

# Use of Project Management in the Field of Film Production

Petr Záhora

---

Bachelor's thesis  
2018



**Tomas Bata University in Zlín**  
Faculty of Humanities

---

**Univerzita Tomáše Bati ve Zlíně**

**Fakulta humanitních studií**

**Ústav moderních jazyků a literatur**

**akademický rok: 2017/2018**

## **ZADÁNÍ BAKALÁŘSKÉ PRÁCE**

**(PROJEKTU, UMĚLECKÉHO DÍLA, UMĚLECKÉHO VÝKONU)**

**Jméno a příjmení: Petr Záhora**

**Osobní číslo: H15808**

**Studijní program: B7310 Filologie**

**Studijní obor: Anglický jazyk pro manažerskou praxi**

**Forma studia: prezenční**

**Téma práce: Využití metod projektového řízení v oblasti filmové produkce**

**Zásady pro vypracování:**

**Studium odborné literatury**

**Teoretické zpracování tématu**

**Provedení kritického zhodnocení vybraných přístupů k řízení projektů v oblasti filmové produkce**

**Analýza relevantních problémů při řízení konkrétního projektu a vypracování projektu na ideální realizaci zvoleného praktického úkolu**

**Uvedení možných nákladů, přínosů a rizik spojených s realizací navrhovaného projektu**

**Vyvození a formulace závěrů**

Rozsah bakalářské práce:

Rozsah příloh:

Forma zpracování bakalářské práce: **tištěná/elektronická**

Seznam odborné literatury:

**Clevé, Bastian. 2006. Film Production Management. Oxford: Focal Press.**

**Honthaner, Eve L. 2010. The Complete Film Production Handbook. Oxford: Focal Press.**

**Kerzner, Harold. 2009. Project Management: A Systems Approach to Planning, Scheduling and Controlling. New Jersey: Wiley & Sons.**

**Mamer, Bruce. 2009. Film Production Technique: Creating the Accomplished Image. Belmont: Wadsworth Cengage Learning.**

**Maylor, Harvey. 2010. Project Management. New Jersey: Financial Times Prentice Hall.**

Vedoucí bakalářské práce:

**Mgr. Ing. Barbora Haltořová**

Ústav managementu a marketingu

Datum zadání bakalářské práce:

**10. listopadu 2017**

Termín odevzdání bakalářské práce:

**4. května 2018**

Ve Zlíně dne 14. prosince 2017

  
doc. Ing. Anežka Lengálová, Ph.D.  
děkanka



  
PhDr. Katarína Nemčoková, Ph.D.  
ředitelka ústavu

## PROHLÁŠENÍ AUTORA BAKALÁŘSKÉ PRÁCE

Beru na vědomí, že

- odevzdáním bakalářské práce souhlasím se zveřejněním své práce podle zákona č. 111/1998 Sb. o vysokých školách a o změně a doplnění dalších zákonů (zákon o vysokých školách), ve znění pozdějších právních předpisů, bez ohledu na výsledek obhajoby <sup>1)</sup>;
- beru na vědomí, že bakalářská práce bude uložena v elektronické podobě v univerzitním informačním systému dostupná k nahlédnutí;
- na moji bakalářskou práci se plně vztahuje zákon č. 121/2000 Sb. o právu autorském, o právech souvisejících s právem autorským a o změně některých zákonů (autorský zákon) ve znění pozdějších právních předpisů, zejm. § 35 odst. 3 <sup>2)</sup>;
- podle § 60 <sup>3)</sup> odst. 1 autorského zákona má UTB ve Zlíně právo na uzavření licenční smlouvy o užití školního díla v rozsahu § 12 odst. 4 autorského zákona;
- podle § 60 <sup>3)</sup> odst. 2 a 3 mohu užít své dílo – bakalářskou práci - nebo poskytnout licenci k jejímu využití jen s předchozím písemným souhlasem Univerzity Tomáše Bati ve Zlíně, která je oprávněna v takovém případě ode mne požadovat přiměřený příspěvek na úhradu nákladů, které byly Univerzitou Tomáše Bati ve Zlíně na vytvoření díla vynaloženy (až do jejich skutečné výše);
- pokud bylo k vypracování bakalářské práce využito softwaru poskytnutého Univerzitou Tomáše Bati ve Zlíně nebo jinými subjekty pouze ke studijním a výzkumným účelům (tj. k nekomerčnímu využití), nelze výsledky bakalářské práce využít ke komerčním účelům.

Prohlašuji, že

- elektronická a tištěná verze bakalářské práce jsou totožné;
- na bakalářské práci jsem pracoval samostatně a použitou literaturu jsem citoval. V případě publikace výsledků budu uveden jako spoluautor.

Ve Zlíně 3.5.2018

  
.....

*1) zákon č. 111/1998 Sb. o vysokých školách a o změně a doplnění dalších zákonů (zákon o vysokých školách), ve znění pozdějších právních předpisů, § 47b Zveřejňování závěrečných prací:*

*(1) Vysoká škola nevydávající zveřejňuje disertační, diplomové, bakalářské a rigorózní práce, u kterých proběhla obhajoba, včetně posudků oponentů a výsledku obhajoby prostřednictvím databáze kvalifikačních prací, kterou spravuje. Způsob zveřejnění stanoví vnitřní předpis vysoké školy.*

(2) *Disertační, diplomové, bakalářské a rigorózní práce odevzdané uchazečem k obhajobě musí být též nejméně pět pracovních dnů před konáním obhajoby zveřejněny k nahlížení veřejnosti v místě určeném vnitřním předpisem vysoké školy nebo není-li tak určeno, v místě pracoviště vysoké školy, kde se má konat obhajoba práce. Každý z ní může ze zveřejněné práce pořizovat na své náklady výtisky, opisy nebo rozmnoženiny.*

(3) *Platí, že odevzdáním práce autor souhlasí se zveřejněním své práce podle tohoto zákona, bez ohledu na výsledek obhajoby.*

2) *zákon č. 121/2000 Sb. o právu autorském, o právech souvisejících s právem autorským a o změně některých zákonů (autorský zákon) ve znění pozdějších právních předpisů, § 35 odst. 3:*

(3) *Do práva autorského také nezasahuje škola nebo školské či vzdělávací zařízení, užije-li nikoli za účelem přímého nebo nepřímého hospodářského nebo obchodního prospěchu k výuce nebo k vlastní potřebě dílo vytvořené žákem nebo studentem ke splnění školních nebo studijních povinností vyplývajících z jeho přímého vztahu ke škole nebo školskému či vzdělávacímu zařízení (školní dílo).*

3) *zákon č. 121/2000 Sb. o právu autorském, o právech souvisejících s právem autorským a o změně některých zákonů (autorský zákon) ve znění pozdějších právních předpisů, § 60 Školní dílo:*

(1) *Škola nebo školské či vzdělávací zařízení mají za obvyklých podmínek právo na uzavření licenční smlouvy o užití školního díla (§ 35 odst.*

3). *Odporá-li autor takového díla udělit svolení bez věcného důvodu, mohou se tyto osoby domáhat nahrazení chybnějiho projevu jeho vůle u soudu. Ustanovení § 35 odst. 3 zůstává nedotčeno.*

(2) *Není-li sjednáno jinak, může autor školního díla své dílo užit či poskytnout jinému licenci, není-li to v rozporu s oprávněnými zájmy školy nebo školního či vzdělávacího zařízení.*

(3) *Škola nebo školské či vzdělávací zařízení jsou oprávněny požadovat, aby jim autor školního díla z výdělku jím dosaženého v souvislosti s užitím díla či poskytnutím licence podle odstavce 2 přiměřeně přispěl na úhradu nákladů, které na vytvoření díla vynaložil, a to podle okolností až do jejich skutečné výše; přitom se přihlíží k výši výdělku dosaženého školou nebo školským či vzdělávacím zařízením z užití školního díla podle odstavce 1.*

## **ABSTRAKT**

Tahle bakalářská práce se zabývá využitím projektového řízení ve filmové produkci. Hlavním cílem je ověřit, zda vybrané prvky a principy jsou aplikovatelné na filmovou produkci. Toho je dosaženo hlavně využitím metod analýzy a komparace. Hlavním závěrem práce je že projektové řízení může být efektivně využito ve filmové produkci, a to i společně se standardními metodami filmové produkce.

