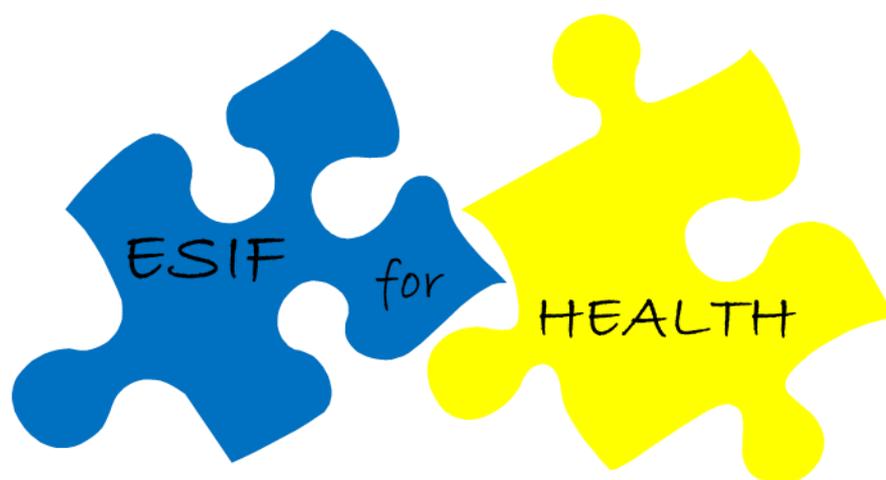


TECHNICAL TOOLKIT:

MANUAL ON HOW TO PLAN, IMPLEMENT AND SUSTAIN CAPITAL INVESTMENT IN HEALTH AND HEALTH CARE

Developed under the project “Provision of support for the effective use of European Structural and Investment (ESI) Funds for health investments”



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Contents

List of abbreviations	3
Introduction	4
1. Capital investment definition	6
2. Health investment specifics	8
3. Capital investment life cycle	9
3.1. Preliminary stage	9
3.1.1. <i>Definition of mission and vision</i>	9
3.1.2. <i>Setting objectives</i>	10
3.1.3. <i>Option formulation</i>	10
3.1.4. <i>Options evaluation</i>	10
3.1.5. <i>Deeper evaluation of proposed solution(s)</i>	12
3.1.6. <i>Choice of desired solution</i>	13
3.2. Planning stage	13
3.2.1. <i>Describing the project management framework</i>	13
3.2.2. <i>Project plan</i>	15
3.2.3. <i>Change management</i>	15
3.2.4. <i>Plan of benefits realization</i>	16
3.2.5. <i>Procurement planning</i>	16
3.2.6. <i>Risk management</i>	17
3.3. Implementation stage	19
3.3.1. <i>Review of validity of key investment aspects and assumptions</i>	19
3.3.2. <i>Procurement of external services</i>	19
3.3.3. <i>Project realization, monitoring and communication</i>	20
3.3.4. <i>Investment evaluation</i>	21
4. Critical success factors in capital investment	22
5. Complex project specifics	23
Sources	25



List of abbreviations

CHAFEA	Consumers, Health and Food Executive Agency
CBA	Cost-benefit analysis
CV	Curriculum vitae
DG SANCO	Directorate General for Health and Consumers
ESIF / ESI Funds	European Structural and Investment Funds
EU	European Union
PM	Project management
PMBOK	Acronym for Project Management Body of Knowledge. Project management methodology developed and published by the Project Management Institute.
PRINCE 2	Acronym for Projects in Controlled Environments. Project management methodology developed and published by the Office of Government Commerce.
SMART goals	Specific, measurable, assignable, realistic and time-related goals
SWOT analysis	Analysis of an organization's strengths & weaknesses and opportunities & threats
WP	Work Package



Introduction

This document “Manual on how to Plan, Implement and Sustain Capital Investment in Health and Health Care” (hereinafter the “Manual”) forming a part of the Technical toolkit supporting the Guide for effective investments in health under ESI Funds (hereinafter the “Guide”) is developed in the framework of a tender action on the provision of support for the effective implementation of European Structural and Investment Funds (hereinafter “ESIF”) for health investments, managed by the Consumers, Health and Food Executive Agency (CHAPEA) on behalf of the Directorate General for Health and Consumers (DG SANCO), being delivered by EY.

The Guide and its supporting documents (see the list of project outputs below) are based on broad analyses of collected case studies and EY expert opinion and do not represent official European Commission documents.

The project outputs developed within the framework of the tender action are as follows:

- ▶ WP 1 MAPPING REPORT ON THE USE OF EUROPEAN STRUCTURAL AND INVESTMENT FUNDS IN HEALTH IN THE 2007-2013 AND 2014-2020 PROGRAMMING PERIODS
- ▶ WP 2 GUIDE FOR EFFECTIVE INVESTMENTS IN HEALTH UNDER ESI FUNDS
- ▶ WP 3 TECHNICAL TOOLKIT FOR EFFECTIVE INVESTMENTS IN HEALTH UNDER ESI FUNDS with the following documents under the toolkit:
 - ▶ WP 3 (1) CATEGORIZATION OF THE 2014-2020 ESI FUNDS INSTRUMENTS AND MECHANISMS
 - ▶ WP 3 (2) REFERENCE CHECKLIST: ESSENTIAL AND SUCCESS FACTORS FOR CALLS FOR PROPOSALS AND FOR THE ASSESSMENT OF PROJECT APPLICATIONS
 - ▶ WP 3 (3) SET OF INDICATORS USEFUL FOR THE FINAL EVALUATION OF ACTIONS
 - ▶ WP 3 (4) COMPENDIUM OF (NEW) CONCEPTS AND MODELS FOR INNOVATIVE, EFFECTIVE AND SUSTAINABLE HEALTH CARE
 - ▶ **WP 3 (5) MANUAL ON HOW TO PLAN, IMPLEMENT AND SUSTAIN CAPITAL INVESTMENT IN HEALTH AND HEALTH CARE**
 - ▶ WP 3 (6) REFERENCE DOCUMENT ON THE APPRAISAL OF INVESTMENT
 - ▶ WP 3 (7) REFLECTION OF ADDITIONAL ISSUES RAISED BY MEMBER STATES

