

# **Management of training projects**

**Bachelor thesis**

**Thesis supervisor:**

**Doc. Ing. Pavel Žufan, Ph.D.**

**Tereza Janíčková**

**Brno 2016**

## **Acknowledgement**

Firstly, I would like to thank my thesis supervisor Doc. Ing. Pavel Žufan, Ph.D. for his professional guidance and consultations while elaborating this thesis. I also would like to express my gratitude to Robert Švábenský for valuable advice and willing to help and to František Serbus, who was willing to provide me data and knowledge. Finally, I would like to appreciate my family for its support and patience.

## **Statutory Declaration**

Herewith I declare that I have written my final thesis: „**Management of training projects**“ by myself and all sources and data used are quoted in the list of references. I agree that my work will be published in accordance with Section 47b of Act No. 111/1998 Sb. On Higher Education as amended thereafter and in accordance with the *Guidelines on the Publishing of University Student Theses*.

I am aware of the fact that my thesis is subject to Act. No. 121/2000 Sb., the Copyright Act and that the Mendel University in Brno is entitled to close a licence agreement and use the results of my thesis as the “School Work” under the terms of Section 60 para. 1 of the Copyright Act.

Before closing a licence agreement on the use of my thesis with another person (subject) I undertake to request for a written statement of the university that the licence agreement in question is not in conflict with the legitimate interests of the university, and undertake to pay any contribution, if eligible, to the costs associated with the creation of the thesis, up to their actual amount.

In Brno May, 2016

---

## **Abstract**

Janíčková, T. Management of training projects. Bachelor thesis. Brno: MUAf, 2016.

This bachelor thesis deals with project management, its methods and techniques in order to provide a project proposal for a training project. The methods and techniques are applied on a training project, specifically a medical course operating under organization called Chameleon Brno, for the purpose of project implementation into practice and achieving improvements in its realization. The medical course focuses on education of people working with children and provides them with required qualification.

## **Keywords**

Project management, project, training project

## **Abstrakt**

Janíčková, T. Management vzdělávacích programů. Bakalářská práce. Brno: MZLU, 2016.

Tato bakalářská práce se zabývá projektovým managementem, jeho metodami a technikami s cílem poskytnout návrh projektu pro vzdělávací program. Metody a techniky jsou aplikovány na vzdělávací program, konkrétně zdravotnický kurz pořádaný organizací Chameleon Brno, za účelem implementace projektu do praxe a dosažení zlepšení při jeho realizaci. Zdravotnický kurz se zabývá vzděláváním lidí pracujících s dětmi a poskytuje jim potřebnou kvalifikaci.

## **Klíčová slova**

Projektový management, projekt, vzdělávací program

# Table of contents

<b>1</b>	<b>Introduction and objective</b>	<b>9</b>
1.1	Introduction.....	9
1.2	Objective .....	10
<b>2</b>	<b>Literature overview</b>	<b>11</b>
2.1	Project management.....	11
2.2	Project .....	11
2.2.1	Definition .....	11
2.2.2	Project characteristics.....	11
2.2.3	Project risks.....	13
2.2.4	Project stakeholders.....	14
2.3	Initiation .....	15
2.3.1	Project charter.....	15
2.3.2	Milestones .....	15
2.3.3	The statement of work .....	15
2.3.4	Triple constraint .....	16
2.4	Planning.....	17
2.4.1	Action plan .....	17
2.4.2	Work Breakdown Structure .....	18
2.4.3	Schedule .....	18
2.4.4	Gantt chart .....	18
2.4.5	Network graph .....	18
2.4.6	Budget .....	20
2.5	Executing .....	20
2.5.1	Organizational Breakdown Structure.....	20
2.6	Monitoring and controlling .....	21
2.7	Close-out .....	21
2.8	Organization of non-profit sector.....	21
2.8.1	Non-profit sector.....	21

---

2.8.2	Non-state non-profit organization .....	22
2.8.3	Citizen-action public.....	23
2.8.4	Children organization.....	23
2.8.5	Fundraising.....	24
2.8.6	Retraining programme .....	25
<b>3</b>	<b>Methodology</b>	<b>26</b>
<b>4</b>	<b>Practical part</b>	<b>27</b>
4.1	Establishment of Chameleon Brno .....	27
4.2	Chameleon Brno .....	27
4.3	The medical course .....	28
4.3.1	Basic information .....	28
4.3.2	History .....	28
4.4	Spring medical course in 2016 .....	29
4.4.1	Objective .....	29
4.4.2	Resources .....	29
4.4.3	Operational team .....	30
4.4.4	Course stakeholders.....	31
4.4.5	Course risks.....	34
4.4.6	Work breakdown structure.....	39
4.4.7	Schedule.....	45
4.4.8	Gantt chart .....	46
4.4.9	CPM Methodology .....	47
4.4.10	Management breakdown structure .....	53
4.4.11	Finances .....	54
<b>5</b>	<b>Discussion</b>	<b>60</b>
<b>6</b>	<b>Conclusion</b>	<b>62</b>
<b>7</b>	<b>References</b>	<b>63</b>

---

## List of figures

<b>Figure 1</b>	<b>Matrix interest x influence</b>	<b>14</b>
<b>Figure 2</b>	<b>Triple constraint</b>	<b>17</b>
<b>Figure 3</b>	<b>Graphical illustration of network graph</b>	<b>19</b>
<b>Figure 4</b>	<b>Segmentation of national economy</b>	<b>22</b>
<b>Figure 5</b>	<b>Stakeholders' matrix</b>	<b>34</b>
<b>Figure 6</b>	<b>Gantt chart</b>	<b>47</b>
<b>Figure 7</b>	<b>Network graph</b>	<b>49</b>
<b>Figure 8</b>	<b>Critical path</b>	<b>51</b>
<b>Figure 9</b>	<b>Management breakdown structure</b>	<b>53</b>
<b>Figure 10</b>	<b>Break-even analysis</b>	<b>58</b>

## List of tables

<b>Table 1</b>	<b>Stakeholders' evaluation</b>	<b>33</b>
<b>Table 2</b>	<b>Risk strategy management</b>	<b>37</b>
<b>Table 3</b>	<b>Risk assesment table</b>	<b>38</b>
<b>Table 4</b>	<b>Risk assesment matrix</b>	<b>38</b>
<b>Table 5</b>	<b>Organizational meeting checklist for the head of the course</b>	<b>40</b>
<b>Table 6</b>	<b>People responsible for individual activities</b>	<b>44</b>
<b>Table 7</b>	<b>Schedule of the course</b>	<b>46</b>
<b>Table 8</b>	<b>Dependencies of activities</b>	<b>48</b>
<b>Table 9</b>	<b>Activities time float</b>	<b>52</b>
<b>Table 10</b>	<b>Activities and their costs in CZK</b>	<b>55</b>
<b>Table 11</b>	<b>Costs of individual items in CZK</b>	<b>55</b>
<b>Table 12</b>	<b>Revenues in CZK</b>	<b>56</b>
<b>Table 13</b>	<b>Financial result in CZK</b>	<b>56</b>
<b>Table 14</b>	<b>Costs of different number of participants in CZK</b>	<b>57</b>
<b>Table 15</b>	<b>Revenues of different number of participants in CZK</b>	<b>58</b>
<b>Table 16</b>	<b>Financial results of different number of participants in CZK</b>	<b>58</b>
<b>Table 17</b>	<b>Break-even analysis</b>	<b>59</b>



# 1 Introduction and objective

## 1.1 Introduction

The 21<sup>st</sup> century is under a sign of digital technology due to big boom in computers, telecommunications and information. Almost everyone living in either developed or even developing countries, has at least own mobile phone. In the Czech Republic it is more than common to have apart from mobile phone also computer or notebook, further iPad, iPhone, Smartphone or tablet.

Therefore it is not a surprise that today's children, in comparison with previous generations who spent most of their free time outside in the nature, have different ideas about usage of their free time, mainly sitting at home surrounded by electronics. They do not just embrace technology, it is their way of life. A lot of them cannot imagine the world without digital technologies.

This is the issue that the children organizations are trying to change. The children organizations offer a huge amount of activities, which should satisfy all needs and wants of children. The main aim of children organization is to teach children how to spend free time meaningfully.

Project management with its methods is neither really known nor used by children organizations. The management of these organizations is mainly composed of young people who work with children just for fun and personal interest and are not skilled in expert methods and techniques. However, project management, if it is implemented, might be useful. Primarily, its implementation may lead to better planning and organizing of activities, together with decreasing of costs, time plan shortening and improving resources efficiency.

Leaders and instructors working in children organizations are responsible for the children attending one of the activities on offer. Therefore they must have proper qualification in order to ensure in the first instance safety of the children.

I have chosen the topic of project management because I was just curious what this term includes and what its benefits are. Furthermore, I wanted to know if it could be applied on some of the free time activities I am interested in and I would like to find out the advantages of the project management application in comparison with the current model of management. For my case study I focus on a medical course because I think that everyone should have some medical basics and mainly people working in children organizations, where big importance is put on safety of children. Additionally, I really appreciate the way this medical course provides education for people. On the other hand, I had the possibility to be part of the course management and I saw drawbacks in the course organization. Therefore I decided to apply project management on it in order to achieve possible improvements.

## **1.2 Objective**

The objective of this bachelor thesis is to propose an appropriate project structure focusing on managing a medical course that represents a part of required education for people who work in children organizations. The medical course provides its participants with mandatory certification regarded by the Czech legislation and licences them for work with children, especially from the medical point of view.

The proposed project structure should fit with the aims of the medical course and demonstrates the way of their achieving. Due to the implementation of methods of project management I will identify stages within organization of the medical course, identify and analyze the critical stages of the process using the proper techniques and I will try to suggest possible improvements.

## 2 Literature overview

### 2.1 Project management

Project management is the summary of activities consisting of planning, organizing, managing and controlling resources of the company in connection with relatively short-term goal, which was set for an implementation of specific aims and objectives. (Svozilová, 2006)

Project management is realized through application and integration of management processes which can be divided into five processional groups such as initiation, planning, realization, monitoring and controlling, and close-out.

The object of project management is a project or a project with a set of sub-projects. The objective is to achieve the success of the project and to avoid failure of the project. The success of the project is to achieve project objectives within agreed limits. (Pitaš, Štofko, 2012)

### 2.2 Project

#### 2.2.1 Definition

Because of the fact that we can find some forms of projects almost everywhere around us, a project can be defined in many various ways. Simply, the term project represents any collection of activities, operated by individuals or a group of people, who are focused on achieving common goals with predetermined start and end of activities.

According to Meredith and Mantel (2002), borrowed from the Project Management Institution (2000), a project is defined as a temporary endeavor undertaken to create a unique product or service. Next definition comes from the question when a project is not a project? The author answers that it is in the situation when the project does not meet the criteria set, although these criteria are later analysed and evaluated as insufficient and limited. However, the analysis reveals common features of the above mentioned criteria, such as constraints present in the project, which is a process, a focused activity that often results in changes in the organization. (Maylor, 2003)

#### 2.2.2 Project characteristics

##### Objective

The objective of a project is an ideal situation which is reached by means of realization of the project or result of such realization. A project has a three-dimensional objective, which means it fulfills simultaneously conditions as specification of implementation, costs of implementation and time plan, called triple constraint. In order to make project management successful these three conditions must be measurable and achievable. (Rosenau, 2000)

**Uniqueness**

Each project has to be unique. It means that it is temporary, put into practice only once by a different group of people. Therefore each project includes huge amount of uncertainty regarding its result. Furthermore, a project is not an infinite activity, it has its predefined start and finish depending on beginning and end of work done. (Rosenau, 2000)

**Resources**

For every project it is necessary to have sufficient amount of resources available, mainly for the purpose of its realization. These resources include people, equipment and infrastructure that are needed for performance of project activities. The resources are not consumed during processes, however their availability is restricted. (Pitaš a kol., 2012)

**Organization**

Project organization represents group of people and corresponding infrastructure, where the meaning of authority, responsibility and other mutual relationships are given according to type of business or its processes. Project organization is unique and temporary unit created for a concrete project, which is on every step adapted to life phases of project management. Size is dependent on availability of resources. (Pitaš, Štofko, 2012)

Every organization follows huge amount of objectives, which is not surprising thanks to the fact that every such organization comprises many individuals of different personalities, professions, interests, skills, etc. Project management consists mainly of handling interpersonal relationships as well as conflicts. (Rosenau, 2000)

In general, every project hinges on people who are working on it. In compliance with their authority, responsibility and accountability they are usually divided into three groups.

- **Project Team:** fills project objectives and withdrawals from the project defined by project beneficiary. Project Team consists of project management and realization team.
- **Project manager:** is the person appointed by an organization, who is responsible for realization of the project and achieving project objectives within predetermined limits.
- **Realization Team:** is a group of people who are involved in project work and they are directly subordinate to Project manager. (Pitaš, Štofko, 2012)

### 2.2.3 Project risks

Every project involves at least minimal level of uncertainty that may negatively influence the whole project or individual project's outcomes. Basically, almost every uncertain event in the project connected with the work is risky. It is not easy to find one exact definition of risk because there are many possibilities how to characterise it.

Perhaps the most comprehensible definition comes from the relationship between loss and likelihood, when their product represents the value of the risk. In this relationship the loss stands for the expected consequence of the event and likelihood is the probability of occurrence of the event. Every risk consists of these two, mutually affecting, components. (Kendrick, 2009)

Risk management consists of context determination, risks identification, risks analysis, evaluation of risk and treatment of risks. Further there can be also monitoring and communication. The main goal of context determination is to set methods used and process how the method will be applied.

The next step is to identify danger threatening the project, to record and describe it. The most important risks are identified using the method of brainstorming. The identification of the risk is made according to risk factors. (Doležal, Máchal, Lacko a kol., 2012)

Risk analysis is the tool that serves for understanding the potential problems of the projects more deeply. Techniques for risk analysis are either quantitative measures of risks or qualitative information for determining priority of risks.

Application of qualitative techniques is adequate in situations when wanting to rank-order risks. It allows to select more significant risks and manage them. Qualitative risk assessment requires creation of list of risks ordered according to their severity. However, the list provides only relative severity of risks.

Using the risk assessment tables categorizes risks due to probability and impact, then absolute risks severity may be obtained. These two components in the table are assigned either qualitative rating such as low, medium and high, or a numerical rating in the range from 1 to 5, where 1 represents low level, 5 high one.