Klíčová slova: projekt, projektové řízení, metody, principy, filmová produkce, rozsah, plán,

## **ABSTRACT**

This Bachelor thesis deals with the use of project management in the field of film production. The main goal is to verify, if the selected project management principles and methods can be applied in the film production. This is achieved by using mainly the methods of analysis and comparison. The main conclusion is that the selected project management methods can be effectively used in the field film production, even together with the standard film production methods.

Keywords: project, project management, methods, principles, film production, scope, schedule,

## **ACKNOWLEDGEMENTS**

Firstly, I would like to thank my supervisor Ing. Barbora Haltofová for her valuable advice, and for being always helpful and patient. I would like to also thank my family for supporting me during my studies.

I hereby declare that the print version of my Bachelor's/Master's thesis and the electronic version of my thesis deposited in the IS/STAG system are identical.

# CONTENTS

<b>INTRODUCTION .....</b>	<b>9</b>
<b>1 GOALS AND METHODS .....</b>	<b>10</b>
<b>1 THEORETICAL PART.....</b>	<b>11</b>
<b>2 PROJECT MANAGEMENT .....</b>	<b>12</b>
2.1 PROJECT .....	12
2.2 PROJECT MANAGEMENT .....	13
2.3 PROJECT MANAGEMENT METHODOLOGIES .....	14
2.3.1 Waterfall (Traditional) .....	14
2.3.2 Agile .....	14
2.3.3 PMBOK.....	15
2.4 PROJECT MANAGER.....	15
2.5 PROJECT STAKEHOLDERS .....	16
2.6 THE PROJECT LIFE CYCLE .....	17
2.7 PROCESS GROUPS IN THE PMBOK .....	17
2.7.1 Initiating Process Group.....	18
2.7.2 Planning Process Group .....	18
2.7.3 Executing Process Group .....	18
2.7.4 Monitoring and Controlling Process Group .....	18
2.7.5 Project closure .....	19
2.8 SCOPE MANAGEMENT.....	19
2.8.1 Project Scope Statement.....	20
2.8.2 Work Breakdown Structure.....	20
2.9 SCHEDULE MANAGEMENT .....	20
2.9.1 Gantt Chart .....	21
2.9.2 Critical Path Method .....	21
2.10 COST MANAGEMENT .....	22
2.11 RISK MANAGEMENT .....	22
<b>3 FILM PRODUCTION.....</b>	<b>24</b>
3.1 DEVELOPMENT AND PRE-PRODUCTION .....	24
3.1.1 Script Breakdown .....	25
3.1.2 Pre-visualization.....	25
3.1.3 Development of the Shooting Schedule .....	26
3.1.4 Budgeting .....	26
3.2 PRODUCTION .....	27
3.3 WRAP .....	27
3.4 POST-PRODUCTION .....	27
3.5 DISTRIBUTION .....	28
<b>4 PROJECT MANAGEMENT IN THE FILM PRODUCTION.....</b>	<b>29</b>



4.1	PROJECT SCOPE STATEMENT AND WORK BREAKDOWN STRUCTURE IN THE FILM PRODUCTION .....	29
4.2	PROJECT MANAGER IN THE FILM PRODUCTION .....	29
4.3	PROCESS GROUPS IN THE FILM PRODUCTION.....	30
<b>II</b>	<b>PRACTICAL PART .....</b>	<b>32</b>
<b>5</b>	<b>USE OF PROJECT MANAGEMENT IN THE FILM PRODUCTION .....</b>	<b>33</b>
5.1	METHODOLOGIES IN THE FILM PRODUCTION .....	33
5.2	STAKEHOLDERS IN THE FILM PRODUCTION .....	34
5.3	SCOPE MANAGEMENT IN THE FILM PRODUCTION .....	34
5.4	SCHEDULE MANAGEMENT IN THE FILM PRODUCTION .....	36
5.5	COST MANAGEMENT IN THE FILM PRODUCTION.....	36
5.6	RISK MANAGEMENT .....	37
<b>6</b>	<b>ANALYSIS OF PROBLEMS RELEVANT TO THE PARTICULAR FILM PRODUCTION PROJECT .....</b>	<b>40</b>
<b>7</b>	<b>BACHELOR PROJECT - “PLAYING EU” .....</b>	<b>41</b>
7.1	DEVELOPMENT .....	41
7.1.1	Gantt chart.....	42
7.1.2	Logic Bar Chart.....	42
7.2	PRE-PRODUCTION .....	43
7.3	PRODUCTION .....	45
7.4	POST-PRODUCTION .....	46
7.5	BENEFITS, COSTS, AND RISKS ASSOCIATED WITH THE BACHELOR PROJECT .....	46
	<b>CONCLUSION .....</b>	<b>48</b>
	<b>BIBLIOGRAPHY .....</b>	<b>50</b>
	<b>LIST OF ABBREVIATIONS .....</b>	<b>52</b>
	<b>LIST OF FIGURES .....</b>	<b>53</b>

## INTRODUCTION

As it follows from the title, the topic of this Bachelor thesis is the use of project management in the field of film production. Project management is used across various fields of application in order to successfully manage projects using sets of activities and processes. Despite the wide use of the project management, very little information is provided regarding to use of project management in the film production. Naturally, the film production is a very specific field, thus the use of project management will be different from any other field, but as it is stated, the use of project management is universal and can be applied on any project. The main goal is to verify, if the selected project management principles and methods can be applied in the film production. The Bachelor thesis is divided into the theoretical and practical part. In the theoretical part, there are analysed the individual principles and methods from the project management and also from the film production. At the end of the theoretical part is quickly discussed if the film production meets the characteristics of a project. In the practical part, there is investigated how these principles and methods are applied in the film production. Then, the analysis of problems relevant to a particular project management in film production will be performed. Then, the selected methods and principles will be practically used and verified during a project. The practical project consists of a smaller scale film production.

The main result is that the project management can be effectively used in the film production also with the standard film production methods. As, the standard film production scoping and scheduling methods focuses only on the phase of shooting. Therefore, the project management methods can improve and simplify the managing of the film production.

## 1 GOALS AND METHODS

The main goal is to verify, if the selected project management principles and methods can be applied in the film production. The subsequent objectives are as follows: critically reviewed the selected project management methods in the field of film production, analysed the relevant problems connected with the particular project a then present the benefits, costs and risks which occurred during the project. In order to accomplish that, it is necessary to explain and analyse the basic principles and methods necessary to understand the project management and film production issues.

The chosen project management principles and methods are then practically applied into the field of film production and verified during a development of a particular practical project. The theoretical part consists of studying relevant literature in order to theoretically research and compile the obtained information. Then the method of analysis is used, in order to examine the basic principles and methods of the project management, together with methods and principles specific to the film production.