The purpose of this document is to provide practical advice to local Ministries of Health or other institutions involved in the implementation of health priorities in EU countries. More specifically, it advises on how to establish and maintain a process of planning and implementing capital investments as a regular activity, integrated with the other activities of the Ministries, and based on the principles of good public management. The document is written for decision-makers and people who are engaged or should be engaged in this process (especially project managers).

The document covers the following topics:

- ▶ Chapter one details the **definition of capital investment** and sets the background for the subsequent parts. A brief description of capital investment specifics in the health sector is introduced.
- ▶ Chapter two describes **specifics of investments made in the health sector**.
- ▶ Chapter three presents the **life cycle of capital investment** in detail by dividing it into three stages, each of which comprises a set of steps to be taken, hints, advice and examples of how to approach capital investment management:



1. Preliminary stage
 2. Planning stage
 3. Implementation stage
- ▶ Chapter four summarizes relevant **critical success factors to be focused on when realizing capital investment** with respect to findings presented in the Guide.
 - ▶ Chapter five introduces **specifics of complex projects** and highlights the difference between capital investments and complex projects, often used as synonyms.

The primary purpose of the document is to serve Ministries of Health in the EU. However, specific focus on the health sector investment specifics is only in part four. Therefore, wider application of the document to any type of capital investment shall be possible.

1. Capital investment definition

Many definitions of capital investment can be found in the business environment as well as in the public sector.

In public sector, capital investments might be defined as follows:

“Money invested in a business venture with an expectation of income, and recovery through earnings generated by the business over several years. It is generally understood to be used for capital expenditure rather than for day-to-day operations or other expenses.”¹

To put it simple, capital investments represent expenditures made by business on purchase of assets or services improving efficiency of business operations, thus achieving investment recovery.

The same might apply when defining public capital investment. Public investments in general represent government spending on public services (e.g. health, education or transport). Public capital investments thus represent government spending aimed at improving of efficiency of public services operations. This is the main difference between public expenditures and public investments. Public expenditures cover day-to-day operations, while public investments are aimed at changes improving quality or model of public services delivery.

Disregarding the source of its definition, i.e. whether referring to private or public capital investment, several characteristics of capital investment can be seen as common. These are:

- ▶ It involves long-term investment, usually covering a period of several years.
- ▶ The value of investment exceeds a certain threshold, usually hundred(s) thousand euros.
- ▶ A single major investment is concerned, rather than day-to-day investment activity.
- ▶ The investment should extend or improve certain aspects of economic performance measures.
- ▶ Failure of the investment can have a significant negative impact on the investor

The private sector investment definition originating from the business environment emphasizes a recovery of investment through earnings. The specific of public capital investment is, however, that the public good nature of some investment goods means that financial returns will be lower than social returns and costs.² Therefore, **especially in the health sector, the expectation of full investment recovery through increased earnings is often mitigated by the pursuit of other non-profit objectives.** However, the question of economic return on investment cannot be completely ignored even in the public sector, due to the need for effective utilization of public funds.

Further specifics of investing in the health sector can be found in part 2. of the Manual. They are usually a combination of “soft” and “hard” investments, which can be represented by e.g.:

- ▶ Greenfield construction of a hospital
- ▶ An increase in buildings’ energy efficiency
- ▶ Modernization of health care facilities
- ▶ Investment in the implementation of a new system of education and training of health personnel (eHealth)
- ▶ Investments in health education and prevention
- ▶ Research and development and many others

¹ Source: <http://www.businessdictionary.com/definition/capital-investment.html>

² Pietro Toigo and Robert Woods: Public Investment in the United Kingdom. OECD Journal on Budgeting, Volume 6 – No. 4, OECD 2006.



Capital investment can be confused with a complex project which, despite many common aspects, is a slightly different case.³ Its specifics and differences from capital investment are described in chapter 6. of the Manual.

³ Which does not mean that capital investments might not be complex and require specific management approaches, but it does not work reversely, i.e. complex projects do not always need to fall under definition of capital investments.



2. Health investment specifics

The health care sector has its own specifics determining investments in this sector. The main specifics of investing in the health sector, illustrated by particular examples where appropriate, are listed below. The specifics are not tied solely to capital investments and should also be considered when realizing investments of a smaller size and significance.

When planning investment in health, the following shall be considered:

- ▶ Investments in the health sector are usually made by governments or public institutions. Use of public funds therefore brings stricter rules for expenditure and multiple control levels.
- ▶ The health sector is characterized by vast demand and a lack of funds due to budget constraints. Prioritization is therefore necessary because it is impossible to satisfy all needs and requirements.
- ▶ Health is almost everybody's concern which results in a large number of interest groups. With increasing privatization in the health sector, a strong business influence connected with a powerful lobby needs to be taken into account.
- ▶ The political background of the investment needs to be considered. In the case of politically sensitive investments with a broad impact on public opinion, effective communication with the electorate is necessary.
- ▶ Moral and ethical questions need to be considered. For example, while comparing costs and benefits of the investment, calculation of the price of human life has to be taken into account which might lead to a negative perception by a certain part of public.
- ▶ A wide range of indirect costs and effects need to be included in the decision process. For example, regulation of smoking can have a positive impact on the productivity of the population and its overall health status, but in the short term it decreases tax income and can lead to an increase in public debt.
- ▶ Significant non-quantifiable costs and benefits must be involved in the decision process, resulting in the need for expert involvement.
- ▶ The impact of the investment is long-term and uncertain, especially in the case of "soft" investments (healthy lifestyle promotion, smoking prohibition, basic research, etc.).
- ▶ Correlations between the amount of money spent and the impact on health are not linear.⁴ The more money spent on health, the smaller the marginal increments towards the investment target. The general target of investments in the health sector can be described as the improvement of public health, plus the quality and accessibility of health care.