Another method used for qualitative risk assessment is to place the risks on the two-dimensional matrix. The rows and columns of the matrix represent impact and probability. Risk matrix has usually shape of square with size five-by-five and divides risks according to value of overall risk to four sectors from the lowest risk to the highest. (Kendrick, 2009)

The aim of the last step is to decrease total value of all risks in order to ensure successful realization of the project. The easiest way is to accept the risk. However, decision depends on the value of risk. When the value is higher than the rate of acceptance, a possible strategy should be proposed. (Doležal, Máchal, Lacko a kol., 2012)

## 2.2.4 Project stakeholders

Project stakeholders are individuals or groups of people, who actively participate in the realization of the project or their interest may in some way influence course and result of the project. They are identified outside the project and sorted according to their objectives. (Svozilová, 2006)

Management of stakeholders requires extensive skills due to the fact that the stakeholders may be divided into supportive and restrictive ones, or to those who have a lot of information about the project and the others who know almost nothing. When identifying stakeholders, it is needed to count with the groups that contribute to the project as well as with groups that do not. Identification may be done through groups charting and consequent listing of stakeholders.

The creation of the list of stakeholders follows the analysis in order to find out the expectations of individual groups and to derive their importance. There are a lot of techniques for analysis, however for the purpose of my bachelor thesis I use only the stakeholder matrix (see figure 1).

The stakeholder matrix or matrix of interest contra influence is a two-dimensional matrix, where identified stakeholders are placed. The placement is based on the evaluation of interest and influence of the groups with numerical rating from 0 to 9, 0 is low and 9 means high level. Then intersection of these values is found and assigned to the stakeholders. The outcome of matrix is division of stakeholders into four groups according to interest and influence and determination of the key players. After determining key players, demand for proper strategy or communication is examined. (Doležal, Máchal, Lacko a kol., 2012)

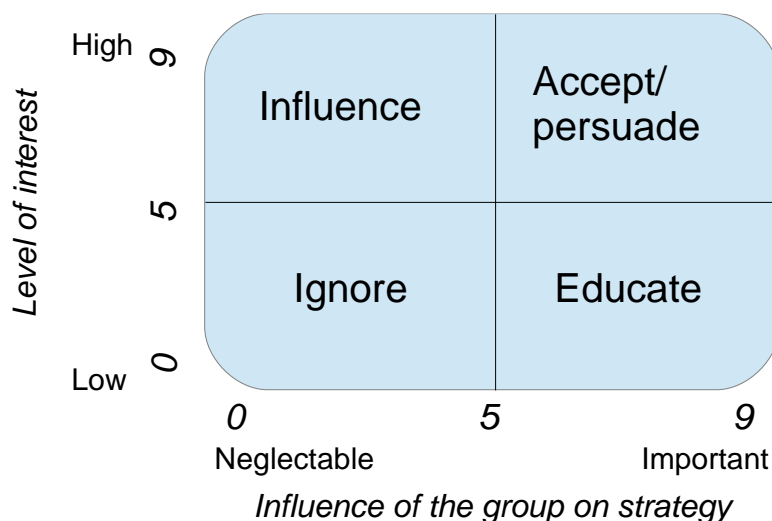


Figure 1 Matrix interest x influence<sup>1</sup>

<sup>1</sup> Source: Doležal, Máchal, Lacko a kol., 2012

## 2.3 Initiation

The aim of the initiation phase, also called conceptual, is the preparatory evaluation of the primary idea. The most important steps that have to be done are preliminary risk analysis connected with the resulting impact of risk on the time, costs and performance requirements as well as a potential impact on resources of the company. What also happens in the first phase is sorting of the projects on the basis of their feasibility. (Kerzner, 2001)

This phase includes a collection of activities focused on determination of project objectives and creation of basic conditions for realization of the project. In the course of the initiation phase following activities are performed:

- Determination of project objectives and strategic needs
- Announcement of internal project or purchase of product
- Conditions and prerequisites of project realization are defined
- Division of responsibilities to authorized people
- Creation of project charter
- Creation of document specifying features and functions of outcome

In order to achieve required objectives, either new, current or finished projects may be used. (Svozilová, 2006)

### 2.3.1 Project charter

Project charter is the basic document enabling the beginning of the project, it formalizes its existence. It provides the project manager with his responsibility and authority for allocation and usage of resources in order to meet the requirements connected with realization of the project.

The project charter is usually created by the project manager in cooperation with project team and project sponsor.

Project charter includes: description of the project, authorization for project realization, scope of powers and definition of conditions and limited criteria for realization of the project. (Pitaš, Štofko, 2012)

### 2.3.2 Milestones

Milestone can be defined as a significant event clearly defined from the point of view of time management. It is a point in which it is possible to measure progress of products and subproducts. Milestone represents checkpoint of controlling output or received decision. Duration and costs of milestones are in the schedule equal to zero and therefore may work as a schedule constraints. In the course of the project the milestones can be further developed by assigning time frame and thus the milestone schedule is created. (Pitaš, Štofko, 2012)

### 2.3.3 The statement of work

The statement of work is characterized as the narrative description of the work that has to be done in the course of the project. It is created by the project office

based on desires of the top management, the customers and the user groups. The statement of work must include objectives of the project, description of the activity, specifications and schedule. The schedule consists of date of start and end, major milestones and written reports. (Kerzner, 2001)

### 2.3.4 Triple constraint

As I have already mentioned, the project has three-dimensional objective. This tridimensionality is displayed by the triple constraint. When wanting to define project objective, the triple constraint (figure number 2) helps with determination based on relationship between its parameters. (Rosenau, 2000)

Project definition and exact specification of project objective is one of the most important activities done in the initiation phase. Project objective and its fulfillment has the substantial influence on achieving the success of the project. (Pitaš, Štofko, 2012)

According to Maylor (2003), every objective should be SMARTi. This method is used in order to make better conditions for formulation of the objectives. SMARTi method is a useful tool and its abbreviation means:

S - specific and written down: it is a starting point for project management describing the state that is desirable to achieve

M - measurable: there should be set a point, on the basis of which it can be easily proved that the goal was achieved

A - achievable: determined objective must be possible to realize physically

R - realistic: the objective should focus on meeting its purpose

T - time-framed: determining the deadline by which the objective will be reached

i - integrated: working together with other objectives as one complex, having the common interest

When trying to implement successful project management, it is necessary to achieve required parameters of specifications in a given term with using set costs. The costs are counted in a demanded currency or in hours worked.

However, there can occur troubles with one or all of the parameters. They are interconnected and influencing one another. With a given specification of implementation, the time plan determines concrete amount of finances needed. If a higher amount of finances is available, it leads to usage of resources in more effective way and also the time plan can be shortened.

The unclear specification of implementation leads to decreasing of quality. The reason can be bad or ambiguous communication between project beneficiary and project team. Time plan may be influenced by excessive emphasis put on the quality resulting in project delay. Next cause of troubles is poor planning of resources that are not available when needed. And last situation influencing time plan is lack of motivation of workers. Costs are usually dependent on time plan thus problems with time plan mean problems with costs. Costs problem can also occur when project manager has insufficient knowledge or in case of inadequate estimation of costs. (Rosenau, 2000)





Figure 2 Triple constraint<sup>2</sup>

## 2.4 Planning

Planning phase is the decisive step for the project. Created plans represent to some extent the whole project, they are simulation of it, describing in writing the project contents and what has to be done in order to meet the triple constraint parameters. (Rosenau, 2000)

The aim of the planning phase is to define the main factors and to create project planning documents. In general, it is a continuation of previous phase enhanced by particularization of outcomes. (Svozilová, 2006)

In reality, there are three planning documents. One defines the specification dimension (action plan or work breakdown structure), the second describes dimension of time, for example network graph, schedule or Gantt chart. Finally dimension of costs represents the budget. (Rosenau, 2000)

### 2.4.1 Action plan

Action plan is the fundamental document displaying the requirements of the project beneficiary, what has to be done and what the deliverables are. The plan describes all main points of the project from its objectives, outcomes, key milestones to resources requirements. A good action plan is the foundation stone of any project, which should assure project management about its correctness. (Barker, Cole, 2009)

It consists of identified set of required activities, needed to meet the objectives, decomposed into subactivities and their outcomes, assigned responsibility, measurement of time duration and required resources. (Meredith, Mantel, 2002)

---

<sup>2</sup> Source: Svozilová, 2006

### **2.4.2 Work Breakdown Structure**

The work breakdown structure can be created in a number of different forms and may serve to fulfill a wide variety of purposes. In this thesis I use WBS that pictures a project as the series of individual tasks depending one on another in order to outline the course of the project. This type of WBS subdivides projects into hierarchical units of tasks, subtasks and work packages likewise as the type of Gorinzo chart (pictorial representation of a product showing the way in which the required components fit together in order to build a product) that may be designed directly from the project's action plan.

Basically, it is possible to talk about WBS as an important document tailored for application in a wide variety of ways. It is a tool helping to illustrate how each element of the project contributes to the creation of one complex in terms of performance, responsibility, budget and schedule and therefore enables better project management. (Meredith, Mantel, 2002)

### **2.4.3 Schedule**

After the creation of work breakdown structure it is possible to go step further and derive project schedule from WBS. WBS is used in order to identify and define project tasks and estimate duration of the individual tasks and then put them in the sequence. It involves three steps such as: examining relationships between tasks, creating and optimizing schedule. (Harvard Business Review, 2012)

The schedule has the aim to create the theoretical project model used as the pattern for realization of the project with keeping limitations of time plan, costs and project extent. The schedule provides project monitoring, risk management, management of changes and lastly also evaluation of the project. (Pitaš, Štofko, 2012)

### **2.4.4 Gantt chart**

The Gantt or bar chart is the most common form of displaying activities. The Gantt chart is used for the purpose of graphical illustration of individual activities or events plotted against time or in some cases against currency. The activities reflect the amount of work that is required for advancing from one event in time to another, therefore events represent either starting or ending point of activities.

The Gantt chart is mainly used for examining progress of individual activities or events as well as describing specific work. The chart consists of items like list of activities, their time duration, dates and progress-to-date. (Kerzner, 2001)

### **2.4.5 Network graph**

Network graph represents the mathematical model of the project. It belongs to the most used tools of project management, because illustration of the project in the form of network graph provides the advantage of clear understanding of activities sequences. Network graph is a connected, directed, acyclic, non-negative

weighted finite graph with one start and one terminal vertex. According to interpretation of two basic elements as vertex and vertices, network graphs are divided into two basic groups that can be used for project display. Firstly there are network graphs marked with abbreviation AOA meaning Activity-on-arrow and the second group is called Activity-on-node, its abbreviation is AON. (Doskočil, 2013)

In Activity-on-arrow the following rules apply:

- The direction of the arrow indicates time running
- The arrow starts and ends at vertex
- The events and activities should have unique marking

The sequence of activities is given by the arrow, which also represents duration of the activity, further called as vertice. The vertex or node in the network graph, activity-on-arrow, represents the finish of one activity and start of another that is dependent on the previous one. More or less the vertex is like a point in time, when almost nothing happens. It is the point having zero duration and costs, known as the milestone. (Maylor, 2003)

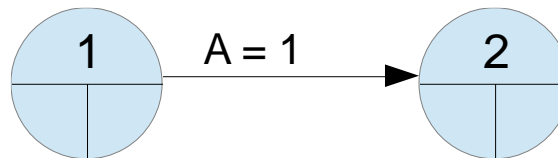


Figure 3 Graphical illustration of network graph<sup>3</sup>

### CPM

Critical path method is a typical example of Activity-on-arrow. It belongs to the group of deterministic methods, which mean the fixed time durations of all activities are required. The main function of this method is to analyze the network graph of the project from the perspective of time. Further, it enables to find out the activities which are critical for the project from the point of view of keeping a deadline with no delay and helps to plan the activities in order which fits the best to the objective of the project.

When wanting to use critical path method, three steps need to be implemented such as calculation of project time demand, determination of time reserves and identification of the critical path. (Doskočil, 2013)

The project time demand is assigned through set of calculations. Firstly the the new terms have to be introduced.

- The earliest start of activity – next activity can begin only after preceding activities are completed
- The earliest finish of activity – is the sum of the earliest start and duration of the activity
- The latest start of activity – is the difference between the latest finish and the duration of the activity

<sup>3</sup> Source: Maylor, 2003

- The latest finish of activity – represents the latest possible finish of the activity in order to avoid delays of following activities

The calculation starts with an assumption that initial vertex starts at time 0. Then we proceed forward through the whole network in order to determine the earliest finish of each activity in the chain by using previous description. In the end, after obtaining final earliest finish we make another assumption that the earliest finish is equal to the latest finish. Then we proceed in reverse to determine the latest start using the same principle as above.

The second step is to determine float or slack according to formula:

Float = the latest finish – the earliest start – duration of the activity

The last step is derived from this formula. When float of some activity is zero, then this activity is a part of critical path. The critical path is the sequence of activities having no float. (Maylor, 2003)

### **2.4.6 Budget**

Planning budget is the necessary activity to do in this phase. Budget has an important function in the entire process of project management. Creating budget means allocating of scarce resources and their assigning to activities for the purpose of meeting desired objectives. It can be also used as controlling mechanism or serves as a comparison tool to measure the deviations between actual and planned usage of resources.