In the practical part, using a method of synthesis and comparison, it is investigated, how are selected project management principles and methods applied and used in the field of film production. These principles and methods are critically reviewed, based on the information contained in the theoretical part. After that, relevant problems connected with the particular project are analysed. Then the practical project is presented. In the project, selected methods and principles were practically applied and examined during the project, in order to verify the use of project management methods and principles in the film production. The practical part concludes with presenting of problems which occurred during the practical project, stating possible costs, benefits and drawing the final conclusion.

During the practical project, MS Office tools were used, namely Word and Excel. The MS Word was used for the development of documents used during the practical project. The MS Excel was used for the development of Gantt chart. For the development of a logic bar chart was further used Smartsheet software designed specifically for this purpose. As the main source of project management processes was used Project Management Body of Knowledge (hereinafter PMBOK) developed by Project Management Institute (hereinafter PMI).

## **THEORETICAL PART**

## 2 PROJECT MANAGEMENT

At the beginning of this chapter, there will be explained and described some of the main characteristics of a project and project management. Then, individual aspects of the project management will be analysed. In addition to that, it will be also discussed who is a project manager and who are project stakeholders.

### 2.1 Project

In the beginning, it should be stated what is a project and how is project defined. The PMI (2017, 542), defines a project as “a temporary endeavour undertaken to create a unique product, service or result.” The attribute of temporariness points out that project has certain beginning and end. Wysocki (2014, 4) have a similar definition and describes a project as “a sequence of unique, complex and connected activities having one goal or purpose and that must be completed by a specific time, within budget, and according to specification.” He also mentions project parameters which are scope, quality, cost, time and resources. These parameters are interconnected which means that a change in one means a change in another, so the equilibrium of the project is stable.

Maylor (2010, 5) continues with describing the project in terms of uniqueness, temporariness, and focus. Each project has aspects of uniqueness because as there has been probably done a similar project before, projects differ in terms of place, time, people working on the project or the final product. Every project needs a team of people and financial resources for its completion. Once the project is done, the team moves on and the funding stops. For this reason, projects have the aspect of temporariness. The project should start with a clear idea of what is going to be achieved, how it is going to be achieved, and what product, service or result will be delivered. This means that the project has to be focused. In addition to that, Lock (2007, 1) speaks about all project having one characteristic in common – “the projection of ideas and activities into new endeavours.” He also points out that the uncertainty and constant risk element, mean that the steps taken in order to finish the project successfully, cannot be predicted with total precision. Maylor (2010, 6) also points out that project is done by people, not by machines, therefore the project cannot be considered as a mechanical process which responds easily to changes. The people involved in the project must have the necessary knowledge and be organised in a form, that would allow to the project manager to have control over the task.

For purposes of this paper, the identification of the project is as follows. The project is a temporary effort, consisting of the sequence of activities, made in order to deliver some sort

of a result. The project has clear beginning and end along with an aspect of uncertainty, uniqueness, and focus. The project parameters are scope, quality, cost, time and resources.

## 2.2 Project Management

Kerzner (2009, 4-5) describes project management as “planning, organizing, directing, and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives.” The expression short-term is indeed relative because in a different industry it means a different amount of time needed to complete the task. A purpose of the project management is to control company resources during an assigned task within time, cost, at the required performance level and using given resources effectively and efficiently. Cost, time and performance are at the same time obstacles of a project. Also, if the project is being done for an outside client, there is the fourth obstacle in a form of good customer relationships.

According to PMI (2017, 542), project management is “the application of knowledge, skills, tools, and techniques to project activities to meet project requirements.” Managing a project typically consists of initiating and maintaining of active contact with stakeholders, dealing with their anticipations and needs, determining the project requirements, allocation of resources and balancing the project constraint. Every project is different and performed in a different environment; therefore, the project is influenced by various circumstances, which affects the implementation of the project.

Lock (2007, 1) then points out that project management “has evolved to plan, coordinate and control the complex and diverse activities”. He considers project management as a tool used for anticipating as many risks as possible and for the completion of the project, in defiance of all the potential problems.

Project management is the use of knowledge and project management methods in order to achieve the objective. The project management also consists of allocation and control of assigned resources. However, projects differ across the fields of use, therefore there cannot be one unified way of managing the project and every individual project needs a specific approach. For these purposes serve the project management methodologies.

## 2.3 Project Management Methodologies

As stated, every project is different and needs a different approach. For these purposes, there are various methodologies and principles. The PMI (2017, 2) defines a methodology as follows “A methodology is a system of practices, techniques, procedures, and rules used by those who work in a discipline”. Aston (2017) claims that methodologies should be using various themes, principles, frameworks, processes, and standards. However, neither one of the methodologies deals with all aspects as is shown in Figure 1. Now some of the methodologies will be further described.

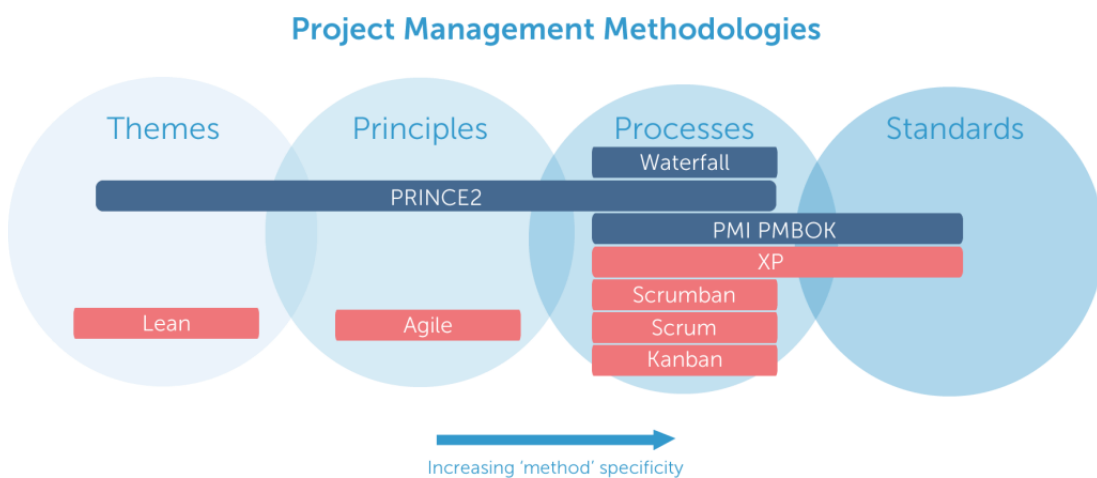


Figure 1 – Project Management Methodologies (Aston 2017)

### 2.3.1 Waterfall (Traditional)

According to Wrike (2018), Waterfall methodology is the most used approach to managing projects, and at the same time, it is the most basic one. It is a sequential methodology where usually one activity has to be finished before the next one begins. Every step is carefully planned and the sequence of activities eventually deliver the final deliverable. Aston (2017) then points that in the Waterfall methodology, the result of one stage is usually the input of the following one. He argues that even there is less space for changes, the Waterfall methodology can be suitable for the projects with firmly set requirements and no additional significant changes expected.

### 2.3.2 Agile

According to Aston (2017), Agile is rather a package of principles than a methodology. The agile approach is based on dividing the project into smaller units which are then executed based on the current situation, rather than following some fixed schedule. Agile principles are also used by other methodologies such as Scrum or Kanban. The Visual Paradigm (2018)

further states that the creation of agile approach has arisen from Waterfall being considered slow and inflexible. The agile approach is considered as adaptable to changes, concentrating on people and supporting faster progression in smaller steps. The agile approach ensures ongoing delivery of the product with quick responses to changes and constant improvements during the development.