⁴ European Commission: Investing in Health - Commission Staff Working Document (SWD). Social Investment Package for growth and cohesion, February 2013. Available at: http://ec.europa.eu/health/strategy/docs/swd_investing_in_health.pdf

3. Capital investment life cycle

This chapter of the Manual covers various stages of the capital investment lifecycle, i.e. from the investment designing and planning up to its implementation, focusing on key steps to be taken and essential practices supporting the successful completion of each phase.

The **life cycle of capital investment is divided into three stages:**

- ▶ **Preliminary stage**
- ▶ **Planning stage**
- ▶ **Implementation stage**

Each stage is described in detail below.

3.1. Preliminary stage

The preliminary stage gives the background for further specification and detailed planning of the capital investment.

The **main steps to be taken within the preliminary stage** are as follows:

- ▶ Definition of **mission and vision**
- ▶ **Setting** of relevant **objectives**
- ▶ Identification and **formulation of optional solutions**
- ▶ **Evaluation** and appraisal of given **options**
- ▶ **Deeper evaluation of proposed solution(s)**
- ▶ **Selection of desired solution** for further development

3.1.1. *Definition of mission and vision*

As all investments are supposed to fulfil certain expectations, the basic question to answer is: *what are the expectations?*, and respectively *what is the need?* **Identification of a need represents the cornerstone of every capital investment.** A need can arise from various sources. It can result as an outcome of a previously carried out analysis, it can be based on long-term evaluation of feedback of customers, or the need for investment might result from the organization's or governmental strategy. **The need shall be described in the form of a mission** (general purpose of the investment) **and vision** (more specified).

A clear mission and vision definition improves the investment's performance in various ways, for example it makes it easier to:

- ▶ Achieve clarity of purpose among all stakeholders
- ▶ Provide a basis for all other strategic planning activities
- ▶ Provide direction

After the identification of a need, a precise definition of it has to be made. **At the beginning of the whole process, a capital investment objective has to be defined. In other words, a target state of affairs should be defined and sufficiently described to make clear the difference between the current and target state.** The process of objective formulation is described below.



3.1.2. Setting objectives

As mentioned above, identification of a need can arise from different directions. Nevertheless, the description of what needs to be achieved should be, in case of the public sector, mainly oriented on a citizen, i.e., **the objective should be formulated to emphasize its positive impact on public affairs.**

In general, objectives should carry certain characteristics. They should be set in compliance with SMART Methodology. The acronym stands for specific, measurable, assignable, realistic and time-related. Objectives holding these properties can then be easily understood, realized and ultimately verified. These constitute the quantitative aspects of the objectives.

Qualitative aspects of the objectives have to correspond with the strategic framework of a capital investment. **Every capital investment should be compliant with a broader long-term strategy**, whether it is a strategy of an investor, governmental strategy or general strategy of the EU. Setting investments in a strategic framework is one of the conditions of gaining EU funding in the programming period 2014-2020.

This means that capital investment has to be viewed within the bigger picture, which involves an analysis of the investment's relations to other investments, programmes or projects, to avoid possible duplicity and conflicting areas, or on the contrary, to capitalize on possible synergies. The relation of the investment to other activities of investor, and the possible impact on them should be considered too. This whole endeavour aims to capture all relevant interactions which can be influenced by the initial investment in order to then define and evaluate possible consequences. This is especially important in the case of public institutions where the process of information sharing is often underestimated and some departments might not be aware of strategic decisions made and implemented by another. At this stage, to avoid duplicity which might result in a significant waste of public funds, at least one fundamental question has to be answered – *hasn't it been done already?*

To attain a set of desired objectives as above, a situational analysis of both the internal and external environment shall be conducted. In general, assessment of internal and external environment aims at identifying both Internal and external factors that influence the decision-making process and realization of the capital investment.

3.1.3. Option formulation

After setting objectives, a set of options, i.e. ways to attain them, has to be developed. As wide a range of possible options should be identified. **In this formulation process, all main relevant parties should be involved** – i.e. representatives of the investor, customers, specialists, and main stakeholders – **which ensures the minimization of possible misleading outputs caused by an incomplete or biased assessment, ignoring concerns of some parties affected by the investment.**

Options should be focused on detail, not necessarily on a whole objective. Capital investment represents a too complex issue to set clear options at level of the entire project. **At this stage, the goal is not to sketch complete scenarios but rather to divide the issue in its complexity to particular perceptible sections in order to easily understand and describe eventual possibilities.** Thus, no core contingency should be omitted, and that is the key to proper project preparation.

3.1.4. Options evaluation

Options must be evaluated. Porter's Five-Forces Analysis or SWOT Analysis, preferably both should be employed. Although Porter's Five-Forces Analysis is important primarily for a private sector company, it can also provide a public sector organization with useful background information. It analyses the level of competition in a given industry through a composite of five forces: rivalry between competing organizations,



potential entry of new competitors, development of substitute products, bargaining power of suppliers and bargaining power of consumers. This can help evaluate the market and industry.

