alternatives to the achievement of the goal;
- the existence of limiting factors in the solution of the problem.

Goals are needed in order to have a base for comparison. For example, it would not make sense to compare investments in the production of submarines with investments in a highly developed communications network. In addition, alternative ways of goal fulfilment must exist in order to be able to compare them. Finally, the limiting factors of time, price or efficiency must be within reasonable bounds, so that the possibilities that are being considered can be determined and defined in the best possible way. Kazanovski points out that it is necessary to fulfil 10 standard steps in order for the approach to analysis to be correct, and that they must be fulfilled in a certain order:

1) Define the goals, purpose, application and everything else of significance for the project. Cost-effectiveness analysis will find the best possible way for their achievement.
2) List the conditions necessary for the achievement of goals. This means to first present the basic prerequisite for the achievement of the goal, followed by the others.
3) Develop alternatives for achieving the goals. At least two possible ways to achieve a goal must exist.
4) Determine verification measures that are acceptable for the proposed alternatives. A possible list of valuation criteria would be: feasibility, availability, reliability, sustainability, etc.
5) Choose an approach for determining fixed successes and fixed costs. In using fixed success criteria, the most favourable alternative is the one with the minimum price of achieving separate goals or degrees of success. The options that cannot achieve goals at that price are either excluded or penalized. In using fixed cost criteria, the amount of achieved results at a given price is taken, where the "price" is usually the present value of annual costs during the project life cycle, encompassing research and development, engineering, construction, project implementation, maintenance, protection and other costs incurred by the project during its life cycle.
6) Determine the advantages of an alternative expressed in established valuation measures.
7) Express alternatives and their advantages in an acceptable way.
8) Analyse different alternatives on the basis of success criteria and cost consideration.
9) Analyse the sensitivity of alternatives, in order to see how small changes in assumptions or conditions cause changes in alternatives.
10) Submit in writing all considerations, analyses and conclusions from the previous nine steps.

Throughout the last three decades, the focus on CBA as a vehicle for economic efficiency appraisal of public projects has increased. Several studies [50., 44., 13., 22.,] have shown that a crucial role-play a choice and valuation of benefits and costs in public projects evaluation. However more often there have indicated problems of proper discount rate choice [9., 39., 3., 36].

Another strand of this literature finds that the broader institutional context within which investment decisions are undertaken and the quality of project selection, management, and implementation play a crucial role in determining the return on investment and its growth dividends [27., 33].

For instance, Flyvbjerg (2003) finds that large cost overruns, benefit shortfalls, waste, and low completion rates are common in major infrastructure projects in developing countries, and can be attributed to their poor selection, monitoring, and evaluation. In a similar vein, Collier et al. [17] argue that the return on investment in many low-income countries is reduced by limited

information and technical capacity for conducting rigorous ex ante appraisal, as well as misaligned incentives, extreme examples of which are corruption and rent seeking.

Public investment, particularly infrastructure, may also respond to political economy motives rather than simple economic efficiency considerations. For example, Henisz and Zelner [36] present evidence that interest group pressure and the structure of political institutions affects investments by state-owned electric utilities. Guasch et al. [32] show that weak operational frameworks increase the likelihood of political interference and make the expropriation of sunk investments more likely, jeopardizing the realization of medium term returns. Many of these problems are more acute in low-income countries.

The importance of the quality and efficiency of public investment spending has also been highlighted in arguments for granting countries additional fiscal space for productive investment. A number of studies argue that the failure to recognize the asset-creating nature of investment and the inter-temporal trade-offs involved creates an anti-investment bias in developing countries, with negative consequences for growth [26., 17., 61].

These studies note, however, that public investments are likely to exhibit higher marginal productivity *ex post* if the government is able to *ex ante* select high return projects—thereby significantly cutting down on wasteful projects and insuring efficient utilization of fiscal resources for investment spending.

2. RESEARCH, CASE OF EU MEMBER STATE - LATVIA

2.1. Polycentric development project analyses in Latvia

This is the first planning period when part of EU cohesion funding has been given to local authorities to decide on further investments according to their development plans and special needs. EUR 275 million has been allocated to priority "Polycentric development" representing 7% of total ERDF and Cohesion Fund funding, however this is a first step. This move was possible after the completion of land reform in the middle of 2009. The outcome of the reform has been a reduction in the number of local municipalities from 522 to 118 and consolidation of resources available to authorities that has made them more functional.

The biggest part or EUR 263 million has been allocated to 16 municipal authorities to support their city development while the newly created activity to support complex growth in amalgamated municipalities with total allocated EU funding of EUR 11.5 million is intended for development of rural areas in the 18 biggest municipal authorities that have approved their own integrated development plans. The actual implementation of activity to support complex growth in local municipalities will start only in the second half of 2010 as development plans of municipalities must be elaborated and approved. In the meanwhile the Ministry of Regional Development is seeking to further increase funding for this activity as the LSDP 2010-2013 has downgraded targets for the regional GDP per capita dispersion expressed in percentage points.

The new target for 2013 is to keep it at 2007 levels – 44%. To achieve this, regions will need all the help available considering that the unemployment increase has been much more pronounced in regions outside Riga, especially Latgale. The effectiveness of theses measures should be judged together with ESF investments in human capital in the planning regions and municipal authorities.

Polycentric development in city net formation makes preconditions for the development of well-balanced country. Cities must become a significant driving force of development for every region and country in total; its potential and prospective direction of development is defined in the spatial planning process within the region where state institutions, municipalities, NGOs, and society actively cooperates with each other (The Ministry of Regional Development and Local Government, 2006)". There are comparatively small evaluation of possible contribution and positioning of cities of Latvia in the context of global economy. It must be taken into consideration that there may be possible negative impact of polycentrism on competitiveness of Latvia therefore the author pays attention to several significant aspects, which can force to evaluate whether it is favourable to develop the model of polycentrism in the territory of Latvia (Latvia's National Development Plan 2007-2013, Ministry of Finance, 2007) [40].