### 2.3.3 PMBOK

The PMBOK developed by PMI is divided into two parts. The first part is the *Guide* which is supposed to be the basis on which companies can develop methodologies, procedures, policies, etc. The second part is *The Standard for Project Management* which determines the processes that are regarded as “good practices on most projects, most of the time.” (PMI 2017, 2) According to Visual Paradigm (2018), the PMBOK is a comprehensive framework of project management’s knowledge principles created for project managers to guide them through the execution of the project. It is also a set of tools, techniques and knowledge areas of the project management which can be used across the industries. Aston (2017) then states that the PMBOK also discusses five process groups (Initiating, Planning, Executing, Monitoring and Controlling, Closing) in the project management. The PMBOK will be used as a major source mainly of the project management processes, as it is the only standard mentioned in the sources dealing with the project management in the film production.

In this chapter, some of the approaches to the project management were discussed. From the description above can be assumed, that thorough planning is the basis of Waterfall methodology and sequenced activities are its main feature. Whereas the Agile approach is rather flexible and used in fields where frequently changes occur. The PMBOK is a set of knowledge principles and processes, which can be used by the project manager, who is the subject of the next chapter.

## 2.4 Project manager

The definition in Kerzner (2009, 12-13) defines the project manager as a person “responsible for coordinating and integrating activities across multiple, functional lines.” This consists of integrating activities connected with developing a project plan, executing the plan and making necessary changes. He characterizes the project manager as an individual who must possess powerful communicative, interpersonal skills and knowledge of the used technology, in order to transform the given resources into outputs.



According to PMI (2017, 552), the project manager is the one who is in charge of the project and is responsible for attaining the project objectives. The project manager is chosen by the company performing the project and should have general management skills along with any other particular technical skills desirable for the project. Moreover, the project manager should possess knowledge about managing a scope, schedules, resources, budget and other features of the project. He should be competent in leading the project team, co-working with stakeholders, solving problems and organizing work. He should be familiar with the business environment, technical attributes and other aspects of the project necessary to manage the project properly. The project manager can be considered successful when the project objectives have been fulfilled and the project stakeholders are satisfied.

Lock (2017, 155) adds that looking for a project manager might be difficult, as people suitable for this position often work under some other company title, such as ‘facilities manager’. And even the term ‘project manager’ is one of many, which have been used for this position, others can be project coordinator, scheduling and estimating manager, contract manager, project leader, etc. He concludes with project management getting recently acknowledged as a profession with reasonable position and “less confusion over the job title”.

The project manager is an individual responsible for a successful achieving of the project objectives. He is in charge of the coordination of activities, allocation of resources and should be familiar with the scope, schedule and cost management. He should be able to solve problems and possess good communication skills, for example for communication with stakeholders, who are subject of the next chapter.

## 2.5 Project Stakeholders

According to PMI (2017, 550), the project or its outcome might have an impact on its surrounding. Individuals, organizations or group that are affected or they feel that they might be affected are the stakeholders. They may be internal or external, they may be involved both passively and actively, or they do not know about the project at all. Stakeholders may be positively or negatively influenced by the project or vice versa. Wysocki (2014) also defines stakeholders in terms of willingness and unwillingness and points out that the project manager has to be familiar and in contact with all stakeholders. Lock (2017, 25) points out that the amount of the stakeholders will be different for every project.

Some of the examples of stakeholders mentioned in the PMBOK (PMI 2017, 550) are:

- Internal stakeholders

- Project manager and team members
- Resource managers, program managers, sponsor
- Project managers of other projects
- External stakeholders
  - Customers (or end users)
  - Suppliers
  - Shareholders
  - Competitors

## 2.6 The Project Life Cycle

A project needs to go through several phases from its initiation to its completion. This is called a project life cycle. One project phase is a set of logically linked activities which leads to the delivering of one or more outputs. Every industry, organization or technology employed influences the project life cycle by its unique features; thus, the individual outputs can differ based on the project. A typical project life cycle structure consists of:

- Starting the project
- Organizing and preparing
- Carrying out the work
- Closing the project

Project life cycle structure represents classic characteristics when cost and quantity of needed staff are low at the beginning and increase during the project. On the other hand, the risk is biggest at the beginning and decrease as the project heads to its completion. Cost of changes is lowest at the start and usually increase during the project. (PMI 2017, 547-549)

## 2.7 Process Groups in the PMBOK

Duncan (1993, 6) states that in a majority of management models are identified three fundamental process groups. Their purpose is to organize the company's lasting activity and they may slightly differ in various companies. These process groups are Planning, Executing and Controlling. However, as already stated above that project is temporary and has clear beginning and end. Therefore, there is a need to include two additional management processes namely Initiating and Closing. These five Process Groups consist of the project management processes used to achieve the goal of the project. Moreover, the PMI (2017, 554-55) states that these process groups can appear within a project, but also within single

phase. Therefore, the process group is not a project phase. Also, they are not subjected to any particular industry or field. Each of the process groups is explained below.

### **2.7.1 Initiating Process Group**

The primary task in the initiating process group is to define a new project or a new phase of an already existing project. The stakeholders are identified and the initial scope and available financial resources are determined by this process group. The project manager is chosen and all mentioned information is written in the project charter. This document officially approves the project and authorises the project manager to start working on the project. (PMI 2017, 561-563)

### **2.7.2 Planning Process Group**

This process group serves to define the overall scope of the project and the procedure how to achieve the established objectives is developed. The project management plan is developed, in order to establish the project course of action and all project management processes related to the knowledge areas take place in this processes group. The most important benefit outgoing from this process group is that the course of action, leading to successful completing of the project or phase, is established. (PMI 2017, 565-567)

### **2.7.3 Executing Process Group**

The execution phase contains processes carried out in order to finish the work depicted in the project management plan. Most of the project resources, time and budget is spent in this process group. The most important asset of this process group is that the established course of action leading to fulfilling the project goals and requirements is proceeded according to plan. (PMI 2017, 595)

### **2.7.4 Monitoring and Controlling Process Group**

The monitoring and controlling process group contains processes designed to track, analyse and control the performance and progress. Another important process is anticipating of possible problems and making appropriate protective arrangements. The main asset of this process group is that the project progress is continuously examined and measured for a purpose of fixing differences from the project management plan, or when something unexpected happens. (PMI 2017, 613)

### 2.7.5 Project closure

This process group confirms, that all processes in all process groups are finished on an acceptable level and the phase or project can be officially considered as completed. This process group may also deal with project's untimely closures, such as projects which are cancelled or interrupted. The key asset of this process group is that the project is properly closed out. (PMI 2017, 633)

In the chapters above were firstly discussed the project stakeholders, which are individuals or organization which are somehow affected by the project. They may be divided into categories and the amount of them will be different for each project. Then, the project life cycle was discussed. It was stated that the project is divided into phases, where the project is initiated, then planned, executed and closed. Lastly, the PMBOK process groups were briefly described. It was stated that they can appear within a project or its phase and are not subject to any field.

In the chapter describing project is stated, that project has some parameters and aspects. In the following chapter will be analysed, how some these parameters and aspects are managed. Namely, it will be scope, schedule, cost and risk management.