Strengths, weaknesses, opportunities and threats of each option can be evaluated through the SWOT Analysis (hence the acronym). Strengths and weaknesses represent internal factors, whereas opportunities and threats represent external ones. Matching key external and internal factors is the most difficult part of developing the SWOT Analysis and requires good judgment. **After an evaluation, options with significantly prevailing weaknesses and threats should be eliminated as unacceptable, unless there are available and easily applicable means to mitigate these weaknesses and threats.**

After a brief evaluation, key indicators for an option appraisal have to be specified. These indicators should include factors with a direct impact on the overall success of the investment so that they can **be used to compare and rate all options.** These indicators might include:

- ▶ Compliance with the strategic framework of the organization
- ▶ Benefits optimization
- ▶ Achievability
- ▶ Demand for resources
- ▶ Affordability, etc.

To make the evaluation simpler, minimum threshold values for options in certain aspects have to be set in order to avoid appraisal of a large number of unachievable options.

After the appraisal is carried out, the list of options should be narrowed to the combination of options with the best results, leading to the achievement of the objective, i.e., finding a more specific solution for the investment. The above can result in one feasible solution or several combinations of options to be further appraised and compared.

The whole process should be summarized in an initial document comprising at least:

- ▶ A description of the investor's organization, its purpose, services offered, vision and strategy, organizational structure, etc.
- ▶ A description of the investment objective
- ▶ A description of the current state and the main constraints between the current and desirable state
- ▶ A more detailed description of the scope of capital investment – identification of all affected areas – geographical, business, legal
- ▶ Identification of possible ways to achieve the objective
- ▶ Identification of most significant risks
- ▶ Rough estimation of costs and benefits – direct / indirect, quantifiable / non-quantifiable / qualitative
- ▶ Description of the demand for services, supplies, resources – both internal and external (allocation between core – desirable – optional demand)
- ▶ Identification of the most significant stakeholders who might have an impact on the capital investment approval

All relevant stakeholders should be acquainted with a draft of the capital investment description to ensure their preliminary agreement.

3.1.5. Deeper evaluation of proposed solution(s)

After preferred ways to achieve the investment's objectives have been identified, a more detailed evaluation is performed. The criteria used for a more detailed evaluation will correspond to a large extent with the key success indicators defined above during the initial options appraisal. However, a distinction should be kept between an economic and financial evaluation. **At this stage, the economic evaluation should be focused on a comparison of all costs and benefits that might occur, including those that are hardly quantifiable, while the financial appraisal will be more focused on the need for cash flow and financial resources.** Both of these parts are, however, involved and weighted in a final decision on the investment's realization.

There are a variety of techniques that can be used for evaluation and choice of the right solution. One of the most frequently used methods in the public sector is a cost-benefit analysis (CBA). This method compares all costs and benefits of the investment, whether they are direct or indirect and quantifiable or non-quantifiable. There are several principles that should be taken into account while performing CBA:

- ▶ All figures used to quantify costs and benefits must contain its source
- ▶ A constant reference point is used to ensure comparability of all figures and avoid out-focused results
- ▶ Analysis should contain all known costs and benefits and adequate estimation of unknown costs and benefits
- ▶ Weighting and scoring techniques are used, especially to correctly involve indirect and non-quantifiable costs and benefits in the analysis



More information about CBA together with a description of other methods can be found in WP3 (6) Reference document on the appraisal of investment.

Apart from CBA, other possible techniques that can be used are:

- ▶ Sensitivity analysis
- ▶ Switching values identification

Following three methods should be used for complex solutions with many difficult-to-quantify variables. For more information on these methods, seek specialized literature:

- ▶ Decision trees
- ▶ Scenarios
- ▶ Monte Carlo

While carrying out an economic evaluation, an optimism bias should be taken into consideration. The core of this bias is that the benefits coming into evaluation are overestimated and costs on the other hand underestimated. The bias can be avoided by analysing the probability of its occurrence, e.g., how reliable is the source of figures, whether there can be any motivation to misrepresent figures by the person providing them, volatility of figures, etc. Another way to diminish the risk of an optimism bias is to properly adjust all figures, e.g., increasing costs by 10% and lowering the calculation of benefits in accordance with the probability of the bias occurring.

Financial aspects of the solution should be treated separately from the economic aspects; however, they cannot be omitted. While evaluating the affordability of solution(s), these aspects are to be considered:

- ▶ Budget restraints
- ▶ Cash flow requirements

- ▶ Sources of funding

Construction of a detailed financial model for all offered solutions is desirable at this stage. The financial model should include:

- ▶ Definition of the need for capital and revenues, closure of funding gap
- ▶ Estimation of the investment's effect on the organization's current prices
- ▶ Possible effect on the balance sheet and profit-loss – accounting aspects

3.1.6. Choice of desired solution

After all of the offered solutions are evaluated, the outcomes are summarized and the **decision for the preferred solution is made**. The decision is **based on quantifiable and easily comprehensible results derived from the above analytical methods as well as on qualitative recognition of solutions by top management, taking long-term strategic, political and other aspects into consideration**.

3.2. Planning stage

A planning stage follows the preliminary stage. However, these two parts of the capital investments life cycle will hardly be entirely separate. Many of the steps mentioned below can or need to be taken earlier, before a final decision on realization of the capital investment is adopted. The user of this guide should therefore view these stages as parts of a single complex process rather than approaching them step-by-step. The division into chapters was adopted solely to increase the lucidity of this guide.