There is little evaluation done so far for the period 2007-2013. There are two studies commissioned by managing authority concerned with management and control procedures that have been finished: "An assessment of effectiveness of EU funds financial management and control system"10 that resulted in 39 recommendations on potential efficiency improvements (method – quantitative data analysis and interview in focus groups) and "Preliminary study on the possibilities of EU funds management system simplification (Feasibility Study for a simplifying European Union fund management system, Ltd. "GF Consulting,"2009) [29] put forward 71 recommendations (method – quantitative and qualitative data analysis and interviews). The later study concluded that the fund management system advances towards simplification, nevertheless many aspects can be improved. The 3 main recommendation blocks of the report were the following: the EU structural fund programming is isolated from long-term state development planning, from industry focus or prioritization and from financial planning that municipalities and businesses carry out. Final beneficiaries have trouble planning their development in the context of Structural Funds available and delays in program introduction creates substantial losses to the final beneficiaries in form of cancelled orders or cost increases.

The second recommendation group stated that fund management institutions should harmonize their procedures and cooperate better to avoid situations when the final beneficiaries face large amount of different requirements, to reduce the amount of required documentation that the institutions can easily obtain themselves from each other or public registers and to disseminate best practice among intermediate bodies. The third finding was that administrative culture of fund management institutions is at times unacceptable when the institutions see the support applicant as an unreliable suppliant rather than as a valuable partner whose activates actually contribute to the country development. Such attitude is demonstrated by formal, at times excessive requirements regarding quantity and designs of documents for submission. It also shows in lack of enthusiasm to reconcile Project amendments quickly, even if those amendments do not materially affect the project substance and do not impede achieving project goals.

The development of such cost-benefit analysis procedure faces several challenges. The first and most important is data availability. Because costs-benefit analysis requires a quantification of impacts in monetary terms, only impacts for which data or a literature base to perform benefit transfer analysis exist can be evaluated. This put some constraints on the structure and the scope of the cost-benefit valuation procedure.

A second challenge is the identification of the policy program the cost-benefit analysis (CBA) procedure should evaluate. CBAs are usually applied to well define policy programs, projects or commodities and tailored ad hoc for their purpose. The development of a CBA procedure able to

deal with different and yet undefined policy programs has to be dynamic in nature and be able to adapt as more specific information about the specific need of the policy maker becomes available. Such ability comes at the costs of a fully detailed procedure specification.

Territorial policies should contribute to building up and maintaining growth engines; facilitate individual and organizational learning to upgrade local skills; and supporting diffusion of new technologies and innovations.

Regional success and decline seem to result from a different regional capacity to exploit the local financial, natural, physical, social, and human capital to facilitate local as well as foreign direct investments [54].

The special attention during the planning period 2007 - 2013 is paid to the sub-activity No. 3.6.1.1 „Increase of the national and regional development centres growth for state's levelled development".

2.2. Project problem definition and its modelling

The essence of planning is the opportunity to see the threats and remove them or to use it in decision making process. Project planning defines the project management team's responsibility, the allocation of costs, the division of labour and the level of control [62].

Justification of a problem situation should make sure it describes a controversy, not just lists a number of various facts. A typical mistake is to indicate in the project submission the desired situation, not describing the existing. In such a case the problem justifying the need for the project is not demonstrated. Therefore, the problem results from the problem situation. Whereas a problem situation is one that encourages formulating and solving the problem. If a problem situation is not analysed in sufficient detail, the solution, too, can be incomplete. To justify the necessity for the project, it is best to start by describing the issue in question or the problem topicality. Municipalities are forced in their work to solve problem situations involving various target groups.

Definitely the most important thing in the project development process is the topicality of the problem and its accurate definition. The project goal is determined when performing the justified problem analysis. Next, the definition of project problems, target groups, and goals is analysed in the project submissions of particular municipalities.

Analysis of the initiation documentation of the selected projects reveals the main mistakes in the problem situation description:

- Project topicality is not described – no justification of the significance, importance of the problem for the specific city, in the particular period of time.
- Some fragments mention the region or state in general, others the municipality.
- Terms are not understood.
- Generally known statements are used, not sustained by facts.

Problem analysis methods are rarely used in development of municipality projects. When all the problems and target group needs mentioned in the problem situation are summarized, each problem should have planned actions to match it (several problems could be solved by one

action, and one problem could have several actions planned for its solution). Conclusions describe the influence of the planned actions on the target group needs [55].

Part of that problem has been the lack of a structured approach for decision-making, project approval, and project execution. All this can be satisfied with a sound project management methodology. To describe problem definition role and importance in project management author has elaborated system dynamic oriented model for problem definition. System dynamics is a methodology and mathematical modeling technique for framing, understanding, and discussing complex issues and problems. Originally developed in the 1950s to help corporate managers improve their understanding of industrial processes, system dynamics is currently being used throughout the public and private sector for policy analysis and design.

Problem solving models attempt to capture important aspects of the problem solving process. As decision-making and problem solving are intimately related, it is not surprising then that the Simon model of the decision-making process is the foundation for a number of problem solving models [14., 66., 64].

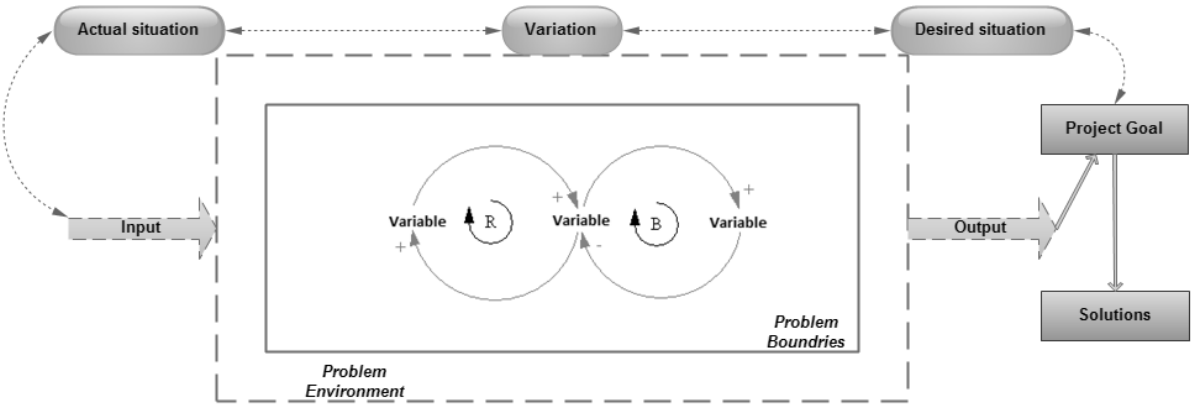

Figure 1. Problem definition model
Source: Author elaborated model based on qualitative analysis