## 2.8 Scope Management

In this chapter, there will be discussed the scope management, how is defined and the processes it contains. According to PMI (2017, 129), processes in the scope management “ensure that the project includes all the work required, and only the work required, to complete the project successfully.” In another word, the scope management is mainly about delineating what is part of the project and what is not. The basic processes in the scope management are *Plan Scope Management*, *Collect Requirements*, *Define Scope*, *Create WBS*, *Validate Scope* and *Control Scope*. However, in the reality, these processes do not have to go one by one some of them can be run simultaneously. Wsocki (2014, 70) considers the determining and classifying of client requirements as the central point of the scope management. The next step is a development of the work breakdown structure in order to identify the work required for meeting the project objectives. This is essential for the future time, cost and resource management. Maylor (2010, 101-2) also speaks about a product breakdown in order to define the project scope and generate the scope statement, which is the subject of the next chapter.

### **2.8.1 Project Scope Statement**

According to PMI (2017, 154), the project scope statement is the output of the process focused on the project scope defining. Project scope statement defines the project scope and its main deliverables. It is based on the collected and analysed project requirements. These requirements can be requirements of the company responsible for the project, customer requirements, stakeholder requirements, etc. The project scope statement is also one of the inputs of the work breakdown structure, which is discussed in the next chapter.

### **2.8.2 Work Breakdown Structure**

The PMI (2017, 156-157) describes work breakdown structure as “the process of subdividing deliverables and project work into smaller, manageable component.” In another word, the work breakdown structure serves to break down the total amount of work into smaller units. The components of the breakdown structure are called “work packages”. Each work package consists of several activities required for delivering the result.

Maylor (2010, 133-135) considers the decomposing of large operations into more intelligible units as “a fundamental part of project management.” He also points out that with smaller projects, a lot of people can decompose the project into smaller pieces just in their heads. The benefit of this is timesaving and that the person can operate quickly, but at the same time the project is vulnerable through this one person and the plan cannot be well examined or communicated. The purpose of the work breakdown structure is to produce a hierarchical sequence of connected operations, created from separate units; however, these units are still part of the whole. With this comes the main issue, the project manager has to coordinate the sub-project activities, manage the interface between the teams and ensure that the outputs of each unit will, in the end, work together and deliver the final product.

The output of the work breakdown structure is according to PMI (2017, 161) the scope baseline, what is “the approved version of the scope statement and the work breakdown structure” and serves as a foundation for future comparison.

Determination of the project scope means, that the project manager can begin a scheduling of a project, which is the subject of the next chapter.

## **2.9 Schedule Management**

According to PMI (2017, 173-218) is the purpose of the project schedule management to get a thorough plan of the delivering of a project and its final result, which was identified during the project scope management. The schedule management contains processes necessary for

completing the project in a certain time. These basic processes are *Plan Schedule Management, Define Activities, Sequence Activities, Estimate Activity Durations, Develop Schedule* and *Control Schedule*.

In the 'define activities' process are the work packages deconstructed into individual activities. The output of this process is an *Activity list* which contains information about each activity in terms of the scope and the work required. The key asset of this process is determining of concrete activities needed to be done in order to produce the project deliverable. In the sequence activities process is identified how the activities are related, which means determining to what predecessor and successor is each activity connected. After that duration of each activity is estimated. Based on the mentioned information is developed a schedule. The schedule can be in a form of a bar chart such as Gantt chart or a network diagram. These network diagrams can be either without a time scale, or they can be time-scaled in a form of a logic bar chart, where are depicted both, the project network logic and the project's critical path.

### **2.9.1 Gantt Chart**

The PMI (2017, 217) defines Gantt Chart as "a bar chart of schedule information". The common bar chart has activities displayed on the vertical axis, each activity duration is depicted as a horizontal bar. The schedule dates are shown on the top or bottom horizontal axis. Kerzner (2009, 557) describes Gantt chart as the usual way of depicting the basic activities schemed contrary to time or money. He sees their advantage in simplicity and that they are easy to change. However, Wysocki (2014, 277) points out that the disadvantage is lack of information about "dependency relationships" among the activities. Lock (2007, 187) considers Gantt chart as a great visual help and pointing out that the effectiveness can be increased by using different colours.

### **2.9.2 Critical Path Method**

According to PMI (2017, 210) the critical path method is used to "estimate the minimum project duration" and identify the scope of flexibility "on the logical network paths within the schedule model." The critical path represents the longest path through a project which consists of the chain of activities and identifies the shortest feasible duration. Wysocki (2014, 204) adds that determines the date when the project will be finished. Delay of any of the activities will lead to the delay of the whole project. Lock (2007, 188) provides the comparison with Gantt charts, where he points out similarly to Kerzner (2009) and Wysocki (2014), that the Gantt Chart is easy to understand, but it does not show all the connections

between the activities, whereas the critical path is more difficult to explain or understand, but they offer all the interdependencies between the activities.

## 2.10 Cost Management

Wysocki (2014, 12) consider the cost of the project as a major factor which should be thought out throughout the project. He states that the cost management is the process of developing a budget together with implementing the individual costs into the project schedule, what ensures the control over the spending across time. (Wysocki 2014, 70)

Maylor (2010, 178) further speaks about two approaches to the costing.

- Ground-up costing – the project budget is developed by grouping together the estimated costs of individual stages in the work break down structure
- Top-down costing - the project receives a specific amount of money which are split by the project manager among the individual activities

He also mentions elements of cost which are time, materials, capital equipment, indirect expenses, overheads, and contingency.

The PMI (2017, 231) states that cost management consists of *Plan Cost Management*, *Estimate Cost*, *Determine Budget* and *Control Cost*. During smaller scope projects, the cost estimating and developing a budget can be merged into one process. The cost management firstly identifies the approximate cost of the resources needed for the project, from them are then calculated financial resources necessary for the project completion. In the process of determining the budget, the approximate costs are grouped in order to deliver the cost baseline. The cost baseline is the “approved version of the time-phased project budget”.

## 2.11 Risk Management

Wysocki (2014, 74-75) defines risk as a “future event that happens with some probability and results in a change, either positive or negative, to the project.” He notes that in most cases, the risk is connected with the loss, for example, increase in cost or schedule overrun, but in some cases, there might be a benefit. He defines four phases of the risk management: “identification of risk, assessment of risk, risk response planning, and monitoring and controlling.” Maylor (2010, 218) connects the risk management with the project aspect of uncertainty. He states that the assessment of the risk determines if the project is worth completing. He also points out that with the occurrence of the risk, should be also considered the potential opportunities. Lock (2007, 99) points out that a risky situation which occurs in the advanced phase of the project might be more expensive with regard to time and money

than a similar situation at the beginning of the project. Furthermore, he states that smaller project might not need much attention to the risk management. Maylor (2010, 219) on the other hand states that “the possibilities for harm or loss at the extreme are almost limitless for even small projects.” According to PMI (2017,395-97) are main goals of the risk management to raise the prospects of positive impact and reduce the prospects of the negative impact of the risk; therefore, the project is more likely to succeed. Furthermore, two levels of project risk are mentioned: “individual project risk” and “overall project risk”, where the individual risk is a situation influences the project goal, and the overall project risk consists of the mixture of the individual risks and the total effect of uncertainty. Both two levels of the risk have either positive or negative impact on the project.

To summarize the previous chapters dealing with the managing of some project aspect. The purpose of the scope management is to determine the overall extent of the project, identify the individual tasks needed for the completion, so the project manager has a clear overview of the whole project. The project scope statement and the work breakdown structure are one of the key points and also the elements on which is the focus put on regarding the film production.

In the schedule management are the work packages further broken down into individual activities and assessed in terms of scope and the necessary work. This is followed by determining the relations and estimation of the duration. Based on this is developed a schedule which either in a form of bar charts such as Gantt chart, network diagram or a logic bar chart. The purpose of the schedule management is to develop a detailed plan of delivering the project.