The **consecutive steps to be taken** are as follows:

- ▶ **Describing the project management framework**
- ▶ Development of the **project plan**
- ▶ Incorporation of **change management** principles and procedures (in project management framework)
- ▶ **Planning of realization of benefits**
- ▶ Determination of the **procurement strategy**
- ▶ Incorporation of **risk management** principles and procedures (in project management framework)

3.2.1. Describing the project management framework

In the first phase of the planning stage, a project management (PM) framework needs to be described. A wide variety of PM techniques and methods can be found. **For the purposes of PM in the public sector PRINCE 2** (Projects in Controlled Environment) **methodology** published by the Office of Government Commerce is **generally recommended**. The main principles of this methodology are:

- ▶ Clear definition of an investment's start and end point
- ▶ The project / investment must be managed
- ▶ Everyone involved in the investment's realization must have all the information regarding their purpose, objectives and responsibilities.

Another often used methodology is PMBOK (Project Management Body of Knowledge) published by the Project Management Institute.

A clear description of the PM framework is the first step to be taken in planning the investment. The framework should comprise at least these aspects:



▶ **Organizational structure of the project**

Depending on the size of an investment, its complexity and need for human resources, establishment of a specific organizational structure for the project team should be considered. This approach is described as a divisional organizational structure and involves the establishment of a team with its own hierarchy, responsible only for the realization of a particular project. After the project is finished, the team members return to their previous positions.

The organizational structure should contain at least:

- ▶ **A project board** - formed by representatives of the organization, customers, specialists in the field of investment and other significant stakeholders (e.g., government representatives). In public sector this role is conducted usually by a steering committee.
- ▶ **A project owner** - also a member of a project board, who is a person responsible for the successful achievement of project objectives. The project owner is not involved in PM but ensures the high-level coordination of all projects activities and maintains negotiations with all stakeholders.
- ▶ **Project manager(s)** – a person responsible for the planning, organization and coordination of project activities. Depending on the size of the investment and number of different activities there can be a single project manager or one project manager responsible for each particular activity. Proper coordination is necessary where more project managers are involved in order to avoid duplicity of actions. For this purpose the establishment of a programme manager is recommended, whose responsibility is to supervise the work of all project managers, collect information regarding the progress and problems of each activity and report this information to the project board. In the public sector, this role is usually conducted by a project coordinator.

▶ **Reporting arrangements**

Describing the relationships between all team members and establishing channels of reporting, plus the frequency, type of reports and data to be reported should be determined at this stage.

▶ **Management arrangements**

Arrangements at the managerial level include determination of the frequency of project board meetings and establishing channels of reporting to other stakeholders, e.g., the government.

▶ **Key roles and responsibilities**

A detailed description of duties and activities connected with each role in a project team should be accompanied with a clear determination of assigned responsibilities.

▶ **Description of personnel involved**

Each position in a project team should be covered by an experienced employee with adequate skills and competencies. At this stage a pool of personnel for each position should be determined together with their basic characteristics and competencies described in a CV.

3.2.2. Project plan

All of the above should be described in a project plan containing detailed descriptions of:

- ▶ Deliverables of the investment
- ▶ People included
- ▶ Activities performed
- ▶ Resources employed
- ▶ Dependencies between activities and associated constraints
- ▶ Detailed schedule of all activities
- ▶ Definition of control milestones

Gantt charts are recommended for the composition of a project plan which allows a graphic projection of the sequence of activities, together with the projection of relationships between them, resources used and other aspects.

To compose a project plan for a more complex investment, the use of PRINCE2 charts is recommended. The advantage of the PRINCE2 method is that it allows a continuous implementation of changes to the project plan.

3.2.3. Change management

Since the volume and scope of capital investment is usually extensive, an assessment of its impact on the organization itself needs to be conducted. **Most capital investments bring some degree of change to the organization and this change should therefore be properly anticipated, planned and managed.** If the change in the organization is properly managed it can lead to additional benefits from investment, resulting in an improvement of overall performance. The investment can affect the following aspects of an organization's performance:

- ▶ Work environment
- ▶ Organizational culture
- ▶ Processes in the organization
- ▶ Services provided
- ▶ Organizational structure - emergence of new departments, institutions etc.

According to the degree and pace (one-time action or incremental change) of the change, its management can be maintained by the current PM personnel as a part of their regular duties connected with the project. In more significant cases with a stronger impact on the performance of organization a separate team should be established to manage the change. Regardless of the organizational arrangement, the **change management should be focused on:**

- ▶ **Developing a strategy for the change:** What are the aims of the change and how will they be achieved?
- ▶ **Setting the management framework.** The same aspects are to be considered as for setting PM framework as described in chapter 3.2.1.
- ▶ **Change management plan:** The plan describes the main actions to be taken to implement the change in the organization as well as the setting of a schedule, resources needed and deliverables to be created.

The change might not only affect the organization itself but in the case of large investments in health, the area affected by the investment can be significantly wider and involve a whole field of public health. This is especially the case where large "soft" investments (e.g. eHealth, investments in reduction of social exclusion



and poverty) are targeted directly to bring and implement changes of the health system itself. Managing the change is thus a crucial part of these investments, requiring an adequate level of focus, resources and coordination.

3.2.4. Plan of benefits realization

The next step is to plan the realization of benefits. Capital investments can have a wide range of more or less obvious benefits. Some of these benefits are not fulfilled spontaneously but require proper monitoring and management in order to utilize them as much as possible. **Management of benefits realization helps to avoid a situation when some benefits of the investment which were described and involved in the appraisal of solutions, might not be delivered, thus resulting in a worse-than-expected outcome of the investment.**

At the beginning, identification of all potential benefits needs to be undertaken, clearly described in the chart and containing the following information:

- ▶ Type of benefit - quantifiable, non-quantifiable, qualitative
- ▶ Relative weight (outcome vs. probability of realization)
- ▶ Estimated revenue
- ▶ Description of impact
- ▶ Timeframe
- ▶ Responsible personnel
- ▶ Actions to be taken

Each benefit should have assigned an indicator to easily measure the level of its fulfilment. Indicators can be financial, statistical, qualitative, etc.