Problem definition involves both textual and graphical statements of problematic behaviour. Conceptualization entails identifying feedback loops that are hypothesized to underlie observed patterns of system behaviour. Model formulation is the process of moving from a theory of underlying structure to a fully specified mathematical model so that the theory can be tested. In this assignment, the skills involved in problem definition and model conceptualization are treated separately. Later assignments will bring these skills together with those of formulation and analysis to focus on a variety of strategic and operational problems. The attributes chosen differentiates a scenario assignment from an action assignment. The constraints for value assignments prevent action assignments from overriding scenario assignments. In short, a scenario assigns values to attributes (variables) that the action component must treat as uncontrollable variables. These value assignments reflect an intuitive assessment of the assumptions that the problem model will work under. By identifying some attribute assignments as scenarios, problem solvers gain greater flexibility in testing the robustness of their problem solving actions under a range of different assumptions.

Step 1 Start with a problem – characterize it in simple terms such that it would be clear to all who have even peripheral understanding of it. What is wrong? What is the root source of the problem?

Step 2 Begin defining the causes of the problem. We should start with a fact in the loop. State it in sentences such that there is a relationship between cause and effect.

Step 3 Each cause becomes an effect of the next. To find a cause, we need to answer question Why? To find out the effect, we need to discover what happens. It's a probing process of Why's. Directional relation of the loops goes from Cause to Effect.

Step 4 Show relation between Cause to Effect as reinforcing (+) or negative (-). This does not indicate good or bad it just means as the cause goes intensifies, effects does too (+) and as cause diminishes, effect does also (-). A negative or balancing loop (-) is referred to as a "**goal seeking**" loop. There is a mechanism in this loop that is trying to maintain some level of stability.

In every project decision process we should pay full attention to processes inside the model to get the best results and found appropriate problem solution. Author provided model shows input, process and outputs for defining project problem. If there is adequate problem description we can set up appropriate goals and solutions to be achieved in the frame of project. Such a model can be used in project management practice and academic disciplines.

As well as conducting the necessary analysis, and ensuring the quality of information flows, to support the appraisal of the public investment, project managers in public sector can play a central part in:

- Recognizing the investment opportunity and subsequent assessment of the strategic impact and economic rationale of a potential investment;
- Determining the alternatives (many organizations require consideration of at least three alternative investment options in making decisions of any materiality);
- Ensuring that information is used in a way that leads to the selection of the best alternative;
- Aligning decisions with assessments of subsequent managerial performance. For example, management incentives based on accounting profit could encourage actions that do not support sustainable value generation to shareholders and other stakeholders. A potentially good project (based on NPV criteria), supported by a wider assessment of its strategic importance, could result in poor accounting returns in its early years. Managing sustainability issues could also help prevent future costs or to avoid limitation or constraints to the organization's strategy; and
- Subsequent checking to establish whether anticipated benefits have been realized

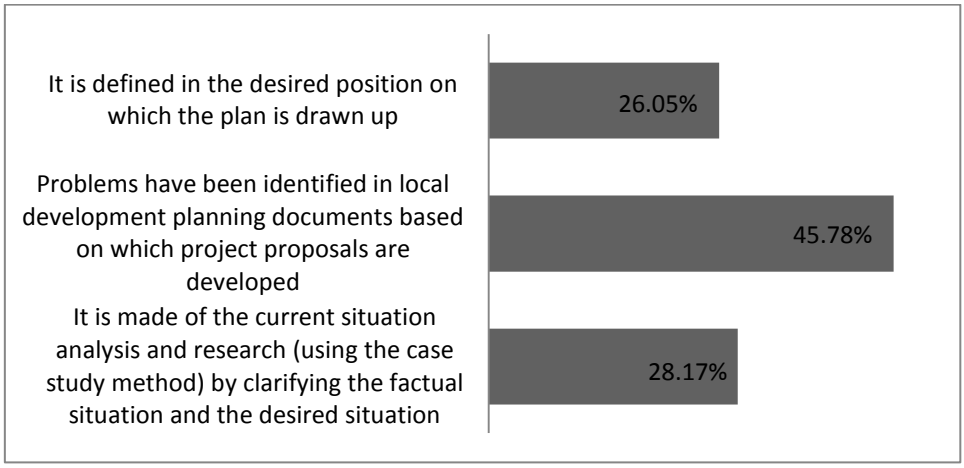

Figure 2. Problem definition practice in public sector in Latvia (n=119)
Source: author empirical research