The cost management is an important element of the project management, as the project financial resources are determined, and the project budget is developed. Mapping of the budget into the schedule is essential for the project, so the project manager has an overview of the spending as the time goes.

Risk management deals with the identifying of risks before and during the execution of the project. The goal is to minimize the negative impact and increase the positive effect of the risk. Every project has at least a small aspect of uncertainty; therefore, even during a smaller project is the risk management important in order to make the project execution as smooth as possible.

With basic principles and selected methods being analysed, can the paper proceed to the film production analysis.



### 3 FILM PRODUCTION

According to Honthamer (2010, 79), is the film production “manufacturing of a product” by creating a film from a script. As film can be considered an effort which can be photographically project in a cinema. (Mamer, 2009) Clevé (2006, 9-11) claims that “filmmaking is all about business and earning potentially vast amounts of money.” He also characterizes a film as a product. Just like the project can be divided into phases (project life cycle) or into process groups (the PMI standard), so is the filmmaking divided into several stages. Clevé (2006) mentions Development, Pre-production, Production, and Post-production. Ryan (2010) further discuss Wrap and Distribution.

Individual stages of the film production are described in more detail below. The sources sometimes differ in what is being part of the development and what is a part of the pre-production. Therefore, the development and pre-production are here combined.

#### 3.1 Development and Pre-production

Clevé (2006, 9-12) describes Development as the phase when is the original idea developed into the usable form. The original idea may come from a novel, play, original screenplay, book, etc. and the producer must obtain the rights. Next step is that the producer tries to acquire funding for the production. To achieve that, he has to make an attractive package, containing at best popular actor or director. Apparently, a film is a product like anything else and film industry is a huge business. The more famous actor, the more money can a film potentially make. Also, to ask the production company for the funding, the producer needs to know, how much money is needed for the production; therefore, he must have at least a preliminary budget. Once the well-known director or actor are officially signed, the financial support is secured, and the screenplay is finished, the production can move into the pre-production.

Ryan (2010, chap. 1) speaks about several important activities during the development. Everything starts with searching for an idea for a script. The completion of the script is followed by a script breakdown, where the script is deconstructed into the individual scenes. The development continues with a making of a rough budget and looking for funding options. When is the funding secure, the pre-production starts with hiring the team, casting and location scouting.

Honthamer (2010, 95-97) then continuous with every production office having an official set of policy and operating procedure under it will be run, what will contribute to a better organization, efficiency and avoiding delays. It is important that the staff and crew know

their duties and responsibilities. Last but not least, in the pre-production, it is all about meetings with various people involved in the production. Hurbis (2012, pt. 1, chap. 5) in the development phase again mentions the developing of an idea but more importantly, he speaks about a pre-visualization, which is discussed in more detail below.

Clevé (2006, 9-12) states that the pre-production consists of processes necessary for preparation and planning of the upcoming shooting. This includes shooting schedule, final budget, location scouting, casting, hiring staff and crew, permits, insurance, etc. However, as the most important task in the pre-production is considered the script breakdown.

### 3.1.1 Script Breakdown

Clevé (2006, 23-24) defines the script breakdown as “the very first step the production manager must take to evaluate a project’s overall size and scope”. During this process are all scenes defined, numbered and write down in the *Breakdown Sheet* (Clevé 2006) or *Element Sheet* (Ryan 2010) In another word, each scene has its Breakdown Sheet which contains information such as *scene number*, *location*, if it is *exterior* or *interior* scene, etc. These Breakdown Sheets than serve for the future needs, when is necessary to find a particular information.

Ryan (2010, chap. 2) describe Script Breakdown as “the tool the producer and/or assistant director uses to analyse a script into its specific elements”. These elements (he uses the term *Element Sheet*) are then used during planning and budgeting the production. Script breakdown enables to list all the characters, locations, special effects, costumes, which are needed by the script and it is considered as a crucial tool for finding out how the project will be demanding. Clevé (2006, 23) also points that it is almost impossible to calculate roughly the project’s budget without a thorough script breakdown.

### 3.1.2 Pre-visualization

Hurbis (2012, pt. 1, chap. 5) describes the pre-visualization as an important part where the filmmaker visualizes the aspects of the shooting: what is going to be shoot, how, and what everyone should do in order to complete the movie and fulfil the “unified vision”. There are three tools used for the pre-visualization: “the shooting script”, “overheads” and “storyboards”.

The shooting script is the form of a screenplay, which consists of scenes divided into individual shots. Each shot is described in term of *camera angles*, *shot sizes*, *camera moves*, etc. It is the main tool for organization of the shooting and the order of individual scenes.

Overhead diagrams are developed and used together with the shooting script. They contain information such as *character blocking* (where the actors will be moving) or *camera placement*. They are primary sources of the scene “visual breakdown” which is then shared with the shooting crew.

The storyboards are defined as “drawings of shots”, pictured on paper going one after another just like they will be in the sequence. One *frame* of storyboard usually depicts “one central moment within a single shot.” Storyboards can be done either through a computer program or by hand.

Finishing off the pre-visualization means that the filmmaker and the crew should now have a concrete image of every shot which is going to be taken. This is followed by the developing of the shooting schedule, which is the subject of the next chapter.

### 3.1.3 Development of the Shooting Schedule

The shots are hardly ever shot in the same succession as in the script, in order to use time and other resources efficiently. (Hurbis 2012, pt. 1, chap. 5)

For these purposes is developed a *Shot list* (Hurbis 2012) or a *Stripboard* (Ryan 2010), what is basically the same thing. Individual scenes and shots are grouped based on several criteria. The key factors which are taken into consideration are sorted by importance: *location* together with *time of a day*, *camera setup angle*, *shot size*, *on-set logistics* and *pick-ups*. These details are taken from the breakdown sheets and shooting script. The Shot list/Stripboard is a document which contains all the shots sequentially ordered how they will be shot one after another on a particular day. The most important feature of the list is to be efficient. It is usually done by the director or the production manager and it is the first step in the scheduling of the production. Additionally, to the shooting schedule are generated *Call sheets* printed for every day, containing what part of the script will be shot on a particular day, but also other information about the shooting such as who from the staff has to be there and when, location etc. The number of pages from the script, which will be shot each day is conditioned by several factors such as “the style of shooting” or “the shooting environment”. (Hurbis-Cherrier 2012, pt. 1, chap. 5)

### 3.1.4 Budgeting

Ryan (2010, chap. 3) considers the budgeting process as “a great organizing tool” for the production. The approximate budget provides a good overview of the film scope, which means information about the size of the production, number of crew members and locations, equipment, etc. Clevé (2010) points out that process of budgeting follows the process of

production scoping and developing of the shooting schedule. Hurbis-Cherrier (2012, pt. 2, chap. 1) then discusses two options for developing the budget. The first option is the producer determining how much money they have available and they come up with the best film, which can be shot with that amount of money. The second option is to break down the script for the film which is going to be shot, determine the estimated amount of money required for the shooting of the film and then try to get the funding, which is the same procedure as is described in the development phase by Clevé (2010).

### **3.2 Production**

After all the pre-production preparations are finished, the production moves to the next phase during which is the film shot. (Clevé 2006, 12) However, Honthamer (2010, 157) alerts that this doesn't mean that the preparation stops during the shooting. Although the production office is mainly responsible for the pre-production tasks, during the shooting, the set is the centre of attention and needs of the shooting company are the primary ones. Clevé (2006, 13-14) then adds that the production office is responsible for the flow of information and for letting everyone know (staff, crew, cast) what is going on, where and when. The activity on the set is divided into 4 phases called blocking, lighting, final rehearsals and shooting.