In the process of budget development it is important to estimate resources needed for realization of the project, their amount, the costs and identification of activities, when resources are required. The commonly used cost-estimating methods are: Top-Down Budgeting, Bottom-Up Budgeting and Program Budget. (Meredith, Mantel, 2002)

## **2.5 Executing**

The fourth step is executing or also implementation phase. There happens the project realization itself. It involves the management of subproducts, progress of project activities according to the time plan and budget is controlled, management of communication among project team and coping with conflicts, procurement of required documents, quality control, measurement of efficiency in achieving single objectives and creation of support plan. (Svozilová, 2006)

### **2.5.1 Organizational Breakdown Structure**

The necessary component of this phase is to manage project organization, exactly its structure. Organizational breakdown structure is an environment in which people, working on the project, act and interact with each another. Taking people into one group for the purpose of cooperating in a project provides one advantage. The project organizational structure consists of different specialists, each

understands his own field of science, as it is required for achieving the project task. (Maylor, 2003)

It is not precisely given which organizational breakdown structure is the best. None of them is perfect for the realization of the project. The choice of the structure should be derived from demand of either project or project manager in order to be effective. The three most common structures are: functional, project and matrix. (Rosenau, 2000)

In this bachelor thesis I use only functional type, therefore I talk only about this structure. The functional organizational breakdown structure is nowadays the most frequent organizational form. It is characterized by two principles such as hierarchy and specialism. It enables workers' specialization that also brings high specialism. It means the advantage of the structure, however, it is also the ground of disadvantage. The reason is that most of these specialists are highly interested in their work and do not care about communication process within the organization. Due to lack of communication problems like misunderstanding or conflict may occur resulting in delay of the whole project. For this reason, the functional structure is labeled as the least suitable. However when the functional structure was already chosen, then it is the responsibility of the project manager to ensure good communication flow. (Rektořík a kol., 2010)

## **2.6 Monitoring and controlling**

In this phase runs the process of collecting data from individual activities in progress. Data are further sorted and evaluated in order to find out deviations from the plan and to ensure reparations needed for next smooth run of the project. The incurred deviations may lead to plan changes, which mean modification of project objective as well as reallocation of resources. (Pitaš, Štofko, 2012)

## **2.7 Close-out**

The final phase of the project is dealing with reallocation of resources that are no more required for the needs of the project. It is also a phase when the total project is evaluated based on outcomes, achieved objectives and efforts. Furthermore, it may later serve as the foundation of new projects situated in the conceptual phase. Finally, this last phase influences the course of other running projects with regard to priority identification. (Kerzner, 2001)

## **2.8 Organization of non-profit sector**

### **2.8.1 Non-profit sector**

To understand the meaning of non-profit organization it is necessary to delimit its place in the national economy. The best and most comprehensible way how to segment the economy is according to finances, basically to for-profit and

nonprofit sectors. The Swedish economist Victor A. Pestoff uses for description of national economy segmentation the triangle divided into four sectors based on the three criteria such as financing, ownership and rate of formalization (see figure 4).

Nonprofit sector focuses on raising finances through the distributive processes. Their principles are described and checked by way of public finances. The primary objective of this sector is not to earn profit, but to reach direct utility usually in the form of public services.

The nonprofit sector is further segmented to nonprofit public sector, nonprofit private sector and sector of households. (Rektořík a kol., 2010)

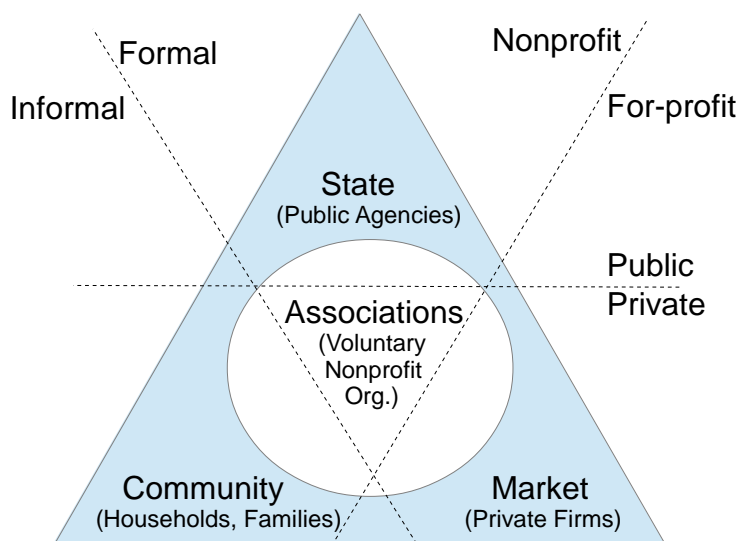


Figure 4 Segmentation of national economy<sup>4</sup>

### 2.8.2 Non-state non-profit organization

The precise definition of the non-profit organization is not given in the Czech professional economic literature. Therefore, basic definition can be derived from Act No.586/1992 coll, on income tax, § 18, article 7, describing it as organization with the character of legal entity that was not founded for business purposes. (Rektořík a kol., 2010)

On the other hand, non-state non-profit organization can be defined from four perspectives, negative, legal, economic-financial and functional. Connecting these four delimitations the final definition is obtained. The non-state non-profit organization does not create profit for the purpose of dividing it among the founders or owners or even maximizing it. Although the organization earns profit, it has to be used as the investment into the future development. The organization acts as a legal entity with the primary objective of providing beneficial public

<sup>4</sup> Source: Rektořík a kol., 2010

services in a given field. From the economic-financial point of view the organization raises finances in the form of voluntary contributions from other subjects. Finally, the organization expediently focuses on demand in the society.

According to the government council for non-state non-profit organizations, the non-profit sector is viewed as the complex of non-state non-profit organizations acting in following legal forms:

- Citizen-action publics and their organizational units
- Foundations and endowment funds
- Religious organizations
- Public service companies

Further the non-state non-profit organizations can be divided into publicly beneficial and mutually beneficial organizations. (Boukal, 2009)

### **2.8.3 Citizen-action public**

For the purpose of this bachelor thesis I do not deal with all legal forms of non-state non-profit organizations, only with the citizen-action public.

The citizen-action public, which belongs to the group of mutually beneficial organizations, is an association of natural person and legal entity who cooperate in order to realize the common interest. The citizen-action public is registered by the Ministry of Interior on the basis of application for registration and two copies of organization statutes appendant. The application is created by preparatory committee consisting of minimally three people who have Czech citizenship and at least one of them is 18 years old.

The foundation of the association is based on the creation of statutes that represent the main founding and organizational document. The statutes must include: the name of the association, its seat, the main objectives of the association, members' rights and duties, management principles, bodies of association, designation of bodies and functionaries authorized to act on behalf of the association and its organizational units.

The highest body of the association is so called general meeting, in which all members of the association participate and together vote for the council and the chairman. Their goal is to manage the association and make decisions that do not cause radical change.

As regard finances, in the case when the association has the intention of owning property, it is obliged to bookkeeping.

The main objective of the citizen-action public is either to share common interest (children organization) or to provide publically beneficial services (social services, etc.). (Boukal, 2009)

### **2.8.4 Children organization**

Most children organizations are of citizen-action public type. They are associated under the Czech Council of Children and Youth that support after-school

education and activities of its members in order to provide better conditions for high-quality life and all-round development of children and youth.

Children organizations are divided according to their field of interest into five groups: touristic (Association of touristic youth clubs), religious, ecological, sports and others. They occupy themselves with enlightenment, educational, pedagogical and charitable activities, support and satisfy interests and needs of children and members of the organization by way of all-round activities in the miscellaneous children collectives with the regular year-long operation, holiday and further leisure time activities. The activities of children organizations are ensured mainly by the work of voluntary workers. The raising of finances, for operational use, can be done in various ways, one of the methods is fundraising. (Česká rada dětí a mládeže, 2016)

### **2.8.5 Fundraising**

The basic condition for foundation and maintenance of the nonprofit organization is not only to have enough volunteers who do their work with enthusiasm, but also to ensure its activities with sufficient amount of finances. That is why every non-profit organization in the course of time focuses on raising financial resources. One of the solutions may be in implementation of fundraising.

Fundraising lies in searching and obtaining resources as well as their management. This tool is intended to be used especially for nonprofit organizations in order to deal with lack of resources and hereby help them to achieve their objectives. It includes three activities that are: planning, administration and communication.

The resources of nonprofit organization can be divided according to various classifications and criteria. Based on their character there are financial and nonfinancial resources, domestic and foreign due to the geographical origin, then according to the origin of resources exist internal resources of the organization or external from private, public or individual sources. Finally when looking on the way of raising, resources are grouped to direct and indirect.

The methods how to ask for a financial support differ in compliance with what the organization prefers. It has the possibility to choose from direct mail, public collection, benefit event, personal letter, telephonic talk, personal visit etc.

The application for an endowment is often the most suitable way for organizations which do not need large amount of finances. Primarily for the nonprofit organizations engaged in working with children, children clubs or groups which can act as legal entities. These clubs can profit from the fact, they are based on the principle of membership. It provides them with a big advantage, because of long-lasting relationship between the club and its donors regarding regular contact. (Rektořík a kol., 2010)



### **2.8.6 Retraining programme**

Retraining programmes were set up within the project called UNIV 3 – Support of process approval that was realized by the Ministry of Education, Youth and Sports in cooperation with the National Institute of Education, a school consulting facility and the facility for further education of pedagogical workers. The financial support was provided by European social funds and the state budget of the CR. (Kaňková, 2015)

In a case when the organization wants to create and offer an accredited training project, it has to apply for an accreditation, granted by the Ministry of Education, Youth and Sports. The conditions for the realization of the training project by educational organizations owning the accreditation of the Ministry of Education, Youth and Sports are as follows:

1. Submitting an application for realization of the training project on a given form. The retraining can be realized after obtaining the accreditation.
2. The educational organization realizes the retraining in accord with the obtained accreditation, it has to observe the terms given in the application for the accreditation.
3. In case of changes directly connected with the educational organization, there is an obligation to report them in a written form to the department of further education of the Ministry of Education, Youth and Sports.
4. In case of changes directly connected with the realization of the accredited training project, the organization is obliged to report them in a written form to the department of further education of the Ministry of Education, Youth and Sports.
5. The educational organization is obliged to keep documentation including amount of lessons given, their time duration in hours, the name and signature of the lecturer for the whole period of validity of the accreditation.
6. The educational organization is obliged to keep published records about the successful completion of the training project (the certification) for the whole life cycle of the educational organization.
7. The educational organization organizing practical training has to ensure that it is realized under the supervision of professional staff.
8. The participant is allowed to take final examination provided his/her attendance is over 80%. (Kaňková, 2014)

### 3 Methodology

Literature overview of the thesis comes from the expert literature dealing with project management and non-profit organizations. The sources of information on retraining programmes are official web pages of the Czech Council of Children and Youth and the Ministry of Education, Youth and Sports.

The practical part can be divided into two sections. The first includes foundation and basic information about the organization called Chameleon Brno that is the organizer of the medical course. Further, there is described, in general, the medical course, its contents, structure and brief history.

The second section represents the proposed project structure based on experience and knowledge gained from the 2016 spring run of the medical course. Firstly, I set time plan and objective of the course together with resources allocation. Next, the composition of operational team responsible for realization of the course is described. I also identify the course's stakeholders and risks, analyze them and suggest possible strategy how to handle them. Thanks to implementation of project management methods I created a proposal of work breakdown structure with individual activities listed, their sequences and outcomes, which can be used also for other courses in the future. I also add a proposal of checklist of organizational meeting in order to prevent the head of the course from making mistakes at the beginning of the course – this checklist can be further extended based on the future experience. From WBS there is derived the schedule of the course and also its Gantt chart. CPM is accomplished for the purpose of identifying critical stages of the medical course and management breakdown structure illustrates division of operational team within the organization. Finally, based on an interview, I assign price of the course for participants from obtained costs of individual items. Furthermore I calculate financial result of the course with 64 participants and run a break-even analysis that shows the minimal number of participants needed for realization of the course in order to cover all course's costs without suffering a loss.

## 4 Practical part

### 4.1 Establishment of Chameleon Brno

In the Czech Republic in the 20<sup>th</sup> century there have been in operation, besides children organizations like Pioneer or Scout, other clubs oriented on children. However, they were not regarded as children organizations. For these clubs it had the only consequence, they could not obtain any subsidy from the state for their activities connected with children. These clubs operated under the organization called the Czech Tourist Club, which was during the communist regime incorporated into so-called united physical education. The situation changed after the Velvet Revolution in the year 1989. The Czech Tourist Club became an independent organization.

This was also the time, when the clubs seized their opportunity and alongside the Czech Tourist Club established the association known as Touristic youth clubs, a part of children organizations. Furthermore, the members of Touristic youth clubs were as well members of the Czech Tourist Club. At first, there were three independent clubs, each had its juridical subjectivity. In the course of time the clubs were growing and new were founded. Moreover, there aroused a resolution to set up an organization with the purpose to integrate all these clubs into one complex and to meet the requirement to function under a unit. Thus, Chameleon Brno was founded. (Serbus, 2016)

### 4.2 Chameleon Brno

Chameleon Brno is a non-profit children organization. From the beginning, this organization had only two functions. The first was to fulfill an obligation given by the state and secondly it acted as the auspices for the clubs. Nowadays, ten touristic clubs operate under the Chameleon Brno, these clubs focus mainly on year-round work with children. Subsequently Chameleon Brno organizes various events like puzzle hunt, but in the first instance medical courses.

For the purpose of realization of a medical course and in order to provide participants with the proper qualification the organization needs to apply for accreditation by the Ministry of Education, Youth and Sports (MEYS). The medical course, according to the acquired accreditation, has to meet the following requirements:

- to fill in a form once every three years
- to pay a fee in the amount of 1000 czk once every three years
- to keep a register of course graduates

Then, due to the accreditation, the medical course is recorded in the register of courses. Finally, they do not ask for any endowment therefore no other obligations need to be fulfilled. (Serbus, 2016)

## **4.3 The medical course**

### **4.3.1 Basic information**

The medical course is a retraining programme. Participants after attending and successful completion of all its conditions obtain a certificate that enables them to work as a medic at recreational events, for example on school trips, children camps or with other people on curative stays. The course is accredited by the MEYS.

The course itself is divided into two weekends with time interval about four weeks between them and it is run twice a year, usually in spring and autumn. During these two weekends the participants learn, either theoretically or practically, first aid basics. The content of the course consists of lectures led by qualified lecturers, who purvey all necessary information from the medical science field and are able to answer queries asked. Next there is a practical training, when the participants can try how to treat fractures, bandage body parts like wrists, elbows, knees, then they learn what to do with a person who suffered a blackout which lasted for several minutes, how to provide first aid, treat bleeding, rescue drowning etc. Finally, in the last evening is reserved for simulation. Participants should utilize acquired knowledge and therefore ten cases of various injuries are prepared for them. It takes place in the nature, where figurants are allocated. The whole course takes place in the pool in Blansko and at bases in Ochoz u Brna and in Olomouc.

### **4.3.2 History**

The medical courses, run by the Chameleon Brno organization, have been realized since 2006. The first course was distinct in comparison with the contemporary ones. The biggest difference is in the management of the course. Previously mentioned organization merged with another organization, which was as well interested in public health, or in other words, the leaders of children clubs cooperated with people from the Red Cross in order to create the medical course from different points of view compared to those already existing. The cooperation had one big advantage for the leaders. They learned so-called Red Cross techniques, mainly how to mask themselves properly so the participants would without any doubts believe that the figurant is wounded indeed and hence the situation seems real.