Realization of all benefits should be monitored continuously during the implementation of capital investment.

3.2.5. Procurement planning

An important part of the planning process is the determination of the procurement strategy. **Since not all parts of the investment can usually be realized solely through employing internal resources of the organization, the correct choice of supplier is a decision significantly affecting the overall success of the investment.** The procurement process is usually time-consuming, and therefore the procurement strategy should be formed and approved sufficiently before the investment implementation is scheduled.

When defining a procurement strategy, the following matters should also be considered:

▶ Procuring independently or in cooperation with other public bodies

A contracting authority can profit from cooperation with other public institutions or central contracting authorities if it is established. The cooperation could take the form of common tenders, joining existing long-term contracts or utilization of experience and processes of the central contracting authority.

▶ Identification of relevant rules for public procurement

The contracting authority should act in accordance with the rules set for procurement in their own organization, at national level, and since capital investments usually have an international overlap, the EU regulations should be taken into account as well. New EU regulations on public procurement were adopted at the beginning of 2014 and their implementation at national level is compulsory by 2016.

▶ Choice of preferred procurement procedure

The choice of a preferred procurement procedure is widely connected with the subject of the tender. Opened procedures are usually long-lasting and require most administrative procedures. However, they ensure the most transparent competition and result in the widest range of proposals. Restricted procedures can be used in tenders where many participants are expected and which might result in a difficult choice of the most appropriate proposal. The contracting authority thus allows submission of proposals only from those participants who prove to meet the given selection criteria. Negotiating procedures offer most advantages for the contracting authority because they allow, in certain cases, a single potential supplier to be addressed. However, the use of these procedures is restricted by given conditions, e.g., the uniqueness of a desired solution which can only be delivered by a certain supplier, lack of time to conduct an opened procedure which might result in an economic loss, etc.

▶ **In-house procurement**

The contracting authority can utilize the possibility of contracting a supplier without a public tender if this supplier is its contributory organization, is controlled by the contracting authority or fulfils other conditions listed in national and EU regulations on public procurement.

The procurement strategy should contain at least:

- ▶ The **parts** of the investment **provided by an external supplier**
- ▶ Preferred **tender procedures**
- ▶ The **schedule of public tenders** allowing for chosen tender procedures

3.2.6. Risk management

Risk management is a continuous process going through the whole life cycle of the investment. Proper risk management planning is therefore necessary. In addition, **risk management can serve as a useful supporting tool in achieving capital investment objectives, raising the efficiency of the whole investment and mitigating possible losses.**

Brief identification of the most significant and threatening risks should already have been conducted during the preliminary stage. Identification of these capital risks serves as an initial appraisal of the investment’s objectives, ensuring that there are no severe risks threatening achievement of the investment’s objective in general.

In the planning stage, a detailed expansion of previously identified capital risks into more specific situations that pose a threat of potential loss to the investor is made. Many types of risks can be recognized, a **brief list of risks to be considered is presented below**⁵:

Type of risk	Description
Reputational risk	The risk that there will be an undermining of public / media perception of the organization’s ability to fulfil its requirements – for example adverse publicity concerning an operational problem.
Delivery risk	The risk that the service is not fit for purpose.
Planning risk	The risk that the implementation of a project fails to adhere to the terms of the planning permission or that detailed planning cannot be obtained; or, if obtained, can only be implemented at costs greater than the original budget.

⁵ Source: Scottish capital investment manual - Business case guide, 18 July 2011. Available from http://www.scim.scot.nhs.uk/PDFs/Manuals/BC/BC_Guide_Full.pdf



Build risk	The risk that the construction of physical assets is not completed on time, to budget and to specification.
Environmental risk	The risk that the nature of the project has a major impact on its adjacent area and there is a strong likelihood of objection from the general public.
Procurement risk	The procurement process lasts significantly longer than expected, for example when the tender is subject to interrogation of national office for the protection of competition. Other risks can arise from the contractual arrangements between two parties in the case of, for example, low capabilities of the supplier or an occurrence of a dispute.
Operational risk	The risk that operating costs vary from budget and that performance standards slip or that a service cannot be provided.
Demand risk	The risk that the demand for a service does not match the levels planned, projected or assumed. As the demand for a service may be partially controllable by the public body concerned, the risk to the public sector may be lower than perceived by the private sector.
Technology risk	The risk that changes in technology result in service being provided using sub-optimal technical solutions.
Funding risk	The risk that the availability of funding leads to delays and reductions in scope as a result of reduced funds.
Legislative risks	The risk that legislative changes increase costs or affect external conditions of the investment.

All potential risks should be monitored in a database. Risks should also be categorized according to their significance (possible loss) and probability of occurring, to determine a weighted level of the risk's impact. Information about each risk should include:

- ▶ Risk type
- ▶ Who identified the risk
- ▶ Date identified
- ▶ Description
- ▶ Significance of the risk (i.e. probability of occurring * expected impact)
- ▶ Dependency on other risks
- ▶ Preventative actions
- ▶ Counter actions
- ▶ Responsible person
- ▶ Current state of the risk

Each risk should have a preventative action assigned to minimize the possibility of its occurrence and also the necessary steps to be taken in the case that the preventive actions fail and the threat becomes imminent. Personal responsibility for both preventative and redemptive actions must be clearly specified.