### **3.3 Wrap**

Wrapping is the shortest stage with deals with the packing of equipment (costumes, sets, props) and returning them back. During the shooting, departments were returning the unnecessary things back, but some of the things were needed until the last day of the shooting. During the wrap, the purchased things are either sold, kept in reserve or donated, while the rented equipment is sent back. (Ryan 2010, chap. 12)

### **3.4 Post-production**

According to Honthamer (2010, 463), post-production is “the process of assembling all the elements of a show (an edited picture, music and sound effects, visual effects and titles) to create a finished product.” The word post may imply that this process begins after shooting, but actually, it starts from the beginning of the pre-production, when is discussed how the film will be shot and completed. The form of the post-production changed significantly with the arrival of digitization and this process can take from a few weeks to couple months, based on the platform and the format of the film. Clevé (2006, 19-20) also points out that the

control of the post-production used to not be a full-time duty, but with the arrival of digital effects, it has created a new job called the *SFX Supervisor*.

### **3.5 Distribution**

Ryan (2010, chap. 19) states, that this is the stage, where is the film actually sold and got distributed. He considers the distribution as “the most important part of making the film”, because of the investors to whom must be repaid the debts. As is stated at the beginning, filmmaking is about business and the investors had invested their money not because they wanted a good film but because they wanted to make a profit. The film has to be profitable, so the investors earn money and it can be done it again.

In this chapter, film production and its aspects were introduced. It was stated, that the filmmaking process consists of several stages. The production begins in the development stage where the idea is developed. This is followed by the development of a script. The script is further broken down into the individual scene and for each scene is developed a Breakdown sheet. During the pre-visualization, each scene is further divided into individual shots, these shots are described and listed in the shooting script. Based on the information from the Breakdown Sheets and Shooting script are the individual shot grouped the shooting schedule is developed. The shooting schedule is called either Stripboard or Shot List. Furthermore, the budgeting options were discussed. With the finished shooting schedule, the film production can move into the production stage, where is the film shot. The is the production stage wrapped and the film goes to the post-production, where is assembled and further edited. The final stage is distribution where is the film distributed and starts earning money.

## **4 PROJECT MANAGEMENT IN THE FILM PRODUCTION**

In this chapter, there will be briefly discussed how the project scope statement and work breakdown structure appear in the film production. Additionally, there will be discussed the project manager in the film production and the process groups will be mapped to the film production phases.

### **4.1 Project Scope Statement and Work Breakdown Structure in the Film Production**

Katsiris (2007) firstly compare a script to a work breakdown structure, as they both lead to a decision about resources needed, locations, budget, etc. However, then he points out that they “are not substitute for one another” as some of the movie aspects included in the work breakdown structure, do not have to be in a script. In the end, he compares a script to the project scope statement. He argues that they share similar characteristics as they both lead to the creation of the work breakdown structure and later to the creation of a schedule. Both Katsiris (2007) and Cheklich (2002) further claims that in the film production, work breakdown structure is done through a script breakdown. Katsiris (2017) also compares the work packages to the individual scenes. All of the assumptions will be examined in the practical part.

### **4.2 Project Manager in the Film Production**

With respect to the film production, the sources slightly diverge in identifying who is the project manager. Concerning Clevé (2007), it is mainly the production manager who uses the project management methods. Katsiris (2007) also came to the conclusion that the production manager best fit to the role of a project manager, but he also points out that the processes described in the PMBOK are not limited to the one specific person, but they can be used by various people involved in the project. Worley (2005) identifies producers as the project managers without closer examination. Other sources such as Cheklich (2002) or Brook (2005) do not specify particular person as a project manager, rather describe project management as a tool used by various personnel in the film production.

Based on this information can be assumed that a project manager is not a specific person in the production, but similarly to the project management, the project management methods and tools will be used by various individuals in the production team.

### 4.3 Process Groups in the Film Production

As is stated before, filmmaking consists of several stages. According to Rhyne (2008), these stages fit either the process groups or project phases described in the PMBOK but the sources slightly differ in terms of which phase fits which group or phase.

As can be observed in the Figure 2, Brook (2005, 6-7) map the development to the project initiation phase, where the idea is developed and the production scope is almost determined. The production phase is matched to the process of execution, as the film is actually shot here. The post-production is also part of the execution with overlap to the closure as the film is finished during this phase. The process of closure is matched to the end of the post-production but he points out that great part of the closure takes place at the end of the production phase, as the project is passed on to only few post-production experts.

<b>TV Production Phases</b>	Development	Pre-Production	Production	Post-Production
	Initiation	Planning	Execution	Closure
<b>Project Phases</b>				

Figure 2 - Production phases vs Project Phases (Brook 2005)

Worley (2005, 45) does not mention the development phase. The pre-production phase according to her is composed of Initiation and Planning processes, and it is the phase where is the project green-lighted. The production phase consists of the Executing and Controlling process group. She describes the Execution phase as the most significant and most expensive part of the production whereas the Controlling process mostly deals with solving problems and changes. She highlighted the time management as very important within this phase and also the producers/project managers have to be aware of the risks determined in the pre-production. The post-production then continues during the controlling process, where the individual shots executed in the previous phase are assembled in order to deliver the final product, in other word, a film. The distribution phase can be done during any of the project management processes. In the initiating or planning it can be “pre-sales of distribution rights”, during production phase it can be income from the possible distributors, and in the

closing phase, it can be for example “festival exhibition”. In the Figure 3 can be observed how Cheklich (2002) pictured the production phases in the typical project life cycle.

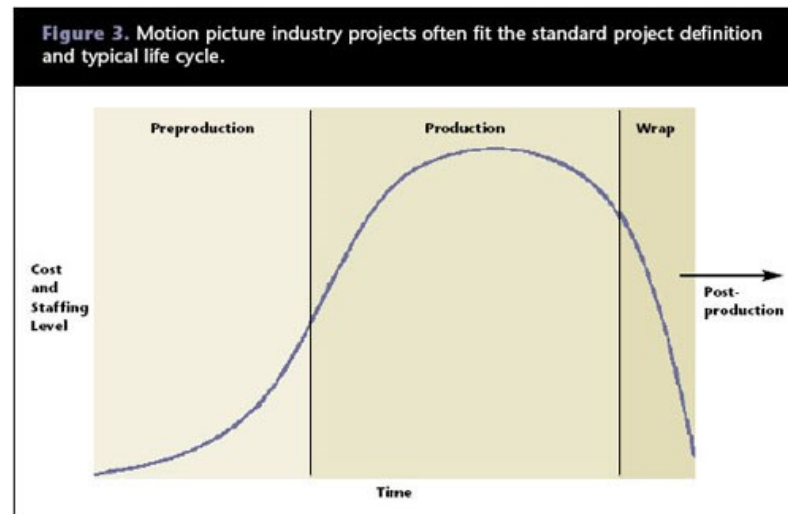


Figure 3 – Film production stages in the typical life cycle (Cheklich 2002)

Katsiris (2007) states, that the process of making a movie meets the characteristics of a project, defined in the PMBOK. It has clear beginning and end, and it represents some sort of effort in order to deliver a result. Based on the information mentioned in the film production chapter, filmmaking certainly is a temporary endeavour performed in order to deliver a unique result. Also, the film production stages fit the project management process groups and a project life cycle. The filmmaking has also an aspect of uniqueness (every film is unique) and focus (the filmmaking starts is based on clear film idea arising from the script). Wysocki's definition also corresponds with the film production description, as filmmaking is a sequence of unique and connected activities. The goal is to deliver a movie and it has to be done within a budget, time and based on some specification, in this case, a script.