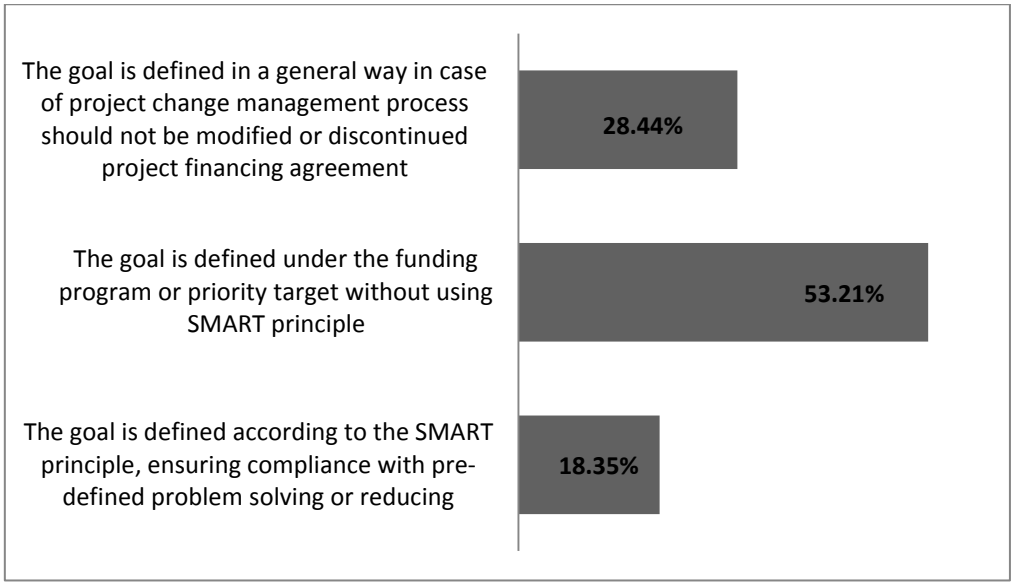

Figure 3. Project goal definition in public sector (n=119)
Source: author's empirical research

Goals and objectives are statements that describe what the project will accomplish, or the business value the project will achieve. The study shows that public sectors not using appropriate goal definition methods and don't use a SMART principles in definition of project goals (only 18.35% of respondents use SMART method to define their project goal). 53.21% of respondents define their project goals under the funding program or priority target without using SMART principle. Also the 28.44% of respondents define their project goals in a general way to avoid of further changes in project submission or project financing agreement (Figure 3).

Many traditional definitions of projects assume that the objectives of a project, and the methods of achieving them, are well understood throughout the project. For instance, in its body of knowledge, the UK Association of Project Managers defines a project as 'an undertaking to achieve a defined objective [43], and goes on to state that 'generally all projects evolve through a similar "lifecycle" sequence during which there should be recognised start and finish points'.

Other definitions similarly imply clearly defined objectives and methods: 'an activity defined by a clear aim, appropriate objectives and supporting activities, undertaken to define start and completion criteria [30], and 'a human activity that achieves a clear objective against a time-scale [58].

As the minor problems respondents identified: frequent change of management official's decisions and initiatives, corruption, changes in responsible officials and political leaders. As the important or very important problem factors which could affect the ability and capacity of local government projects respondents defined: management official's lack of understanding of project management issues, inadequate staff motivation system, lack of human resources and lack of project management competencies and professional skills.

To evaluate public sector project management capacity and maturity author asks for respondents to undertake self-assessment and evaluate their organization capacity in project management. The study shows that public sector organization maturity is on middle/low level (Figure 4).

Project Management Maturity refers to processes, documentation, management and metrics. There are five levels of project maturity management as follows:

Table 1. Project management maturity levels

Maturity Level 5 (Highest)	Optimised processes (All project management processes are in place, measured and continually improved upon)
Maturity Level 4	Managed processes (All project management processes are in place and these are regularly measured)
Maturity Level 3	Organisational standards and institutionalised processes (majority of project management processes are in place and are used by the majority of people)
Maturity Level 2	Structured processes and standards (basic processes are in place and used most of the time)
Maturity Level 1 (Lowest)	Initial process (no or little formal and/or documented processes being used)

Source: author's questionnaire maturity description

Research concludes that public sector bodies assessed their maturity as maturity level 3 – Organisational standards and institutionalised processes (majority of project management processes are in place and are used by the majority of people), quite big part of public sector organizations has identified their organizations in the second level of maturity – Structured processes and standards (basic processes are in place and used most of the time).

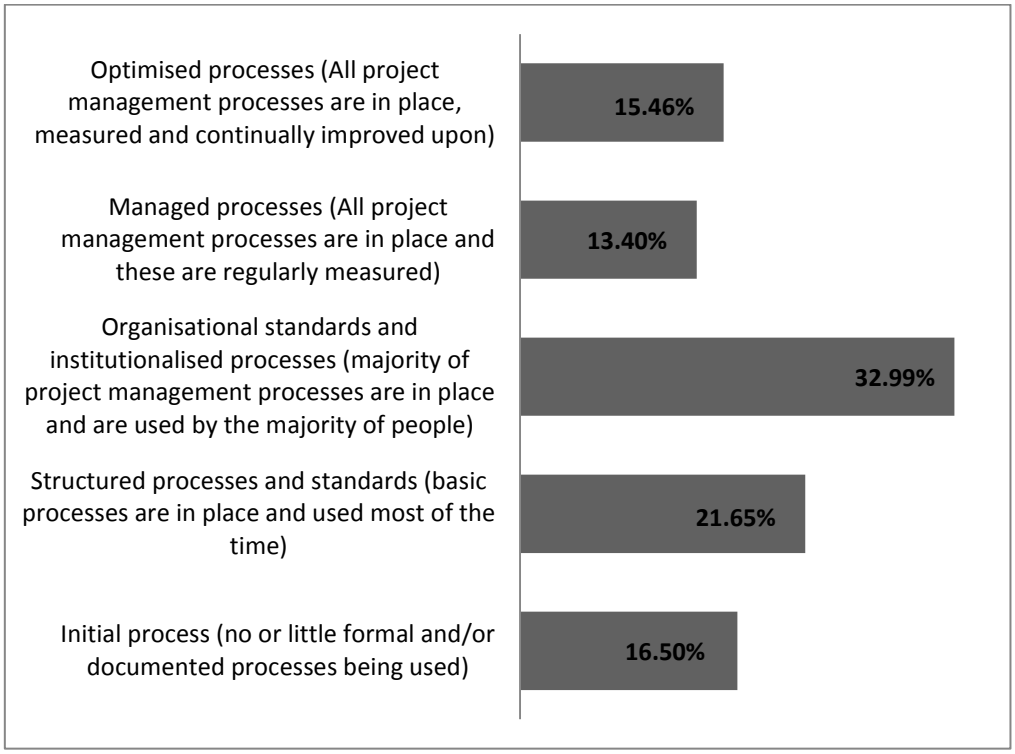

Figure 4. Public sector project management maturity self-assessment (n=119)
Source: author's empirical research