Further, the course came into being due to the ideas of the leaders, no other external impulses were present. The main idea for the start of the medical course was that every leader and instructor, who is working in one of the children clubs operated under the organization Chameleon Brno, should have the first aid course. (Serbus, 2016)

## **4.4 Spring medical course in 2016**

The course in spring 2016 was realized within two weekends. The first was according to schedule from 5<sup>th</sup> to 7<sup>th</sup> February and the second from 11<sup>th</sup> to 13<sup>th</sup> March 2016. However, the implementation itself lasted much longer, when counting also the preparation phase. It eventually started on 21<sup>st</sup> January and finished simultaneously with the last participant who successfully completed the course and was recorded into the register of the course graduates, exactly on 14<sup>th</sup> March 2016.

### **4.4.1 Objective**

The objectives are based and derived from the concepts of current medical courses operated by other non-profit organizations, even the commercial ones. The primary reason is that the current medical courses are not very interesting, consist of a huge amount of theory and only minimum training. And according to Chameleon Brno this is what has to be changed.

People who are included in the process of realization strive for their course to be unique. They try to fulfill their goal through the character of organization and due to their attitude to education. That is why they decided to make a different structure of the whole course and apply experiential learning. Foremost to reduce the amount of theory, to practice the skills and knowledge not inside a warm and comfortable building, but in the external conditions, which imitate situations from real life and increase practical training to such extent that the participants after graduation carry off not only knowledge, but also the feeling that they are able to help anyone who happens to be in a life-threatening situation. To conclude, the main objective of the course is to educate people so that they become proper role models for children and can positively influence other people.

### **4.4.2 Resources**

In order to realize the course, it is needed to implement resources, both human and material. The course management has to know the amount of the resources which must be used for the purpose of successful realization of the course. In addition, they have to take into account that not all of the resources they count with are or will be accessible on time when requisite. Owing to it it is necessary to consider resources availability, mainly when thinking about human resources.

The one who leads the course is the same person who has the qualification for managing the resources. Focusing on human resources emphasis should be put on choosing the right people for the team. For the realization of the course and providing all important information to the participants, the head of the course needs at least seven lecturers who have required knowledge, are able to teach and attract people and are enthusiastic about the aim of the course. A more complicated situation is with demand for figurants. Because there is a surplus of them, the head of the course in the cooperation with the lecturers should easily

manage the quantity but not the quality. The trouble is when recent graduates of the course want to become figurants and the management does not know them very well. The management can observe their skills and attitude during the course, however the answer is how they will behave in the opposite case, when the responsibility for simulating right symptoms in model situations will be put on their shoulders.

With material resources it is easier to predict, plan and arrange accurate amount. The advantage is that management has the possibility to use whatever material, which the organization directing the course owns, because no other people have access to it so it is always available only for the purposes of the course. The material resources cover everything from resuscitation devices through masking sets and first-aid kit boxes to bandages, sticking plasters and pills.

#### **4.4.3 Operational team**

Operational team consists of people who spent their free time in some children clubs and hold the function of leaders or instructors. None of them earn money from this activity, they work as volunteers. When talking about medical course it runs in the same manner. Members of the project team do not receive any wage, they really do it just for fun, good feeling and see it as a way how to educate not only course participants, but also themselves. However everyone who lectures on medical topics is a qualified professional.

#### **Head of the course**

The head of the course is responsible for the realization of the whole course. He prepares contents of a meeting, the main points which have to be done before the course starts. He creates the structure of the course including schedule, which he also checks and looks after accurate and smooth progress, manages resources at the beginning and during the course. He directs information technology by means of publishing information about the preparing course on the web sites and gives the possibilities for application, delegates the work toward subordinates, maintains relationships in the team as well as those with stakeholders and furthermore ensures basic life conditions on the course like accommodation, food and beverages. His goal is to look after the course administration, provides certification and finally deals with finances. His name is František Serbus, however no one calls him in other words than Frodo.

#### **Lecturers**

Lecturers are directly subordinate to the head of the course so they have to inform him about the advancement reached. Predominately their primary task is to prepare themselves, topics and material for the course to be understandable for the participants and to include all the crucial information. Also they have to select the figurants who will correspond to the need of individual lecturers and the content of the topic of lecture. Then these figurants who fit the best to the

lecturer's demand according to their skills, accomplishments and attitude are asked for cooperation. Lecturers make sure the figurants understand the topic and the role they play in it. Next lecturers coact with the head of the course on construction of the final exam which is designed in order to show the participants' knowledge. Basically there are seven lecturers, each specializes in a different field of medicine.

### **Figurants**

The number of figurants is not precisely given. It depends on demand of lecturers, how many figurants are needed for single lectures and practical training. Exactly it is counted that there have to be one figurant per two participants. The goal of figurants is to meet the requirements of lecturers and also fulfill their own goals which are delegated by the head of the course. There belong mainly activities such as camouflage so that after the procedure it looks like they are really injured, coming up with suggestions on potential wound which are afterward treated by participants, preparation of practical training like finding place, bringing required material and lastly helping anywhere it is needful.

### **Cooks**

On the course, cooking is operated by members of the children clubs, which means there should be at least two people who provide preparing of meals and beverages. The cooks take care of participants' basic life needs so they are indispensable part of the team. They are responsible for making the list of foodstuffs which are later purchased, for cooking itself, keeping prescribed deadlines for feeding and tidying up.

#### **4.4.4 Course stakeholders**

The most influenced group by the course are definitely course participants.

The reasons why they apply for this course may differ. They tend to obtain the certification, which confirms that they are able to work as medics at recreational events so they can hold that position at children camps, and due to it they are fully qualified for such activity. They may also do it for further education of themselves or want to gain knowledge about medical practices in order to get a holiday job. Among the main benefits the participants gain belong personal growth and development, widening their knowledge and accomplishments, increasing of self-confidence and last but not least they meet new people.

The second group partly connected with the previous one are children organizations. The biggest motivation why children organizations or individual clubs send their leaders and instructors to the medical course is to have enough educated and qualified people among their members. Afterward, pursuant to the law, these people fulfill all of the legal conditions given and consequently the clubs and organizations are entitled to exercise the activities connected with work with children.

The owners of the bases in Ochoz u Brna and in Olomouc have their share of interest in realization of the course as well. From the economic point of view their principal issue for providing accommodation is to earn money. However, there exist other motives for their participation. Firstly, they try to build a strong relationship with course management in order to create good name and secondly make themselves more visible thanks to using the course's services. As the course management spread their good experiences with these owners through the word of mouth to other organizations and give positive recommendations, it guarantees free advertisement. The owners prosper from this kind of marketing activity.

The vision of an easy income is a decisive element in the decision-making process in the case of the owner of the swimming pool. His choice whether to rent out the swimming pool for the course training reasons or not is pretty simplified thanks to the fact based on precondition of positive effect of money earned.

The Ministry focuses on further education of inhabitants of the Czech Republic, mostly on the youth. Therefore it offers support on training activities like this in the form of grants and subsidies.

Finally, organizers of other medical courses represent the only group which is negatively influenced by the medical course from Chameleon Brno. They may suffer due to the attention and popularity of this course, because of the fact that this course is taught with different approaches and methods. Therefore, as I mentioned in the article development of the course, during the last few years there have been an increasing trend of attendance on the course which leads to a huge number of participants, the participants who choose Chameleon Brno organization and its medical course rather than the competition.

### **Stakeholder analysis**

I apply the stakeholder analysis in order to find to whom and why pay attention and to whom and why the organization should be responsible in order to meet the course objectives. I have to find out so called key stakeholders, either individuals or groups, who have the major influence on the course and also the biggest expectations.

For the purpose of analysis I choose the stakeholders matrix. The matrix consists of four quadrants, divided according to rate of influence and rate of interest of individual stakeholders.

At the beginning of the analysis I have to list all stakeholders and evaluate the importance of the course for stakeholders as well as their power towards organizers. These two factors are evaluated according to the scale from 0 to 9, when 0 means the lowest level and number 9 the highest one. There can be also added the sort of interest that the stakeholders have, if it is either supportive or restrictive. The evaluation of stakeholders is present in table 1.



Table 1 Stakeholders' evaluation<sup>5</sup>

<b>Interest group</b>	<b>Basic interest</b>	<b>Importance for a group</b>	<b>Power towards organizer</b>
Participants	Supportive	9	9
Children organizations	Supportive	9	7
Owners of the base in Ochoz u Brna	Supportive	7	4
Owners of the base in Olomouc	Supportive	7	4
Owners of the swimming pool	Supportive	6	4
Ministry	Supportive	4	6
Organizers of other medical courses	Restrictive	4	6

From the evaluation of stakeholders I am now able to make the stakeholder matrix. The stakeholder is located in the quadrant in which the resulting numerous evaluation has its intersection. The results are depicted in figure 5.

The last step of analysis is to suggest communication strategy. Figure 2 demonstrates that the main stakeholders of the medical course are participants and children organizations. In order to ensure sustainable relationship the course management should pay attention to feedbacks from participants and try their best in improving the course. Further they can participate in the children organizations encounter, share their experiences and be in connection with other children clubs due to cooperation on events.

---

<sup>5</sup> Source: Own elaboration

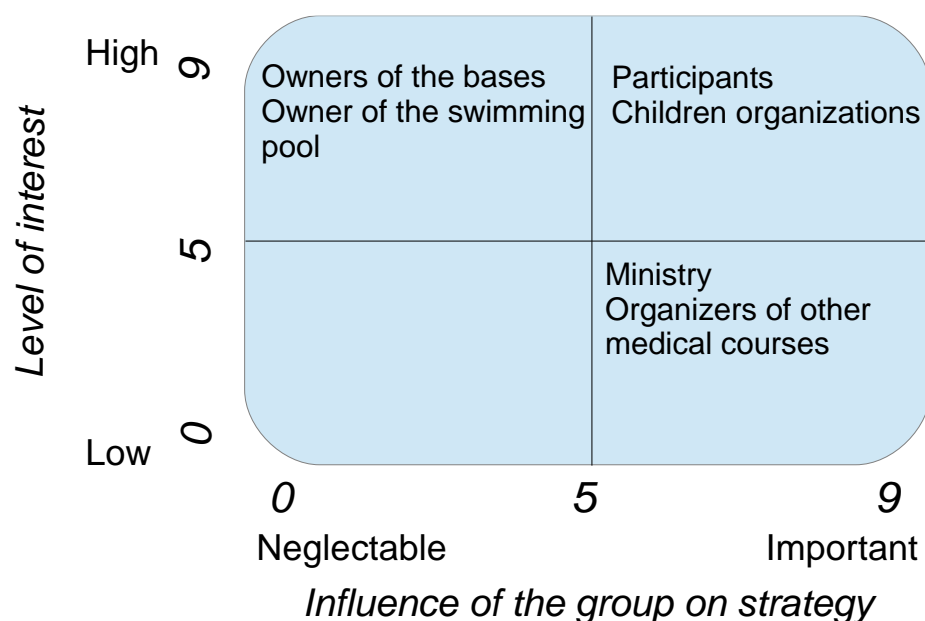


Figure 5 Stakeholders' matrix<sup>6</sup>

#### 4.4.5 Course risks

Before the course itself starts, it is always necessary to count with the possibilities that not everything will go in the direction that is planned. Almost with realization of each such activity, there are connected specific risks. Likewise this course might be negatively influenced by variety of risk factors.

First six of identified risks are evaluated only by low rate of risk. Therefore, in the text below I place suggestions in what ways these potential risks could be solved, however, in reality there is no need to handle them for now. The key point is to monitor, check and prepare possible solutions.

To begin with, usually one of the biggest risks in arrangements of every event is lack of finances. However, the organization Chameleon Brno is a non-profit organization and the management of the medical course consists only of volunteers who organize the course in order to educate people with the objective not to make any profit, the financial risk is low. The main perception is the revenues should cover all costs and if there is just a small profit the management rather invests it into the purchase of food of higher quality. According to this criterion, they try to have costs and revenues in balance. On the other hand, if the risk appears, they will handle it by increasing the price participant pay for the course. It is also possible to solve this risk by taking a loan but this would present yet another financial risk.

Secondly, there is a chance that the course management will face a problem with accommodation. The owners of the buildings may decide to start restoration

<sup>6</sup> Source: Own elaboration

or they simply forget to keep the place free for planned course and book the space to someone else. There can be many more reasons how the owners may endanger the realization of the course. All of these circumstances cause that the places, either one or both of them, will not be available. It can be prevented by early booking and reminding the owners of the booking. Next solution is to have standby accommodation at their disposal.

The course cannot be realized when there are not enough participants who apply for the course. The way to avoid the risk is to prepare a good marketing plan, focusing mainly on promotion. They should manage the insertion of information about the course on the web sites in time; make sure that the web sites are periodically revised in order to provide further data about the organization and people. Nevertheless, primarily, the most important and most effective promotion activity is spreading of experiences from the former course participants through the word of mouth to other people who are interested in this topic.

Another risk that can occur before the beginning of the course is insufficient number of lecturers. Nevertheless, the head of the course should be able to replace a lecturer who, for any reason, cannot be present for another one of equal or similar qualities. However, it is not so difficult due to his close relationships with either former or current leaders of the children clubs who are well educated in different fields of medicine.

The problem can appear if current legislation changes. For example due to a new decree, which might make it obligatory to pay a higher fee for accreditation by the MEYS or the conditions for asking and raising endowment might change. They can take precaution thanks to studying new laws.

Further, it can happen that the material gets lost, used or destroyed. For such situations, the course management owns financial reserve in the small amount of approximately five thousand Czech crowns that is sufficient to cover all the costs resulting from the purchase of the new material.

Apart from the risks, I have already mentioned above there exist other factors, which might influence the course in a negative way. These five following risks have the higher probability of appearance before or during the realization of the course and they are more dangerous, therefore they are evaluated at medium rate.

The first of them is connected with innovations. Nowadays modern technologies go still further, new methods and technological devices are being invented. In the case of the course, the operational team should understand all new procedures, which can rescue human life better than the old one. Therefore, they should apply a sort of research and development in order to be in touch with all the news made in the medical field and then the head of the course should provide to the lecturers training course so they can learn these new procedures and pass them over toward the participants. When talking about devices there is possibility that the course management will not be able to obtain better devices which are used in emergency cases now, because they will not have enough capital

for such purpose. Consequently, the solution is to ask for an endowment from the state.

Among risks belongs also interpersonal risk. There is always a possibility that between the members of the operational team arises misunderstanding or even conflict due to bad communication. The lack of communication may lead to incomprehension of the topic the members of the operational team are responsible for and result in not proper execution or they do not keep deadlines of activities. Primarily it is the responsibility of the head of the course to curb and solve these situations. He can use some of the conflicts strategy, then it is suitable to implement more meetings of the operational team lasting within the whole course and lastly the team can attend some kind of team building programme.