Another important part of risk management planning is the establishment of streams for continuous risk monitoring. These streams will serve as a source of information for project managers and should be used to continuously gather information about all risks and their probability to occur. The risk monitoring database is updated accordingly.

Risk management should also involve continuous emphasis of **general practice to avoid or minimize the threat of risk occurrence:**



- ▶ **Proper planning:** Avoidance of irreversible decisions.
- ▶ **Pilot studies:** Testing of core project parts through pilot studies helps to identify additional risks and benefits.
- ▶ **Design flexibility:** The chosen option should allow adaptation for future changes caused by the volatility of external conditions.
- ▶ **Precautionary principle:** Even very unlikely risks are assessed and preventative actions are taken.
- ▶ **Risk transfer via procurement:** Some of the risks can be transferred to a different subject through contract conditions – also described in the procurement phase.
- ▶ **Avoidance of new, untested and leading edge technology:** These technologies should be avoided if there is not sufficient value added compared to more established solutions.
- ▶ **Adjustment of options or developing new ones if the risk is too high**
- ▶ **Clear communication of all risks:** All personnel involved in the project should be well aware of all project risks, streams for their monitoring and preventative actions. This should ensure their commitment and help to improve monitoring of risk occurrence.

3.3. Implementation stage

If all previous (preliminary and planning) stages were conducted exhaustively and precisely, the implementation stage of the investment should experience lesser trouble than might be expected. However, even the best plans are based on many assumptions which might be confounded by reality. Therefore, continuous management, monitoring and evaluation of investment activities are necessary parts of its success.

Within the implementation stage, the following activities shall be conducted:

- ▶ **Review of the validity of key investment aspects and assumptions**
- ▶ **Procurement** of external services
- ▶ **Project realization, monitoring and communication**
- ▶ **Investment evaluation**

3.3.1. Review of validity of key investment aspects and assumptions

The first step of the implementation phase should be a revision of all capital investment aspects and ensuring key factors are up-to-date. This includes:

- ▶ Cost / benefit estimates are still up-to-date,
- ▶ All prerequisites are valid,
- ▶ All dependencies and preliminary agreements are still valid.

The eventual changes should be evaluated in light of their possible impact on the achievement of an investment's objective which might result in the last resort of reconsideration of a chosen solution. If only minor changes to initial conditions are identified, implementation of the investment can go ahead.

3.3.2. Procurement of external services

Depending on the type of the investment, procuring external services can constitute a minor or major part of investing activities. Since the procurement strategy was set out in the planning phase, **the next stage involves a more detailed definition of planned public tenders.** The definition will consist of:

▶ **Definition of the subject of the service purchased (public tender)**

This is a description of the desired output, rather than a rigid focus on procedures and means. A wider definition of the subject allows potential suppliers to provide innovative solutions by involving their added value with an overall positive impact on effectiveness and output quality.

Apart from the subject definition, the following shall be also addressed:

- ▶ Clear setting of key milestones to be achieved at agreed intervals
- ▶ Clear definition of indicators measuring the project advancement
- ▶ Choice of payment method (the payment method can serve as a supporting tool to ensure effective solution delivery by determining the motivation of the supplier to stress quality and timely delivery)
- ▶ Choice of evaluation criteria

Evaluation criteria can be an important tool for ensuring value for money optimization. Capital investments should not be based on price-only criteria.

Criteria should stress the innovative qualities of the offered solution and the added value to the core subject of the tender. In the field of health, innovation-driven solutions are highly desirable since they usually involve investments in high-end technologies (medical devices) or investments involving revolutionary changes of current systems (eHealth).

▶ **Choice of procurement procedure** (description of procurement procedures is mentioned in chapter 3.2.5.)

The assistance of an experienced external public tenders administrator is recommended where the contracting authority does not dispose of a specialized department for public tenders organization.

3.3.3. Project realization, monitoring and communication

During the implementation stage of the investment, a **crucial success factor is the detailed monitoring of the investments activities' progress** by project managers, based on collecting data and information from all levels of management, evaluation of this data and its proper communication to the top management of the project, i.e., the project board and project owner. Communication with the project board is usually conducted through steering committees arranged usually once a month, but the period is to be decided by members of the project board.

At the operational level, meetings of project managers with a programme manager (see chapter 3.2.1, Organizational structure) should be established on a regular basis in such a period which allows the programme manager to be informed about problems occurring in investment activities without delay.

The lowest level of project management is maintained by project managers on a day-to-day basis, including coordination, monitoring, task submission and advising of particular personnel responsible for factual realization of each investment activity.

Monitoring of the implementation stage is based on reporting arrangements defined at the planning stage. Besides internal reporting procedures a regular brief assessment of the external environment and initial conditions is needed to ensure all prerequisites are valid throughout the whole period of investment realization. Information derived from monitoring streams, whether internal or external, must be evaluated and incidental updates of affected project documentation commenced if necessary. This can involve updating the project framework, strategy, plan, risk database, benefits realization, etc.



An important part of the implementation stage is **continuous communication of the progress of investment activities towards its future users** (particular users or general public) **and stakeholders** (government, regulatory institutions, interest organizations, etc.). The communication can involve press releases, organization of press conferences and presentation of progress during events connected with a field of investment. Early communication of possible threats and quick responses to any negative publicity that might occur should be accompanied by emphasis and promotion of the investment's successes.

3.3.4. Investment evaluation

The framework for project evaluation should be set in advance during the planning stage. **Monitoring indicators serve as a basis for investment evaluation**, which should be defined in accordance with the investment's objectives and should include economic, financial and qualitative aspects of the investment. These indicators will be slightly different from those used in options appraisal in the preliminary stage. However, some of them can be found in both stages.