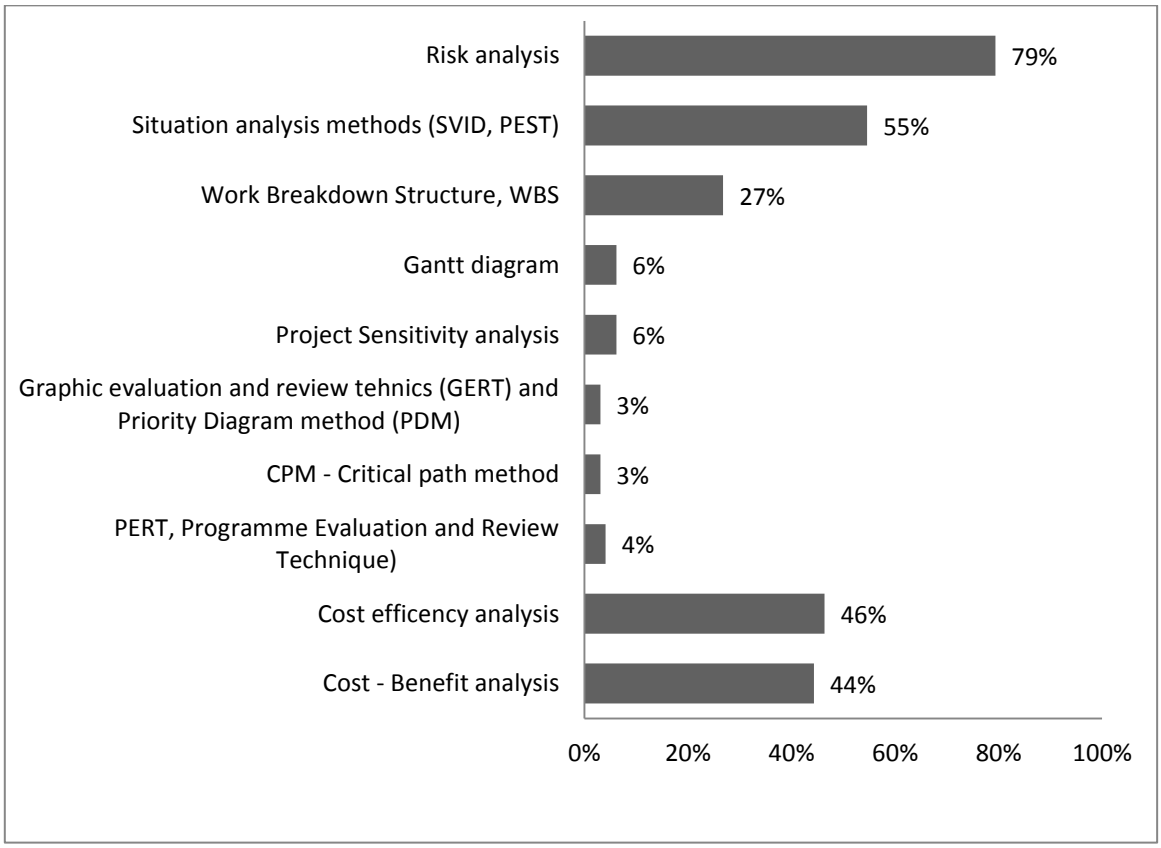

Figure 5. Project management methods applied in public sector project planning (n=119)
Source: author's empirical research

Figure 5 shows application of project management tools and technique in public sector project initialization, planning and implementation phases. Normally the project managers' criterion for choosing a methodology for any project is mainly based on an expert's opinion, past working experience, government rules and regulations, organisation, senior management, stakeholder's preferences and client location. All of these can have positive or negative impact on the underdevelopment projects. However, all of the above-mentioned criterion have inbuilt quality of rigidness. None of these provide any opportunity to analyse the nature of project and then decide the future course of action related to the selection of project management methodology.

Decisions in which a methodology is chosen or used based on a single criteria can have serious negative impacts on the project especially if the project manager, development teams do not have the knowledge or the pros and cons of the selected methodology. No project management methodology is meant to be taken verbatim. It must be customised in the context in which it is being applied in order to increase the rate of adoption and the opportunity for success [56].

Authors has elaborated survey questionnaire for local municipality project management specialists.

Questionnaire has been sent to all Latvian municipalities (in total 119), in the frame of study 97 responses has been collected (research sample is 97 out of 119, n=97). Research period is January 2013 – February 2014.

In order to obtain a mathematically reasonable view of the project planning capacity in the public sector - quantitative analysis of the survey data obtained through analysis of education, training and practical work experience aspect of the relationship with the real action methods. Quantitative analysis carried out in two steps: describing the central tendency and variation of parameters and in accordance with the empirical distribution with the normal distribution choice of parametric or non-parametric method for Inferential Statistics.

The author evaluated the public sector practice in project development and initialization processes in Latvia. In the frame of research evaluation of project problem and goal definition has been done.

Study shows that in public sector project management there is lack of deep problem and situation analysis. 45.78% of respondents elaborated project proposals based on local municipal development programs and policy planning documents and don't provide deep analysis of problems. 26.05% of respondents accepted that they don't use situation analysis methods but project proposals are elaborated based on desired situation. Still 28.17% of respondents showed that they used project management methods such as current situation analysis and research, case study methods by clarifying the factual situation and the desired situation.

To be mathematically justified fair view of the project planning capacity in the public sector - was made in the survey data obtained in quantitative analysis, analysis of prior training, continuing education and practical work experience aspect of the relationship with the real operation of the methods used. The quantitative analysis carried out in two steps: describing the central tendency and variation in performance and in accordance with the empirical distribution with the normal distribution of parametric or non-parametric choosing the method of conclusive statistics. If the calculation of descriptive statistics showed observational results with the normal distribution, the correlation coefficient was used (Pearson r), but if you failed to prove the

empirical normal distribution - Spearman's rank correlation coefficient . Spearman's rank correlation coefficient, as well as Pearson correlation coefficient, the relationship is characterized by the direction and closeness. Relevance is statistically significant when the calculated correlation coefficient or modulus |r| is greater than the critical value. The data used for quantitative analysis of IBM SPSS. 20 (Statistical Package for the Social Science) statistical package.