A big emphasis is put on health of both, participants and operational team. In case of illness, none of them should participate in the course. In order not to get sick, the best what to do is the prevention, to respect all basic hygienic principles. However, there is no option how to make either the team or participants to do so, the decision depends on everyone in particular. For all that, when any of the participants get ill, an alternative term for the course is offered to him.

Due to increasing interest in the course, each year rises the number of participants as well. It can lead to the situation when the course will be overcrowded and the course management will not be able to assure accommodation for all of them. Possible solution is to limit the maximal number of course participants.

Last but not least, there is a chance people get injured during the course. It can happen when the participants try to save figurants and do not pay enough attention to their own security or treat figurants badly. What can be done to prevent everyone from injuries is to explain to the participants the rule number one when saving another life. First of all they have to think about their lives and safety and afterward about the one injured. The best way to eliminate this risk is to provide the participants with the security awareness.

Table 2 Risk strategy management<sup>7</sup>

Name of risk	Rate of risk	Strategy
Lack of finances	Low	Increase price, take a loan
Accommodation is not available	Low	Early reservation, standby accommodation
Lack of participants	Low	Good marketing plan
Lack of lecturers	Low	Available surrogate
Legislation	Low	Study new laws
Lack of material	Low	Material purchase
Innovations	Medium	Ask for endowment
Interpersonal	Medium	Meetings implementation
Illness	Medium	Offer alternative term, prevention
Lack of accommodation capacities	Medium	Limit the maximal number of participants
Injuries	Medium	Security awareness

### Risk analysis

For the purpose of making risk analysis I need a list of identified risks (table 2). On the basis of this table I am able to evaluate each risk according to probability of occurrence of the risk and the negative impact the risk has if it occurs. In case of individual risks I assigned, to these two components, a numerical rating in the range from 1, meaning low level, to 5 marking high level. The overall risk of individual risk is obtained as the product of these components. The final evaluation of risks is available in the risk assesment table 3.

When risk evaluation is finished I can create risk assesment matrix. However, firstly I have to set the criteria which divide the matrix into 4 sectors with different rate of importance. The criteria follows:

- Overall risk < 5 : the lowest importance
- 5 ≤ Overall risk < 10 : low importance
- 10 ≤ Overall risk < 15 : medium importance
- 15 ≤ Overall risk : high importance

---

<sup>7</sup> Source: Own elaboration

Table 3 Risk assesment table<sup>8</sup>

Number	Name of risk	Probability	Impact
1	Lack of finances	2	3
2	Accommodation is not available	1	2
3	Lack of participants	1	4
4	Lack of lecturers	2	3
5	Legislation	1	2
6	Lack of material	2	2
7	Innovations	3	2
8	Interpersonal	3	4
9	Illness	5	2
10	Lack of accommodation capacities	4	3
11	Injuries	2	3

From table 4 it is obvious that according to overall risks, the individual risks are sorted into three groups. Those with the highest overall risk place in the sector with medium risk are interpersonal, illness and lack of accommodation. These three risks have to be at least monitor and control, better solution may be to decrease them due to proposed strategy (table number 2). Rest of risks are for now of enough low importance that there is no need to handle with them.

Table 4 Risk assesment matrix<sup>9</sup>

Impact	Probability				
	1	2	3	4	5
5					
4	3		8		
3		1, 4, 11		10	
2	2, 5	6	7		9
1					

---

<sup>8</sup> Source: Own elaboration

<sup>9</sup> Source: Own elaboration

#### 4.4.6 Work breakdown structure

##### 1. Organizational meeting

The aim of the organizational meeting was, first of all, to meet with all of the members of the operational team. The meeting was realized approximately 15 days before the course itself started. The head of the course created the meeting content and due to it, he wanted to delegate work, which had to be done. Every member took part in the realization of the course in order to ensure smooth run with no obstructions.

The organizational meeting was followed by a series of activities connected with the organizational side of the course, which means activities number 2, 3, 5 and 8.

#### **Checklist**

The checklist is a tool simple and easy to create, however it is really powerful in sense of helping to organize any event. In order to manage the organizational meeting with the aim to introduce the medical course towards the operational team and create a structure of the course, the head of the course should use a checklist. I create such a checklist (see table 5) for the purposes of the organizational meeting, to make possible framework what it can look like. In the first column of the checklist I write the items out divided into 4 sections, which copy the life cycle of the organizational meeting. Second column provides places for checking, when the item is done. And in the third column is space for comments.

Table 5 Organizational meeting checklist for the head of the course<sup>10</sup>

Item	Completed	Comments
<b>Introduction</b>		
Welcome the operational team		
Open the organizational meeting		
Present topic		
Explain the reason for meeting		
Explain the aim of the meeting		
Present content of the meeting		
Set rules for the meeting		
<b>Execution</b>		
Determine dates for realization of the course		
Inform about available resources		
Set activities needed for realization		
Set deadlines for activities		
Determine finances for individual activities		
<b>Discussion</b>		
Ideas, oppinions, suggestions		
Record and visualize results		
Assign responsible people to individual activities		
<b>Evaluation</b>		
Make schedule of activities		
Motivate team to do their best		
<b>Farewell</b>		
Thank operational team for attention		

## 2. Web pages updating

There was a need to spread out the course information to people so they can easily find out that such course was even planned. This web pages updating included individual activities like writing down basic information about the course, time period when it happens, possibilities of application, what is the price and ways how to pay, contact information to responsible person, what is the course output and lastly insertion of these information on web pages.

This activity continued by activity 6.

## 3. Course content preparation

After delegation of the work, each member started to consider the main points of his topic up. In most cases lecturers cooperated with figurants they chose, hence, everyone was sure what was needed to be done, what his role

<sup>10</sup> Source: Own elaboration



was. There was also created detailed itinerary of the course, on which the cookers with the rest of the operational team had to cooperate, because they needed include time for individual meal. The itinerary consisted of individual activities, which the participants had to go through.

The creation of the course content directly led to preparing a material (activity 4).

#### 4. Material control

The operational team had to check and prepare material that was then used for either lectures or practical trainings and possibly bought what was missing. The team had to be careful not to forget anything in store because without necessary material and devices the course was not feasible. Therefore every lecturer was responsible for preparation of material that he used and worked with during the course.

At the moment when everything was checked and packed for the purpose of transportation, only one thing remained and that was loading (activities 10 and 14).

#### 5. Accommodation booking

The duty of the head of the course was to manage accommodation capacities as well as organization connected with the activities in the swimming pool. Firstly he made the reservation of the base in Ochoz u Brna in the time period from 5.2. to 7.2. 2016 and secondly booking the base in Olomouc from 11.3. to 13.3.2016. Furthermore the reservation of the swimming pool located in Blansko was necessary to be made on Sunday 7.2.2016 with the time interval 13:30 – 15:30, which means 2 hours in total. And lastly he had to order the bus for the purpose of transferring the participants into the swimming pool on a same day Sunday 7.2.2016 with the station of departure in Ochoz u Brna.

This activity resulted in the realization of the course, described as activity 12.

#### 6. Enrollment

The function of the enrollment was to inform the operational team about the number of people who wanted to participate in the course so they were able to either increase or decrease the size of the team and to prepare studying brochures in the required amount. For the participants the enrollment meant the guarantee they could be present on the course.

The activity of enrollment was the predecessor of another step in the preparation phase of the course that was the payment (activity 7) and it also enabled beginning of activity 9.

#### 7. Payment

The participants should know the price of the course. There were more ways how to pay, however, most of the participants made the payment in cash on

the first day of the course, Friday 5.2.2016, which was also the last possible term for that.

Because of the fact that there was no obligation to pay for the course before it started, the payment was directly followed by realization of the course in the first weekend (activity 12).

#### 8. Menu planning

Due to the fact that the course supplied food and drinks for everyone who was participating in the course, the cooks were obliged to precisely plan the menu for these two weekends when the course was in the operation, to create shopping list of foodstuff and later to ensure the purchase.

As well as material control, the material loading (activities 10 and then 14) finished the forming of the menu and subsequent purchase of foodstuff.

#### 9. Distribution of information

The goal of distribution was to provide all participants registered with proper information such as when they should be at appointed place and what to take with them, things that were needful to meet the course requirements. It also confirmed their participation on the course.

At time when participants got all necessary information, they were prepared for the transportation on the course itself (activity 11).

#### 10. Material loading I

This activity had its objective in loading the material checked and packed into the car designed for it. Another part of this activity based in carrying out purchased food and drink from the shop to the car in order to ensure that everything needed was prepared for transportation.

When the material was loaded there was need to transfer it (activity 11).

#### 11. Transportation I

It ensured car transportation of material and operational team to the final destination, which was in the first weekend the base in Ochoz u Brna. There was also included the transport of participants to this base by their own means of transport.

Realization of the first weekend of the course (activity 12) followed Transportation I.

#### 12. Course realization – first weekend

The aim of the first weekend was to introduce participants to the operational team, teach them medical basics thus they gained knowledge needed for providing first aid, not only theoretically but they could also try how they should behave when any similar situation appears. The participants through the lectures and practical trainings built basis for receiving more information in the next weekend.

Next activities were those with numbers 13 and 16.

### 13. Cleaning I

The first week of the course finished and several things had to be done. Firstly, they had to tidy up the base because for the realization of the second weekend they used another base. Next, they had to pack all the material and placed it into their store in Brno. Lastly, they had to provide themselves about the first weekend and listed the results in order to be prepared for the final evaluation.

The cleaning after the first weekend continued by final evaluation (activity 18).

### 14. Material loading II

Preparation for another period of the course disrupted the gap after approximately one month. The task of the second loading was probably the same as with the first one. The operational team should load up car with needed material and such stuff in order to be ready for transportation.

When everything was loaded, another step was to transport it (activity 15).

### 15. Transportation II

As in the first case of transportation, it also provided transfer, that time to the base in Olomouc.

Next activity that came was the second weekend of the course realization (activity 16).

### 16. Course realization – second weekend

The second weekend of the course was in sign of deepening the knowledge of the participants. In comparison with the first weekend, there were more practical trainings and fewer lectures. The best practice participants could enjoy was Saturday's big rescue simulation where they should use all knowledge and skills they had. The task of the second weekend was also to examine participants and those who successfully fulfilled all the requirements and wrote the test would be evaluated through obtaining the certificate.

Activity 17 followed the realization of the course.

### 17. Cleaning II

Thanks to the fact that the whole course finished and none of the people participating in the course would return to the base in the close period of time it was demanded to tidy up the base, store the material used during the course and come back to Brno.

The very last activity after the cleaning is the evaluation of the whole course (activity 18).

## 18. Evaluation

The last step of the process is to evaluate the whole course, its preparation phase and realization and finish it in a proper way. From the feedbacks, the final report including successes and failures was created in order to learn more from mistakes and prepare the better course for the next time. In addition, the administration side of the course should be done, which meant to register new medics into the state evidence and make statistics from the course data.

All activities mentioned above together enabled the implementation of the medical course in spring 2016. Therefore, these activities had to be implemented properly in order to fulfill the goal mentioned. That is why one person or a group of people, who had full liability for the functioning, guided individual activities. The responsible people were chosen at the beginning of the whole course, exactly at organizational meeting. Individual activities and people responsible for them are featured in table 6 below.

Table 6 People responsible for individual activities<sup>11</sup>

Number	Name of activity	Responsible person
1	Organizational meeting	Head of the course
2	Web page updating	Head of the course
3	Course content preparation	Lecturers
4	Material control	Lecturers
5	Accommodation booking	Head of the course
6	Enrollment	Head of the course
7	Payment	Head of the course
8	Menu planning	Cooks
9	Distribution of information	Head of the course
10	Material loading I	Figurants
11	Transportation I	Figurants
12	Course realization - first weekend	Lecturers
13	Cleaning I	Figurants
14	Material loading II	Figurants
15	Transportation II	Figurants
16	Course realization - second weekend	Lecturers
17	Cleaning II	Figurants
18	Evaluation	Head of the course

<sup>11</sup> Source: Own elaboration

**List of outputs**

1. Responsible people were delegated to do tasks (output of activity 1)
2. Information published on web page (output of activity 2)
3. Itinerary of the course was created (output of activity 3)
4. Material checked (output of activity 4)
5. Accommodation reserved (output of activity 5)
6. Participants enrolled (output of activity 6)
7. Payments received (output of activity 7)
8. Menu planned (output of activity 8)
9. Food and drink purchased (output of activity 8)
10. Material loaded and transported to the final place (output of activities 10,11,13 and 14)
11. Course finished (output of activities 12 and 16)
12. Feedbacks received and processed (output of activity 18)
13. Administration work done (output of activity 18)

**4.4.7 Schedule**

The schedule depicted time duration of the medical course. In the table below is shown the overview of individual activities according to the date of their realization. There are 18 activities in total. The date of realization represents the period of time in which the certain activity was in progress including its start and finish. The schedule is available in table 7.

The activities included in the course realization in both weekends are shown in tables 18, 19 and 20 in the chapter Appendix.

Table 7 Schedule of the course<sup>12</sup>

Number	Activity	Date of realization	
		Start	Finish
1	Organizational meeting	21.1.2016	21.1.2016
2	Web page updating	22.1.2016	23.1.2016
3	Course content preparation	22.1.2016	23.1.2016
4	Material check	24.1.2016	26.1.2016
5	Accommodation booking	24.1.2016	28.1.2016
6	Enrollment	24.1.2016	31.1.2016
7	Payment	1.2.2016	5.2.2016
8	Menu planning	1.2.2016	5.2.2016
9	Distribution of information	3.2.2016	5.2.2016
10	Material loading I	4.2.2016	5.2.2016
11	Transportation I	5.2.2016	5.2.2016
12	Course realization - first weekend	5.2.2016	7.2.2016
13	Cleaning I	7.2.2016	7.2.2016
14	Material loading II	9.3.2016	10.3.2016
15	Transportation II	11.3.2016	11.3.2016
16	Course realization - second weekend	11.3.2016	13.3.2016
17	Cleaning II	13.3.2016	13.3.2016
18	Evaluation	13.3.2016	14.3.2016

#### 4.4.8 Gantt chart

In the following part I executed the time decomposition of the medical course into the Gantt chart which is shown in figure 6. For better understanding in the Gantt chart are graphically illustrated individual activities that run within the course. As I have already mentioned above there are 18 activities, which are mutually dependent. These activities are ordered in descending sequence according to the date of their realization.