Investment evaluation should be then conducted in two stages:

▶ **Short-term evaluation**

Conducted usually six months after the investment is finished, its aim is to ensure that primary cost and benefit valuations were based on correct estimates. If not, adjustment of basic calculations is necessary.

▶ **Long-term evaluation**

Long-term evaluation is focused on the achievement of investment objectives, and therefore follows several years after the investment's completion, according to the length of the investment and target period of objectives fulfilment.

Investment evaluation differs from continuous monitoring of the progress especially in the scope where evaluation will be one-time but focused on a wider range of performance indicators. To ensure objectivity of the evaluation as well as utilizing a multi-source and expert viewpoint, involving an external subject in the evaluation process is advised, on the condition that the external subject has enough experience and expertise in the field of investment.

4. Critical success factors in capital investment

With respect to the various stages of the investment life cycle of capital investment described in part 3, several factors which are critical for the successful implementation of capital investment should be stressed.⁶ These critical success factors are pinpointed in this chapter and represent the most important stages of capital investment, requiring the maximum focus, sufficient resources and continuous management and monitoring.

▶ **Strategic context**

Capital investment should be in full compliance with all relevant strategies at the level of national and international organizations. To ensure compliance, the monitoring of all relevant strategic frameworks is necessary. Compliance with strategic frameworks at all levels will also support the smooth approval procedure of the investment as it can ensure access to a wider range of financial resources. This is because setting investments into a broader strategic context is one of the conditions for ESI Funds utilization in the 2014-2020 programming period.

▶ **Proper and complete assessment of solutions**

Investments decisions must be based on correct estimates and involve all inputs and outputs that can affect their performance. An exhaustive evaluation of all costs, benefits and other aspects of the investment is necessary to mitigate the possibility that a sub-optimal solution is chosen resulting in an economic loss.

▶ **Planning, planning, planning**

As the capital investment can represent a great opportunity as well as a huge threat to the organization in the case of its failure, exhaustive planning of all known and barely-known aspects is crucial. Once the process of investment is begun, every delay in decision, bad reaction to a problem occurred or lack of information leading to incorrect decision can cause irreversible damage to the investment resulting in a significant economic loss. A detailed plan covering all investment activities is therefore necessary.

▶ **Sufficient personal capacities**

An important part of the planning is the determination of a need for human resources. The investment's realization team must be properly staffed in a matter of quantity (enough manpower is available), quality (personnel with enough experience), effectiveness (organizational structure is set according to the type of investment) and awareness (clear roles and responsibilities are set and all personnel is properly informed of them).

▶ **Risk management**

Risk management must be a continuous process going through the whole investment's life cycle which is communicated throughout the organizational structure. Risk management should comprise a risk database with each risk assigned with its impact, preventive and reactive actions, responsible person and probability of occurrence.

⁶ The chapter is based on findings presented in the Guide for effective investments in health under ESI Funds also developed under the framework of this project. For more details on health investments critical success factors identified based on analysis of the 2007-2013 case studies, see Part III of the Guide.

5. Complex project specifics

A complex project is characterised with a large number of components and strong and numerous interactions between them. A complex project is therefore not necessarily significant in its financial volume but its **complexity can come from:**

- ▶ Uncertain definition of project objectives
- ▶ Large number of activities
- ▶ Strong relationship between activities
- ▶ Unclear “way to the top”
- ▶ Multiple stakeholders involved
- ▶ High volatility of outcome

There is no strict borderline between complex projects and capital investments since some capital investments can and should be treated and approached as a complex project. However capital investments with a clear objective and a few straightforward activities do not need to be considered as complex projects and some complex projects might be of such a small volume that they will not be regarded as capital investments by the investor.

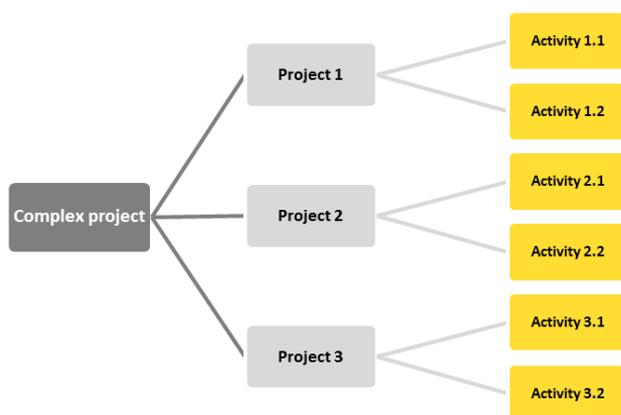
Complex projects in general **require an approach different** from the one used with a simple projects. **Management of complex projects should include:**

- ▶ Focus on convergence
 - ▶ Critical points of the projects
- ▶ A separate team dedicated only to the project
- ▶ Redefinition of organizational processes to fit complex project needs
- ▶ Support of systems necessary
 - ▶ Document control
 - ▶ Cost control
 - ▶ Schedule planning
- ▶ Investments tools, processes and people necessary

The complexity of a project might also arise from the fact that it is being composed of more individual projects covered by a common overall objective. A scheme of such a project is below in diagram 1.

This type of a complex project requires a specified approach due to the need to coordinate the outputs of all subordinate projects. A most effective tool in managing this coordination is the appointment of a specific “programme” manager (see also chapter 3.2.1) who is responsible solely for the coordination of the outputs of particular projects and their compliance with the overall objectives of the complex project.

Scheme 1 Illustrative scheme of a complex project





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