From the empirical study, the results derived statistical conclusions:

- There is no statistically significant relationship between the local project management specialists formal education and project management methods used - range in rs_{apr} ,079 < RKR .196 ($\alpha = 0.05$).
- There is no statistically significant relationship between the local project management professionals in obtained continuing education obtained or the number of certificates in project management and project management methods used - range in rs_{apr} - .036 < RKR .196 ($\alpha = 0.05$).
- There is no statistically significant relationship between the local project management experience as a professionals and project management methods used – range in rs_{apr} - 184 < RKR .196 ($\alpha = 0.05$).
- There is no statistically significant relationship between the experience of local project management professionals and the content - completely or partially developed projects and advisory activities and/or project management methods used - range in rs_{apr} .173 < RKR . 196 ($\alpha = 0.05$).
- There is a statistically significant weak positive correlation between the length and content of experience in project management, as rs_{apr} .201 < RKR .196 ($\alpha = 0.05$).

Quantitative analysis of the most important obstacles, why not apply the appropriate municipal planning project management methods and tools. Analogous to studying the local staff training, experience and professional development characteristics of the practical application of learned techniques of project initialization, planning and management processes, the study of the most significant obstacles were first implemented in the descriptive statistics.

First, the t- test one sample (t -test for one sample) was used, do local government employees by the responses have a statistically significant difference from neutral obstacle evaluation - or one of the obstacles is considered important, why not apply the appropriate municipal project management planning techniques and tools. Overall, an analysis of the assessment of the obstacles as "lack of professional training programs", " shortages of project management competencies and skills," "lack of human resources to ensure the project planning and implementation," "lack of adequate textbooks in Latvian", “lack of project staff initiative at the planning and implementation phase", "responsibility of officials and political leaders understanding of project planning importance and role" and "inappropriate and poor quality methodological documentation and guidelines."

Second, to show complex analysis of existing barriers to cross-structure were used factorial analysis. Factor analysis allows you to not only find the factors in several variables based on commitment, but also makes it possible to evaluate the association between factors and observed signs and answers the question, how big of a factor within each characteristic. The descriptive statistical methods specific questionnaire looked at a sample of central tendency scores - the mean, the median, and the modules - drawing conclusions about the empirical distribution with

the normal. Also identified were the asymmetry and kurtosis the fourth round of the moment.

Descriptive statistics for the lack of professional training programs in project management.

Descriptive data show a bimodal distribution as the arithmetic mean of 2.56, correspond to any real-world amount. Therefore, the arithmetic mean is not a good enough indicator of central tendency. The median or arranged in rows in the middle of a variation of an existing value is 2, the most frequently occurring value distribution mode - and 2 but the standard 1,108. Overall, the figures illustrate the central tendency of a higher frequency response in a relatively cautious in its evaluation of professional training and programs such as the lack of which is a rare, almost no or only individual project planning and implementation processes.

Variations of parameters were determined asymmetry coefficient, which shows the frequency distribution of the degree of asymmetry, offset from the zero point, that is, the .580. Compared with the critical value of 100 respondents in the group at the confidence level of 0.05 A_{apr} .580 > A_{crit} 0.477, which shows the empirical distribution with the normal. In turn, kurtosis is – .231.

Kurtosis shows how the frequencies are grouped on the x-axis, or they are more centered on the mean, or more dispersed over the whole measurement range of the scale. The greater the variation, the greater the excess, and it is negative. In principle, the local assessing participants' perceptions of professional training programs and the lack of visible diversity of views across the rating scale range. This means that there is no consensus on the issue of training and programs and why appropriate project planning methods and tools not applied. Kurtosis is – .231. It is obtained by adding the fourth consecutive 3 pointer or K4 moment. For group of 100 respondents K_{apr} 2.77 > $K_{lb\ -\ kr}$ 2,35 or 2,77 K_{apr} > $K_{ub\ -\ kr}$. 3.77. The empirical distribution corresponds to the normal and is in accordance with the fourth round of the moment.

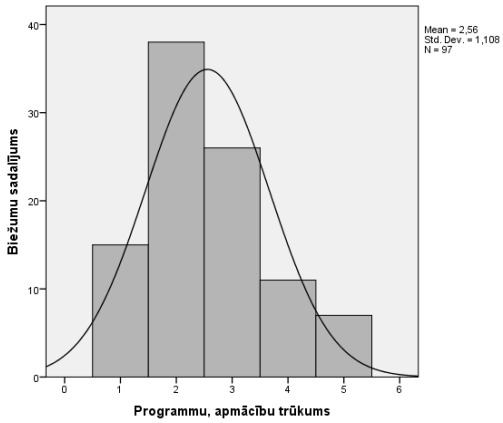

Figure 6. The value of the frequency distribution of the view of professional training programs in Project management

Source: author empirical research

Descriptive statistics for the lack of experience and professional skills in project management

By the analogy, tests for descriptive statistics on the issue of competence and professional skills of the lack of importance of proper project management planning methods and tools were concluded. Were identified indicators of central tendency (arithmetic mean, or χ = 2.55, median 2 and mode 2), asymmetry and kurtosis compared with the critical limits. As A_{apr} 278 > A_{crit} 0.477 ($p < 0.05$), but kurtosis - .684, from which finished fourth row index K_{apr}. 2.32 < $K_{lb\ -\ kr}$ 2,35 or 2,32 K_{apr} > $K_{ub\ -\ k}$r. 3.77. ($P<0.05$), it could be concluded that the empirical distribution by contrast with the normal asymmetry factor, but after the fourth round of the moment in a modest deviation.

Fig.7. shows that the competence and professional skills of assessment methods in the context for lack of professional training programs in the project management is similar but not identical.