For the reason of better orientation and comprehension, I decided to use days in comparison to weeks, to illustrate the duration of individual activities. Each activity is highlighted with specific color. The amount of colorful rectangles gives the precise number of days when the activity was in progress. During the course appeared the situation, when no activities took place. This gap lasting from 8.2.2016 to 8.3.2016 in the Gantt chart displays rectangles with no color. The whole course took place in 2016, which is expressed in the last row of the chart.

<sup>12</sup> Source: Own elaboration

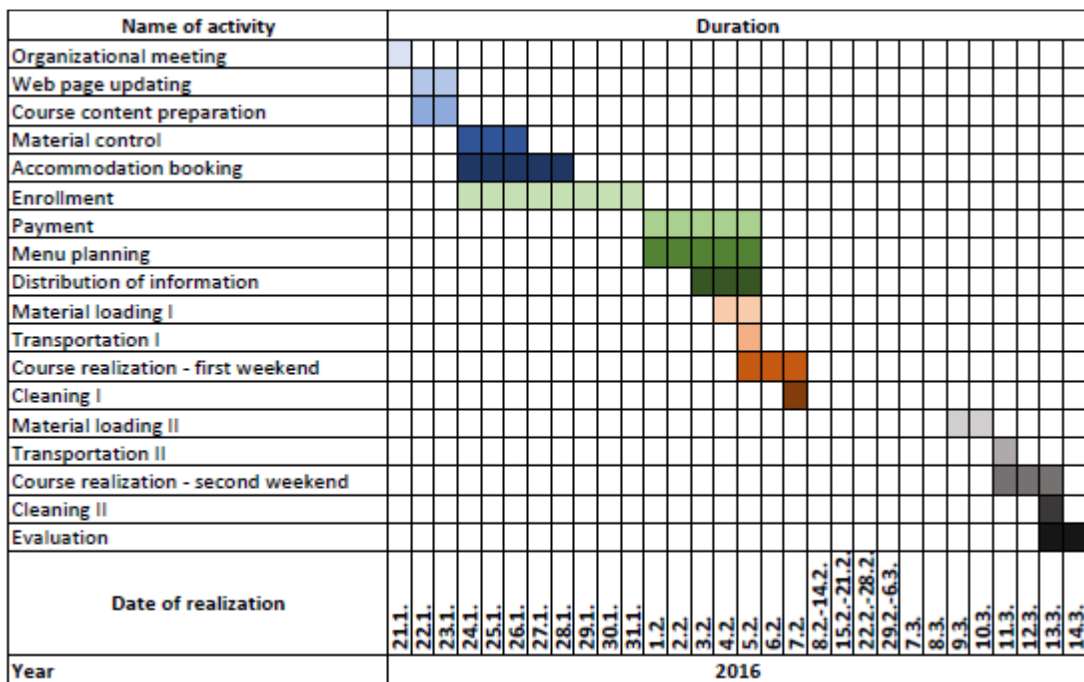


Figure 6 Gantt chart<sup>13</sup>

#### 4.4.9 CPM Methodology

In this part I construct one of the types of network graph, Activity-on-arrow. For the purpose of construction I use the information from chapter 4.4.6 Work breakdown structure, where individual activities and their interconnection are described. For better orientation I make another table representing the medical course, which denotes list of individual activities, their abbreviation, duration in days and previous activities.

In the Activity-on-arrow each activity is represented as vertice marked with abbreviation corresponding to the activity, duration of the activity and furthermore it shows the sequence of activity. The vertex illustrate the point-in-time, where are located end of one activity and start of subsequent activity, that cannot start before the preceding activity finish. The graph (figure 7) is constructed according to table 8, where in the last column are described preceding activities of individual activity.

<sup>13</sup> Source: Own elaboration

Table 8 Dependencies of activities<sup>14</sup>

Number	Abbreviation	Name of activity	Duration of activity	Preceding activity
1	Om	Organizational meeting	1	-
2	Wpu	Web page updating	2	1
3	Ccp	Course content preparation	2	1
4	Mc	Material check	3	3
5	Ab	Accommodation booking	5	1
6	En	Enrollment	8	2
7	P	Payment	5	6
8	Mp	Menu planning	5	1
9	Doi	Distribution of information	3	6
10	M I	Material loading I	2	4,8
11	T I	Transportation I	1	9,10
12	Crf	Course realization - first weekend	3	5,7,11
13	C I	Cleaning I	1	12
14	M II	Material loading II	2	4,8
15	T II	Transportation II	1	14
16	Crs	Course realization - second weekend	3	12,15
17	C II	Cleaning II	1	16
18	Ev	Evaluation	2	13,17

---

<sup>14</sup> Source: Own elaboration



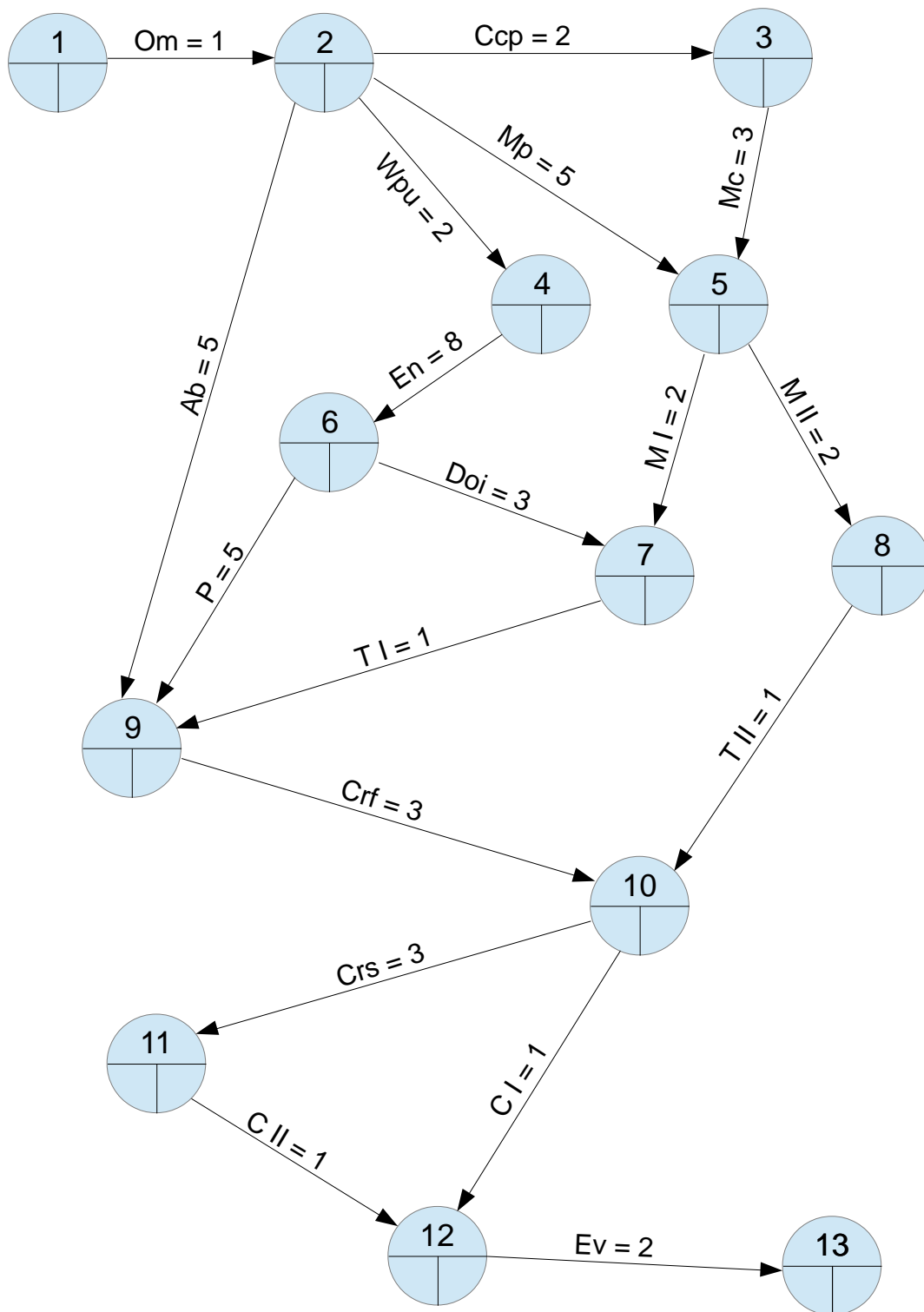


Figure 7 Network graph<sup>15</sup>

In calculation of the critical path the first step to do is to determine the earliest starts and ends of activities. In the case when to the vertex come only one vertice the earliest finish of activity is equal to the earliest start plus duration of the activity.

However, as it is obvious from the table of activity dependencies as well as from the network graph, there are places, where more vertices meet in one vertex. When calculating the earliest start I have to choose the value which corresponds to the maximum of the earliest finishes of activities entering the vertex.

I find out that in the project of the medical course, this situation arises in many cases. For illustration I pick vertex 9 representing the point, where activities such as accommodation booking, payment and transportation I end. So to the vertex come three vertices. I have to calculate the earliest ends of each activity and then make a choice. Thereinafter I present the abbreviation of activities and their earliest finish given in days. Ab = 6, T I = 15, P = 16. The maximum is 16 days, which is also the earliest start of the activity called course realization – first weekend starting in this vertex.

The calculation of latest starts and ends of activities works on the same principle. But before beginning of the calculation, it is necessary to consider that the earliest and the latest finishes are equal, they have the same value.

The latest start of the activity is counted as difference between the latest finish and duration of the activity. In the situation of meeting more vertices in one vertex I choose the minimum value from the latest finishes of activities outgoing the vertex.

---

<sup>15</sup> Source: Own elaboration

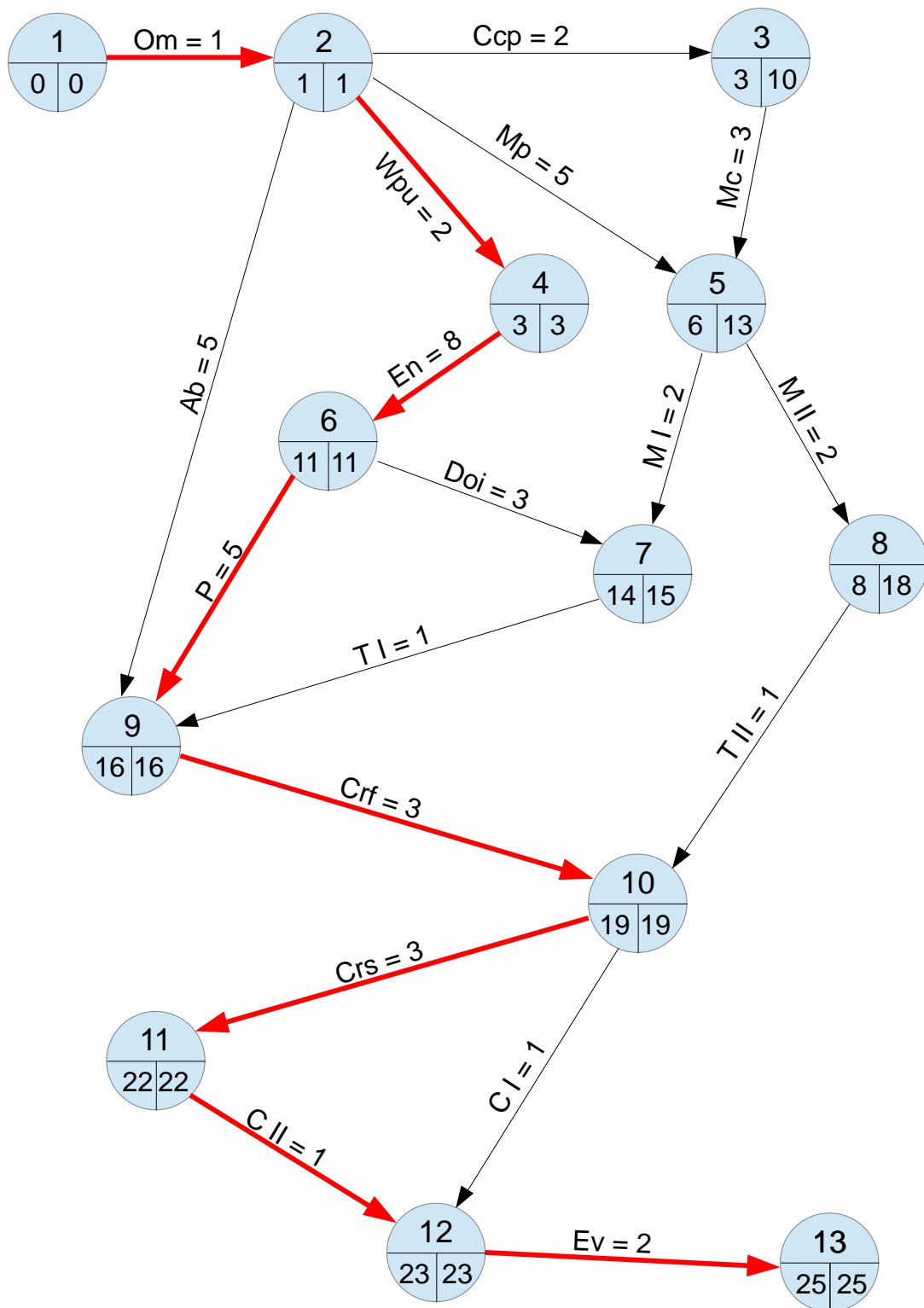


Figure 8 Critical path<sup>16</sup>

Table 9 Activities time float<sup>17</sup>

Activity	Calculation	Time float
Organizational meeting	1-0-1	0
Web page updating	3-1-2	0
Course content preparation	10-1-2	7
Material check	13-3-3	7
Accommodation booking	16-1-5	10
Enrollment	11-3-8	0
Payment	16-11-5	0
Menu planning	13-1-5	7
Distribution of information	15-11-3	1
Material loading I	15-6-2	7
Transportation I	16-14-1	1
Course realization – first weekend	19-16-3	0
Cleaning I	23-19-1	3
Material loading II	18-6-2	10
Transportation II	19-8-1	10
Course realization – second weekend	22-19-3	0
Cleaning II	23-22-1	0
Evaluation	25-23-2	0

The last step of critical path method is finding the critical path and calculation of time floats. Time floats of individual activities are counted in a way that from the latest finish the earliest start and duration of each activity are subtracted. When the result is higher than zero, the activity has the time reserve in the amount corresponding to the result. Such activity is not allowed to end within set deadline. On the other hand, when result equals zero, the critical way runs through this activity. These activities do not have any time reserve, they have to be finished on time otherwise there will be delay of the whole course.

The calculations are provided in table 9, where in the last column are determined the time floats and in case of critical path there are zeros highlighted with red color.

In order to ensure the smooth run of the medical course and to keep a deadline of the course, the activities of critical path have to be managed. The critical path is depicted in figure 8 with red arrows. The activities of critical path are: organizational meeting, web page updating, enrollment, payment, course realization first and second weekend, cleaning II and evaluation. Figure 8 also shows the number of days, when the course is in operation. According to CPM, the earliest possible finish is after 25 days.

<sup>16</sup> Source: Own elaboration

<sup>17</sup> Source: Own elaboration

#### 4.4.10 Management breakdown structure

When talking about organizational structure, it is important to consider for what purposes the structure is chosen and what requirements it should meet. There exist various types, however, the most common types of organizational breakdown structure are these three: functional, project and matrix. Each structure is suitable for different organizations. The management of the course for the purposes of realization of this course uses the functional type. In case of the medical course there is no organizational breakdown structure, but the management one. It is due to no departments of organization present. The structure of the medical course is composed only of individuals, whose goal on the course is almost identical. This structure is shown below in figure 9.

From the point of view of project management, the functional organizational structure is the worst possibility. It is given due to conflicts arising among individual departments. The conflicts have their base in lack of communication, resulting from different specialization of members within organization.

However, the course management has no trouble with this structure yet. It is possibly due to the fact that the project of medical course has never been processed by means of project management methods and techniques. Or the ground can be in the absence of departments and the reality that members of the organization are interested in the same or similar topic. The specialization differs only a little, nevertheless we are still speaking of different fields of medicine.

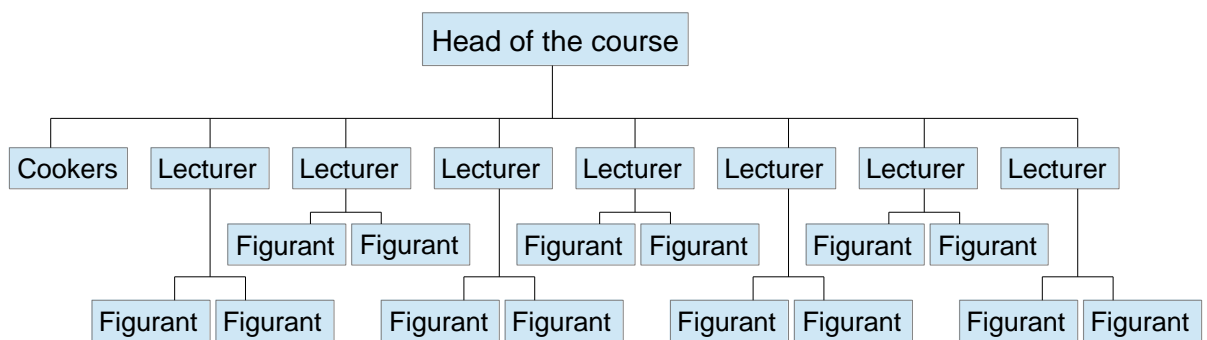


Figure 9 Management breakdown structure<sup>18</sup>

<sup>18</sup> Source: Own elaboration

#### 4.4.11 Finances

In this chapter I deal with the finances, which are necessary component when realizing the course. Together about 95 people participated in the course, 64 of them were participants. The rest were members of the operational team and as I have already mentioned (see table 4) each of them supervised some activity. In addition to meeting determined deadlines and reaching required output, they had to manage finances. Not every activity needed for its realization some capital, however, some of them did. The costs of individual activities are shown in table 10.

The costs are counted based on the condition that on the spring medical course 2016 there were 64 participants. Firstly, there is purchase of studying brochure, with price per one brochure 30 Czk multiplied by 64, the expenditure was 1,920 Czk. The price for material purchased is estimated at 1,500 Czk, including bandages, plasters, pills, scissors etc. that were in demand. When cooks planned the menu, they had to count with 150 Czk per day and participant. The price included half costs per one team member as well. For the transportation purposes of the operational team 8 cars were used. The rate for one kilometer was set as 4 Czk, the distance from Brno to Ochoz u Brna is 16 km and to Olomouc 78 km. When counting they should include also return trip so the distance has to be counted twice. The expenditure for the transportation in the first weekend was 1,024 Czk and in the second weekend 4,992 Czk. Last are costs in first and second weekend. During the first weekend the payments were for accommodation, transfer to the swimming pool and its rent. Except the accommodation, they are fixed costs, no matter if the number of people is low or high. The price for accommodation is 100 Czk/day/person. Lastly, in the second week money was spent only on accommodation. The price is a bit higher than in the first weekend. It is 140 Czk/day/person. The members of the operational team have accommodation for free thanks to the fact that the medical course runs under the organization Chameleon Brno.

Table 10 Activities and their costs in CZK<sup>19</sup>

Number	Name of activity	Activity costs
1	Organizational meeting	-
2	Web page updating	-
3	Course content preparation	1 920
4	Material check	1 500
5	Accommodation booking	-
6	Enrollment	-
7	Payment	-
8	Menu planning	38 400
9	Distribution of information	-
10	Material loading I	-
11	Transportation I	1 024
12	Course realization - first weekend	17 010
13	Cleaning I	-
14	Material loading II	-
15	Transportation II	4 992
16	Course realization - second weekend	17 920
17	Cleaning II	-
18	Evaluation	-

Table 11 Costs of individual items in CZK<sup>20</sup>

Costs	
Accommodation in Ochoz u Brna	12 800
Accommodation in Olomouc	17 920
Bus hired	1 710
Rental of swimming pool	2 500
Food	38 400
Transportation	6 016
Studying brochures	2 000
Purchase of material	1 500
<b>Total costs</b>	<b>82 846</b>

In table 11 are identified individual items for which the course paid. They represent in essence outputs of activities that caused decreasing of course finances in order to realize the medical course. In the table there are also calculated total costs by adding up all items cost and making their sum.

<sup>19</sup> Source: Own elaboration

<sup>20</sup> Source: Own elaboration, data from interview

Now it is important to determine the price of the medical course. There is only one condition that the amount of money participants paid for the course must be high enough in order to cover all costs. This condition is everything that is needful to calculate the price. Total costs are in the amount of 82,846 Czk. On the course there were 64 participants. When we divide total costs by the number of participants, the result represent the minimal possible price which is 1,294,47 ~ 1,295 Czk. However, the price is really precise and when something goes wrong or extraordinary costs occur, there is nothing left. Therefore the price has to be increased to make financial reserve. To conclude, the determined price for the course is 1,500 Czk, termed as participation fee it includes accommodation, food, studying materials, lessons, transfer to the swimming pool and a 2-hour stay there.

The amount of participation fees is really simple to get yet. Just multiply the price with the number of participants. Although the course has the opportunity to ask for an endowment, it never does. So the total amount of participation fees is equal to total revenues (table 12).

Table 12 Revenues in CZK<sup>21</sup>

<b>Revenues</b>	
Participation fees	96 000
Endowment	0
<b>Total revenues</b>	<b>96 000</b>

Last what remains is to find out the financial result of the course. Total costs are known as well as total revenues, nothing more is required for the calculation. The result is obtained from difference of total revenues and total costs, when costs are subtracted from revenues. If the result is positive, then the course is in black, in red otherwise. Financial result is demonstrated in table 13.

Table 13 Financial result in CZK<sup>22</sup>

<b>Financial result</b>	
Total revenues	96 000
Total costs	82 846
<b>Profit</b>	<b>13 154</b>

### **Break-even analysis**

The analysis is a tool used for determining the point, called break-even point, in which the revenues are equal to costs. The costs have to be implemented in order to receive these revenues. For the purpose of my bachelor thesis I use this analysis

<sup>21</sup> Source: Own elaboration

<sup>22</sup> Source: Own elaboration



to find out the minimum number of participants needed for realization of the course. In other words how many participants can cover the course costs with regard to the participation fee.

For the purposes of break-even analysis I choose different number of participants range from 5 to 30 with spacing of 5 participants. Then I have to calculate costs of these participants. The calculation includes fixed and variable costs. Fixed costs are still the same, no difference given by number of participants. The items with fixed costs are rental of swimming pool, bus hired and purchase of material. The variable costs depend on the number of participants. To individual items, the price of accommodation in Ochoz u Brna is 100 Czk/day/person, in Olomouc the price is a bit higher 140 Czk/day/person. Requirements on food amount to 150 Czk/person/day. The price for one brochure is 30 Czk. And lastly costs of transportation are derived from the number of participants with a criterion there have to be present just a half number of members of operational team in comparison with number of participants. Then the number of cars used for transportation is determined (1 car = 5 people) and the price for petrol is estimated at 4 Czk per kilometer. The total costs of individual groups of participants can be seen in table 14.

Table 14 Costs of different number of participants in CZK<sup>23</sup>

<b>Number of participants</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>
Accommodation in Ochoz u Brna	1 000	2 000	3 000	4 000	5 000	6 000
Accommodation in Olomouc	1 400	2 800	4 200	5 600	7 000	8 400
Bus hired	1 710	1 710	1 710	1 710	1 710	1 710
Rental of swimming pool	2 500	2 500	2 500	2 500	2 500	2 500
Food	3 000	6 000	9 000	12 000	15 000	18 000
Transportation	752	752	1 504	1 504	2 256	2 256
Studying brochures	150	300	450	600	750	900
Purchase of material	1 500	1 500	1 500	1 500	1 500	1 500
<b>Total costs</b>	<b>12 012</b>	<b>17 562</b>	<b>23 864</b>	<b>29 414</b>	<b>35 716</b>	<b>41 266</b>

Next step is to calculate revenues and financial results. When calculating revenues I count with the price that was determined above, which mean the amount of participation fee is 1,500 Czk per person (see table 15). The financial result is computed due to subtraction of total costs from total revenues. In this case the financial results are negative, which means loss, until the break-even point. Then the results become positive, reaching profit.

<sup>23</sup> Source: Own elaboration

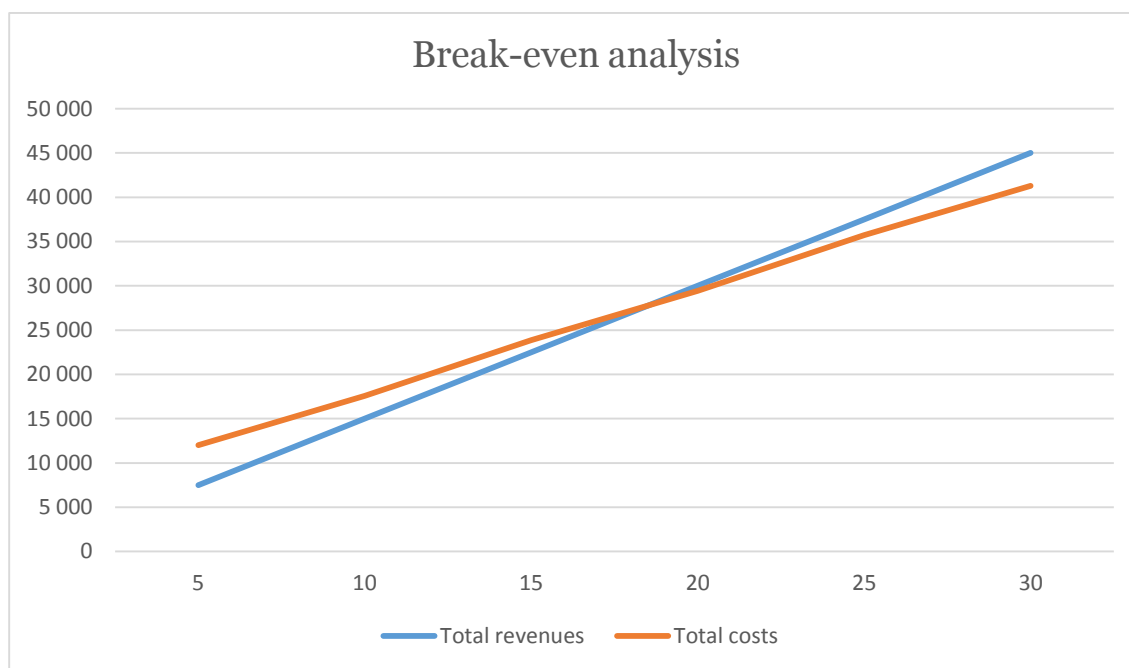
Table 15 Revenues of different number of participants in CZK<sup>24</sup>

Number of participants	5	10	15	20	25	30
Participation fees	7 500	15 000	22 500	30 000	37 500	45 000
Total revenues	7 500	15 000	22 500	30 000	37 500	45 000

Table 16 Financial results of different number of participants in CZK<sup>25</sup>

Number of participants	5	10	15	20	25	30
Total revenues	7 500	15 000	22 500	30 000	37 500	45 000
Total costs	12 012	17 562	23 864	29 414	35 716	41 266
Financial result	- 4 512	- 2 562	- 1 364	586	1 784	3 734

Obtained data in table 16, total revenues and total costs, I used in order to create break-even analysis. From this table it is evident that 15 participants and fewer are not sufficient for realization of the course. On the other hand 20 participants and more bring profit to the course.

Figure 10 Break-even analysis<sup>26</sup>

<sup>24</sup> Source: Own elaboration

<sup>25</sup> Source: Own elaboration

<sup>26</sup> Source: Own elaboration

Figure 10 shows the break-even point in the intersection of lines. It is obvious that this point is situated close to 20 participants, but not exactly there. Due to calculations (table 17) I find out that this point lies between 18 and 19 participants. To sum up the course will pay off, when having 19 participants and more.

Table 17 Break-even analysis<sup>27</sup>

<b>Number of participants</b>	<b>18</b>	<b>19</b>
Accommodation in Ochoz u Brna	3 600	3 800
Accommodation in Olomouc	5 040	5 320
Bus hired	1 710	1 710
Rental of swimming pool	2 500	2 500
Food	10 800	11 400
Transportation	1 504	1 504
Studying brochures	540	570
Purchase of material	1 500	1 500
<b>Total costs</b>	<b>27 194</b>	<b>28 304</b>
Participation fee	27 000	28 500
<b>Total revenues</b>	<b>27 000</b>	<b>28 500</b>
<b>Financial result</b>	<b>- 194</b>	<b>196</b>

---

<sup>27</sup> Source: Own elaboration

## 5 Discussion

I would like to be able to say that the proposed project of the medical course is perfect, but I realize that it is not. Like almost every project, there are some weak places.