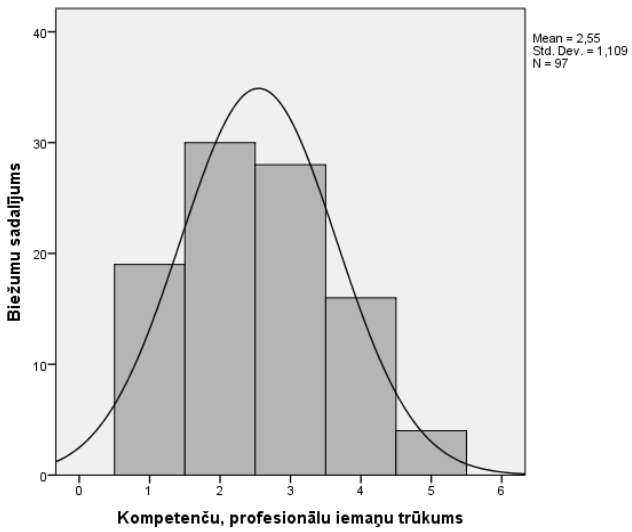

Figure 7. The frequency distribution of the competence and professional skills importance
Source: author empirical research

Descriptive statistics - assessment of the human resources

Also set of statistical indicators for the next questionnaire. The issue of human resource role of the arithmetic mean is 3.12. The median is 3, the mode is the third the standard deviation of human evaluation data is 1.184. Skewness coefficient is - .167, it means that a group of 100 people A_{apr} | - .167 | < .477 A_{crit}, which shows the empirical distribution with the normal. Kurtosis is – .698. K_{apr} 2.30 < $K_{lb\ -\ kr}$ 2,35 or 2,30 K_{ap}r > $K_{ub\ -\ kr}$. 3.77. According to this indicator data empirical distribution does not meet the normal, which is illustrated in Figure 3. - The value of the frequency distribution shown in the histogram. Unlike previous issues of human resources respondents evaluated as important, considering that this is a problem not only affects certain aspects of the use of the project management methods, but it's essential and very important problem, which affects the ability and capacity of local governments in project design and implementation.

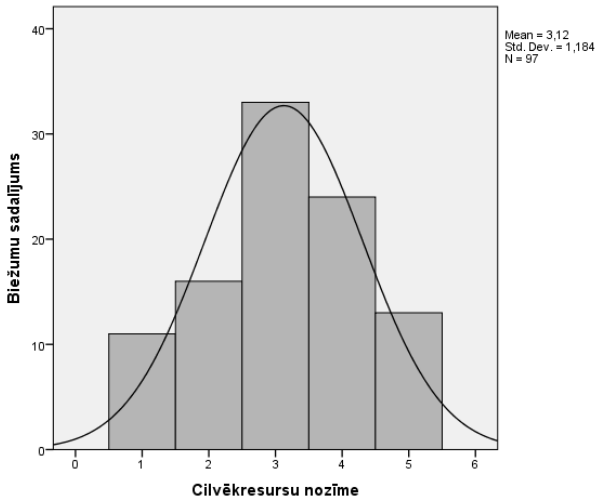

Figure 8. The frequency distribution of the view of the importance of human resources
Source: author empirical research

Descriptive statistics for the lack of textbooks in Latvian language

Statistical analysis of the respondents' assessment of the lack of literature in Latvian language shows that arithmetic mean is 2.04. This means that statistically the average municipal employee considers the lack of project management literature rather than an insignificant problem and only isolated cases occurring in professionals practice. The median is 3, but the mode 1, which indicate that also the most common answers focused directly around the lower values contained in the response "we are faced with such problems," it is obvious that the histogram (figure 9).

The standard for project management textbooks evaluation is .988. Skewness coefficient is .603, it means that A_{apr}, 603> A_{crit} 0,477, so the empirical distribution of the contrast with the normal. Kurtosis is - .374 K_{apr} 2.63> K_{lb-k}r 2,35 or 2,63 K_{apr} <K_{ub-k}r. 3.77, Which also indicate the normal distribution.

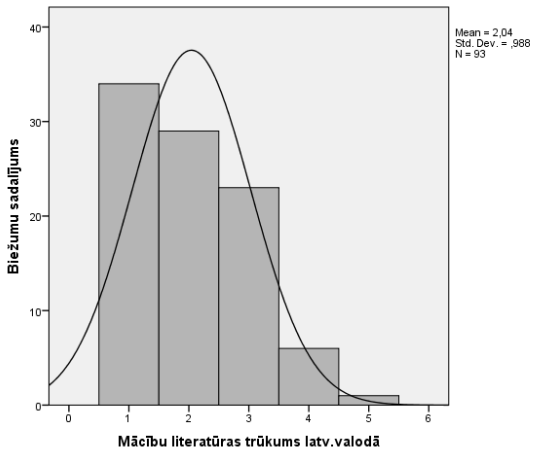

Figure 9. The frequency distribution of the view of the lack of project management literature in Latvian language
Source: author empirical research

Descriptive statistics on employee initiative, lack of assessment

The following parameters were considered in the statistical analysis - lack of initiative of municipality staff in project planning and implementation processes. The results show evidence that local government officials conditionally critical concerns for employees' responsibilities - in both the median and the mode is 3, but the arithmetic average is close to 3 (2.72). This means that most of professional's has lack of initiative and it's a factor that affects the specific project planning and implementation processes, however, refrain assess the lack of initiative as a very significant problem. A_{apr} 2.72 > 0.477 A_{crit}, which shows the empirical distribution of non-compliance with the normal. Kurtosis is – .615. K_{apr} 2.39 > $K_{lb\ -\ kr}$ 2,35 or 2,39 K_{apr} < $K_{ub\ -\ crit}$. 3.77. Although the fourth consecutive fall in the critical moment of the theoretical value within the overall results indicate non-compliance with the normal data distribution.

The histogram in *Fig.10.* shows that opinions about the lack of importance of employee initiatives grouped around the average values of the relative trend in the swing of the lower ratings that lack of initiative is not considered a major problem in project planning and implementation context.