When talking about the duration of the course, according to the critical path method, the determined earliest finish of the course is after 25 days from initiation. However, as schedule and Gantt chart show, total duration of the course is much longer. The reason is that between the end of the first block of the medical course and the start of the second part there exists a gap, when nothing is in progress. The length of the gap is approximately one month. This empty period of time could be used better for organizing another team meeting in order to make partial evaluation of already executed activities and their control against the plan. The second meeting may be useful for the reason of planning further procedures, improving communication within the operational team and to make sure the next part of the medical course is prepared. Next possibility is to shorten the time gap.

Another possible trouble is underestimation of one risk - lack of accommodation capacities. During the spring medical course 2016 this risk appeared. The base in Ochoz u Brna has accommodation capacity for 65 people, 65 beds are available. Although the number of participants was 64, the operational team was able to handle this situation thanks to their flexibility and the fact that they are used to sleeping on the floor on groundcloth in a sleeping bag. Nevertheless, my opinion is that this problem should be solved because there is a relatively high probability that this situation will repeat in the future. Possible solutions are either to limit the number of participants or to increase the number of the medical courses offered within the year in order to balance supply and demand.

Then there is the issue of the budget. The price of the course is determined with regard to the criterion stating that revenues should cover all costs. If there are 64 participants and each pays 1,500 Czech crowns, the financial result of the course is profit in the amount of 13,154 Czk. In case of this medical course, there is no liability in the form of wages payment, because people who realize it are volunteers. Therefore a plan depicting process of money spend should be established. For example it can be in the form of investment into new required technological devices, creation of reserve fund, increasing food quality etc.

In case of division of the operational team within the organization, there is space for improvement. The breakdown structure is not organizational but management. I suggest creation of departments, each focusing on different field of medicine, which allows specialisms development. This change may be beneficial from the point of view of better communication and more comprehensible division of tasks. It leads as well to clear assignment of responsibilities.

The last but not least point in this discussion chapter is promotion, which is not on a very high level. Nevertheless promotion should be done not with the goal of increasing the number of participants but to spreading information about the medical course and making it more visible and due to it accessible for people who may appreciate this form of education, although they have nothing in common with children organizations.

## 6 Conclusion

The objective of this bachelor thesis was to propose relevant project structure related to managing the chosen training project, a medical course. The organization called Chameleon Brno realizes this medical course with the goal to educate people, mainly those working with children primarily in one of children organizations. The outcome of the course is certification that licences its holder to work as a medic at recreational events.

The thesis includes following chapters: Introduction and Objective, Literature overview, Methodology, Practical part, Discussion, Conclusion and References. In the chapter Literature overview I applied professional literature dealing with project management and non-profit organizations. Literature is cited and listed in the chapter References.

In the practical part I deal with suggestion of a proper project structure according to the rules of project management. The practical part is based not only on literary sources but also on my own experiences and knowledge of the topic as well as on information obtained from an interview with the head of the medical course.

In order to accomplish the objective of this bachelor thesis I employ the following methods: stakeholder's analysis, risk analysis, WBS, checklist, schedule, Gantt chart, CPM, management breakdown structure and break-even analysis.

The project defines objectives of the medical course, its time plan, required resources and composition of the operational team. It analyses both, course stakeholders and risks in order to propose possible strategies how to handle them. Furthermore, I identify individual activities of the medical course, rank-order them due to their sequences and determine duration of the activities. Activities are either listed in the schedule or graphically illustrated in Gantt chart. Afterward it was necessary to determine critical activities using CPM for the purpose of managing them and therefore preventing the medical course from delay. The existing management breakdown structure, I think, is not a really good choice, nevertheless it works for now. Lastly I calculate the price of the course, its financial result and set border, marking the course's profitability.

I believe that the proposed project structure is relevant for the medical course and may be, with little changes, possible to be implemented in practice for similar courses in the future. The project should improve the management of the course by means of representation of activities that have to be done, determination of deadlines and sequences. Further it shows weak or critical points together with proposed solutions. Finally it provides the course management with detailed overview of finances.

I have chosen this topic „Management of training projects“ because I found it interesting to interconnect school with my free time activity. I work as an instructor in a children club and I have already completed the medical course and also participated there as a member of the operational team.

## 7 References

- BARKER, Stephen a Rob COLE. Projektový management pro praxi. Praha: Grada, 2009. ISBN 978-80-247-2838-4.
- BOUKAL, Petr. Nestátní neziskové organizace: (teorie a praxe). V Praze: Oeconomica, 2009. ISBN 978-80-245-1650-9.
- ČESKÁ RADA DĚTÍ A MLÁDEŽE. Co je ČRDM? [online] available at <http://crdm.cz/crdm/co-je-crdm/> [cit. 2.4.2016]
- DOLEŽAL, Jan, Pavel MÁCHAL a Branislav LACKO. Projektový management podle IPMA. 2. aktualiz. a dopl. vyd. Praha: Grada Publishing, 2012. ISBN 978-80-247-4275-5.
- DOSKOČIL, Radek. Metody, techniky a nástroje řízení projektů. Brno: Akademické nakladatelství Cerm®, 2013. ISBN 978-80-7204-863-2.
- HARVARD BUSINESS REVIEW. HBR Guide to Project Management. Boston, Massachusetts: Harvard Business Press, 2012. ISBN 978-1-4221-8729-6.
- KAŇKOVÁ, Marie. Akreditace MŠMT. [online] available at <http://www.msmt.cz/file/34008/> [cit. 2.4.2016]
- KAŇKOVÁ, Marie. Doporučené obsahy rekvalifikačních kurzů. [online] available at <http://www.msmt.cz/vzdelavani/dalsi-vzdelavani/doporucene-obsahy-rekvalifikacnich-programu-1> [cit. 2.4.2016]
- KENDRICK, Tom. Identifying and managing project risk: essential tools for failure-proofing your project. 2nd ed. New York: AMACOM, 2009. ISBN 978-0-8144-1340-1.
- KERZNER, Harold. Project management: a systems approach to planning, scheduling, and controlling. 7th ed. New York: John Wiley & Sons, c2001. ISBN 0-471-39342-8.
- MAYLOR, Harvey. Project management. 3rd ed. Harlow: Prentice Hall, 2002. ISBN 0-273-65541-8.
- MEREDITH, Jack R. a Samuel J. MANTEL. Project management: a managerial approach [CD-ROM]. 5th ed. New York: John Wiley & Sons, 2002. ISBN 0-471-42907-4.
- PITAŠ, Jaromír a kol. Národní standard kompetencí projektového řízení verze 3.2 : National Standard Competences of Project Management Version 3.2. 3. vyd. Brno: Společnost pro projektové řízení, o.s., 2012. ISBN 978-80-260-2325-8.
- PITAŠ, Jaromír, Hubert ŠTOFKO. Projektový management : studijní text. Brno: Univerzita obrany, 2012. ISBN 978-80-7231-904-6
- REKTOŘÍK, Jaroslav. Organizace neziskového sektoru: základy ekonomiky, teorie a řízení. 3., aktualiz. vyd. Praha: Ekopress, 2010. ISBN 978-80-86929-54-5.

ROSENAU, Milton D. Řízení projektů: příprava a plánování, zahájení, výběr lidí a jejich řízení, kontrola a změny, vyhodnocení a ukončení. Praha: Computer Press, 2000. ISBN 80-7226-218-1.

SERBUS, František. The head of the medical course. An interview. Brno: 20.3.2016

SVOZILOVÁ, Alena. Projektový management. Praha: Grada, 2006. ISBN 80-247-1501-5.



# Appendix

Table 18 Itinerary of the first weekend – first part<sup>28</sup>

Number	Activity	Date of realization			
		Start	Time	Finish	Time
1	Introduction	5.2.2016	19:00	5.2.2016	19:15
2	Lecture: Access to injured, calling first-aid service, blackout	5.2.2016	19:15	5.2.2016	20:00
3	Practice: Cardiopulmonary resuscitation	5.2.2016	20:00	5.2.2016	21:45
4	Practice: Calling first-aid service	5.2.2016	20:00	5.2.2016	21:45
5	Practice: Positions	5.2.2016	20:00	5.2.2016	21:45
6	Practice: Manipulation with patient	5.2.2016	20:00	5.2.2016	21:45
7	Defibrillator demonstration	5.2.2016	21:45	5.2.2016	22:15
8	Breakfast preparation	6.2.2016	7:00	6.2.2016	7:30
9	Breakfast	6.2.2016	7:30	6.2.2016	8:30
10	Anatomy	6.2.2016	8:30	6.2.2016	10:00
11	Organic game	6.2.2016	10:00	6.2.2016	10:30
12	Lecture: Bleeding, amputation, strangulation, shock, anti-shock measures, fractures, bandages, minor injuries	6.2.2016	10:30	6.2.2016	11:30
13	Lunch preparation	6.2.2016	11:00	6.2.2016	13:30
14	Practice: Bleeding	6.2.2016	11:30	6.2.2016	13:30
15	Practice: Minor injuries	6.2.2016	11:30	6.2.2016	13:30
16	Practice: Fractures	6.2.2016	11:30	6.2.2016	13:30
17	Practice: Bandages I	6.2.2016	11:30	6.2.2016	13:30
19	Lunch	6.2.2016	13:30	6.2.2016	14:30
20	Lecture: Head injury, head bleeding, eye injury, bleeding from the nose and ear, stabilized position	6.2.2016	14:30	6.2.2016	15:00
21	Practice: Nine case treatments	6.2.2016	15:00	6.2.2016	16:00
22	Lecture: Internal injuries, pneumothorax, pelvic injuries, Heimlich touch, foreign body in the wound, spinal injury	6.2.2016	16:00	6.2.2016	16:30
23	Practice: Nine case treatments	6.2.2016	16:30	6.2.2016	17:30
24	Dinner preparation	6.2.2016	17:30	6.2.2016	19:00
25	Lecture: Acute medical conditions (diabetes, epilepsy, asthma, apoplexy)	6.2.2016	17:30	6.2.2016	19:00
26	Dinner	6.2.2016	19:00	6.2.2016	20:00
27	Lecture + practice: Transfer of injured	6.2.2016	20:00	6.2.2016	20:45
28	Practice: Stretchers making and stretcher's race	6.2.2016	20:45	6.2.2016	21:30

Table 19 Itinerary of the first weekend – second part<sup>29</sup>

Number	Activity	Date of realization			
		Start	Time	Finish	Time
29	Cinema: Cardiopulmonary resuscitation	6.2.2016	21:30	6.2.2016	22:30
30	Breakfast preparation	7.2.2016	6:30	7.2.2016	7:00
31	Breakfast	7.2.2016	7:00	7.2.2016	8:00
32	Lecture: Less serious conditions	7.2.2016	8:00	7.2.2016	9:30
33	Lunch preparation	7.2.2016	9:00	7.2.2016	11:00
34	Doctor's game	7.2.2016	9:30	7.2.2016	10:00
35	Lecture: Water rescue	7.2.2016	10:00	7.2.2016	10:30
36	Film: Water rescue	7.2.2016	10:30	7.2.2016	11:00
37	Lunch	7.2.2016	11:00	7.2.2016	12:10
38	Shift to the swimming pool	7.2.2016	12:10	7.2.2016	13:30
39	Swimming techniques: Rescue crawl, under swimming, backstroke without hands, swim with help	7.2.2016	13:30	7.2.2016	13:45
40	Lecture + practice: Pulling out of the pool, rescue leap, dragging of unconscious person, approaching drowning + belt usage, gain and pulling the hand, total rescue, boating rescue (drawing vest, throw bag, rescue captive savior)	7.2.2016	13:45	7.2.2016	15:30

<sup>28</sup> Source: Own elaboration<sup>29</sup> Source: Own elaboration

Table 20 Itinerary of the second weekend<sup>30</sup>

Number	Activity	Date of realization			
		Start	Time	Finish	Time
1	Practice "mad family"	11.3.2016	20:00	11.3.2016	22:00
2	Films about cardiopulmonary resuscitation	11.3.2016	20:00	11.3.2016	22:00
3	Practice: Ways of manipulation with spinal column	11.3.2016	20:00	11.3.2016	22:00
4	Crisis management	11.3.2016	22:00	11.3.2016	22:30
5	Breakfast preparation	12.3.2016	7:30	12.3.2016	8:00
6	Breakfast	12.3.2016	8:00	12.3.2016	9:00
7	Lecture: Dispensary and pills	12.3.2016	9:00	12.3.2016	10:00
8	Lunch preparation	12.3.2016	9:30	12.3.2016	11:30
9	Lecture: Rights and duties of health professional	12.3.2016	10:00	12.3.2016	11:00
10	Lecture: Examinational methods	12.3.2016	11:00	12.3.2016	11:30
11	Lunch	12.3.2016	11:30	12.3.2016	12:30
12	Lecture: Car accidents, injuries and internal states	12.3.2016	12:30	12.3.2016	14:00
13	Sketch "Pat & Mat": poisoning, electric shock, heat damage, damage from cold, burns	12.3.2016	14:00	12.3.2016	15:30
14	Practice: Car accidents	12.3.2016	15:30	12.3.2016	17:00
15	Practice: Simulation - bandages	12.3.2016	15:30	12.3.2016	17:00
16	Practice: Casuistry - external influences	12.3.2016	15:30	12.3.2016	17:00
17	Dinner preparation	12.3.2016	16:00	12.3.2016	17:30
19	Lecture: Care about the patient and work of the medic	12.3.2016	17:00	12.3.2016	17:30
20	Dinner	12.3.2016	17:30	12.3.2016	18:30
21	Practice: Big rescue in the woods	12.3.2016	18:30	12.3.2016	21:30
22	Breakfast preparation	13.3.2016	7:00	13.3.2016	7:30
23	Breakfast	13.3.2016	7:30	13.3.2016	8:30
24	Lecture: Infectious diseases	13.3.2016	8:30	13.3.2016	9:30
25	Practice "M.A.S.H."	13.3.2016	9:30	13.3.2016	11:30
26	Lunch preparation	13.3.2016	10:00	13.3.2016	12:30
27	Examination	13.3.2016	11:30	13.3.2016	12:30
28	Lunch	13.3.2016	12:30	13.3.2016	13:30
29	Results, certificates handover, feedback	13.3.2016	13:30	13.3.2016	14:30

<sup>30</sup> Source: Own elaboration