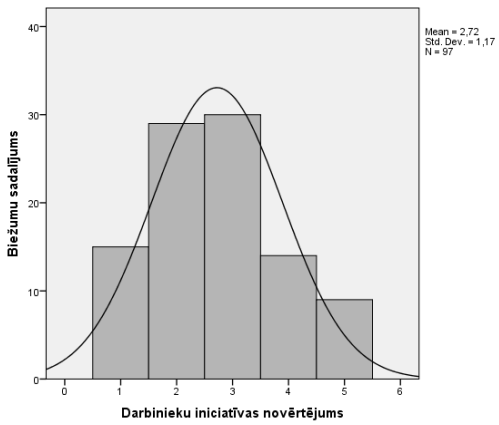

Figure 10. The frequency distribution for the lack of staff initiatives
Source: author empirical research

Descriptive statistics for the officials and politicians responsibility and understanding of project management methods

Statistically, describing the poll question on the officials and local politician's responsibility and understanding of project planning and implementation methods and their role, it was found that the arithmetic mean is 3.01. Median 3, and mode 4, a standard deviation is 1.36. Since the mode is 4, which means that most local government officials who were interviewed chose the answer - "A major issue that has affected the ability and capacity of local governments in project design and implementation". Asymmetry parameter is - .070 as A_{apr}. |- 070|< A_{crit}. .664 ($p<0.05$), it can be concluded that the empirical distribution corresponds to the normal distribution. Excess ratio is -1.264. So the fourth round figure obtained by adding 3 is 1.74. K_{apr} 1.74 < $K_{lb\ -\ kr}$ 2,35 or 1,74 K_{apr} < $K_{ub\ -\ crit}$. 3.77 ($p<0.05$), therefore it does not meet the normal empirical distribution.

Fig.11. graphically displayed on the respondents' views of officials and politicians responsibility and understanding of project planning processes in local municipalities. The barriers to local

project management specialists evaluated as the different views - ranging from the lack of contact with a similar problem - to the assessment that it's essential or very important problem. Moreover, this is a barrier that is considered to be very significant in relation to the research problem.

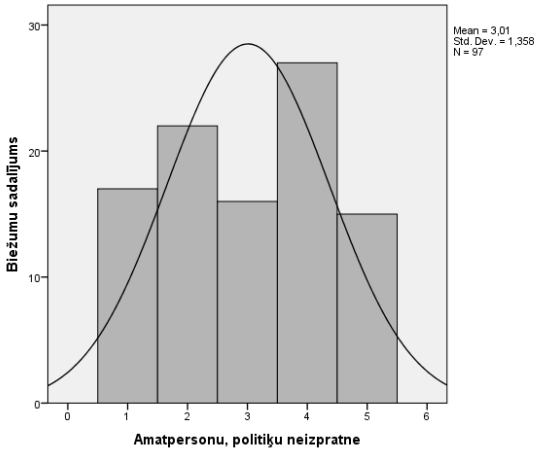

Figure 11. The frequency distribution for the incomprehension of officials and politicians
Source: author empirical research

CONCLUSIONS AND RECOMMENDATIONS

In the public and not-for-profit sectors, delivering sustainable value involves ensuring that public funds are spent in the most effective and efficient way and consistent with long-term objectives, and that services provide the desired benefits to society.

Organizations should place investment appraisal in a wider strategic context in terms of how an investment supports the achievement of strategic objectives, goals, and targets and responds to opportunity and/or risk. For example, determining whether acquisition or internal growth is most effective in reaching an organization's strategic objectives requires an understanding of the business environment and an organization's specific situation. A wider strategic analysis might include an assessment of (a) state and region economics, (b) economic profitability across markets, products, and customers, (c) determinants of sustainable demands and competitive position, and (d) alternative options.

Professional project managers in public administration play a crucial role in promoting and explaining the key principles of project and investment appraisal in their organizations, both to encourage long-term decision-making and to manage uncertainty and complexity. Two key challenges can arise that require their professional judgment.

- Confusion often occurs in understanding a technique's theoretical basis and practical application. Professional project managers in organizations might find themselves needing to advise on where the connections between the application of financial principles and related project management theory are not easily understood or applicable in a current context, such as when economies are in a period of instability.

- Evaluating projects and investments is inherently complex and involves many subjective factors that can affect the outcome of a decision-making process, and ultimately the viability of an organization. Professional project manager in organization can help provide a strategic and operational context, and to estimate the many variables, such as if forecasted cash flows and the cost of debt and equity is being used to fund any project.

Public sector project realization planning represents a project management phase that encompasses goal definition and the determination of ways and measures for achieving the set goals, i.e., that the project is realized in the planned time, at the planned cost.

Study shows that self-assessment of public sector organizations in Latvia is quite high. Project management specialists define them self as very experienced in Project management, but meanwhile the self-assessment of organization project maturity (efficiency) levels shows that organizations is only at the beginning of setting up the appropriate Project management system. The public sectors project management usually is described as different kind of foreign financial instrument and program implementation.

To improve project management practice and efficiency in public sector in Latvia, author can recommend:

- To increase the capacity and professional skills level for local municipal project management staff (training programs, supervisions etc.);
- Define the appropriate organizational structure for project elaboration and implementation (matrix or pure project organization structures);
- Project management tools and techniques should be applied gradually (should be as an obligatory requirement in big scale public sector projects).

In addition for adequate analysis and for ensuring adequate flow of information of public investment evaluation, project managers play a vital role in:

- identifying potential investment sources, assess the strategic impact and socio-economic grounds, the potential benefits;
- identifying alternative solutions;
- ensuring that information is used in a manner that permits acceptance of suitable alternatives;
- coordinate the decision-making process with the organization's management tools;
- carry out an ex-post evaluation.

In summary of the study results, the authors define the planning phase as the most important project management process, since adequate planning process is a factor for successful project introduction. It is the use of inappropriate project management planning methods in municipalities that creates problems in the project implementation and introduction phase, the results of which follow from low-quality technical projects, procurement documents, incompletely developed risk analysis and cost-benefit analysis.

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