Now when is established that the film production meets the criteria of the project, the paper can proceed into the practical part where the selected project management methods and principles will be examined and critically reviewed



## **PRACTICAL PART**

## **5 USE OF PROJECT MANAGEMENT IN THE FILM PRODUCTION**

This chapter will deal with the investigation of the project management principles and methods in the film production, based on the information contained in the theoretical chapter. Firstly, there will be discussed the methodologies and the stakeholders in the film production will be identified. Secondly, the scope, schedule, cost and risk management in the field of film production will be examined and critically reviewed. It will be examined and analysed how they adapt and change, what are the similarities and differences with regard to the film production. Thirdly, the analysis of problems relevant to a particular project management in film production will be performed. Then, the practical project will be presented. The chapter will be concluded by identifying the problems that occurred during the practical project followed by indicating the possible costs and benefits associated with the practical project, together with drawing a final conclusion.

### **5.1 Methodologies in the Film Production**

In the theoretical part is stated that each project is different, therefore, every project needs a specific approach. There are mentioned two main approaches to managing a project which are Waterfall and Agile. In this chapter, they will be examined in order to find out which of them is used in the film production.

In the theoretical part is stated that one of the main characteristics of the Waterfall methodology is a thorough planning before the project execution actually begins. In the chapter dealing with the development and pre-production is discussed how is proper planning important a huge part of the film production. This immediately indicates the presence of the Waterfall methodology. Another aspect of the Waterfall approach are sequenced activities. It is also stated that usually, one activity has to be finished before the next one begins and often the output of one activity is an input of the activity which follows. Concerning the film production as a whole, this would be definitely the case in many situations. With regard to the stages of film production, it is stated that these stages often overlap, but for example, the shooting cannot start until the preceding phase (pre-production) is finished, or a production cannot move into the post-production process until the shooting is finished and wrapped. With respect to the individual activities, the example could be that the script breakdown cannot start until the script is finished and the script would be also the input of the work breakdown structure

During the pre-production, the script is broken down into individual scenes. This method can seem to be an agile approach. However, in the theoretical is also stated that these individual scenes are then carefully planned and the changes would be rather rare, what is not the case of the agile approach. Of course, changes are also part of the whole film production process, but they mainly take place in the development and during the pre-production. Changes which appear during the actual shooting, are usually unexpected and the production team is forced to respond on them (weather changes during the exterior shooting).

## **5.2 Stakeholders in the Film Production**

In the theoretical part is defined who are the stakeholders and how they are divided in terms of their relation to the project. With regard to the film production, the internal stakeholders are the people directly participating on the particular film. Whether they would be part of the production team (director, cameraman, production manager) or they would be part of the cast (actors, extras). The internal stakeholders would be also the investors who cover the funding of the film. The external stakeholders are for example suppliers of equipment for the shooting, people who would rent a location for shooting or the customers, who are in this case the potential viewers of the film. With regard to the active and passive stakeholder, the active stakeholders would be the stakeholder seeking the participation in the project, therefore, again, for example, the crew members. On the other hand, the passive stakeholders would not be seeking the involvement in the project but would be somehow involved anyway, for example, family members of people from the production.

## **5.3 Scope Management in the Film Production**

In the theoretical part is stated that the purpose of the scope management is identified what is part of the project and what is not, based on the collected requirements. The complete amount of work is then divided into smaller units.

With respect to the film production, most of the requirements result directly from a script. Therefore, the process of scope defining mainly comes out of a script. However, there can be also requirements from the investor or other people involved in the project. These would be the stakeholder requirements and an example could be a product placement or a request for a particular actor or director.

In the theoretical part is stated, that Katsiris (2007) compares the script to the project scope statement. His arguments were that they share similar characteristics as they both lead to the

creation of the work breakdown structure. Based on the information discussed, his assumption seems to be partially true, as mentioned, the script is one of the inputs of the project scope statement, but there can be also requirements from the stakeholders. Apparently, the script drives the creation of work breakdown structure, but the person responsible for the script breakdown, has to also take into consideration also other requirements, such as these from the stakeholders, and implement them into the work breakdown structure.

As is stated in the theoretical part, the process of ‘define scope’ is followed by a work breakdown structure, where is the total amount of work decomposed into smaller units. These smaller unit are called work packages. Individual work packages then consist of several activities. In the film production is applied similar technique during the script breakdown, when the script is broken down into individual scenes. These scenes then can be viewed as the work packages of the work breakdown structure as Katsiris (2007) stated. However, it should be also mention, that the proper work breakdown structure should include all processes which are necessary for delivering of the product. Therefore, work breakdown structure in the film production should also include processes from the post-production and distribution, as they are still part of delivering the project. Moreover, the script is the main input of the film and the film is the final deliverable. Therefore, breaking down the script seems to be rather a product breakdown as Maylor (2010) mentioned, and only partially a work breakdown.

In addition to that, in the theoretical is also pointed out that the separate units are still part of the whole and that the project manager has to ensure that they will, in the end, work together. This is also the case of film production where the director cannot focus just on the individual scenes and has to constantly see the film as the final deliverable.

However, whether is the breakdown of the script considered as product breakdown or work breakdown, the deconstruction of the script into individual scenes identifies the total scope of the shooting.

The last process of controlling is related to the scope changes and their managing. In the film production, this can be connected for example with changes in a script or other changes which can influence the total scope of the production (change of location). The script changes would take place mainly in the pre-production as there is still space and time for re-scheduling, during a shooting would be much more difficult to implement these changes.

## **5.4 Schedule Management in the Film Production**

In this chapter, there will be discussed how is the schedule management applied to the film production and what are the differences compared to the general project management.

The schedule management is an important part of project completion across the industries and the film production area is not different. As is stated in the theoretical part, in the ‘define activities process’ are the work packages deconstructed into individual activities. The purpose is to determine which activities are needed to be done in order to produce the deliverable. The output is the activity list. Concerning the film production, this deconstructing process begins with the breaking down the script what is followed by the development of the shooting script. If the scene is considered as the work package, then the individual shots would be the activities included in the package. Therefore, the shooting script in the film production represents the activity list. As the deliverable can be considered one finished shot and the activity is the effort made in order to complete the shot. This effort can consist of tasks such as preparing the set, lighting the scene, decorating, etc.

The ‘sequence activity’ process is connected with the identifying relations between the individual activities. From the theoretical part is known, that in the project management this is the identification of activity’s predecessor and successor, what is the used during schedule development. In the film production, the relations between the activities are also examined, so they can be grouped together and the schedule can be developed. Therefore, the processes vary but the purpose is the same. The duration and scope of the activity comes out directly from the script and it is connected with for example a complexity of the shot, number of actors or whether the shooting is inside or outside, etc.

The final schedule is in the form of the Shot List/Stripboard, which when it comes to the shooting, replaces Gantt chart. They also share some similar characteristics as in both of them are listed the activities and their durations. However, in the Stripboard, the activities are sorted as they will be executed. The additional difference is in the using of separate daily Call Sheets containing further information such what will be shot each day or individuals needed for the particular day.

## **5.5 Cost Management in the Film Production**

In the theoretical part is stated that the purpose of the cost management is to determine the financial resources and develop a budget. The cost management in the film production has the same purpose. Similarly, to the approaches described by Maylor (2010), the cost management in the film production is done either by splitting the money assigned to the film

project, or by cost estimation of the individual work packages and developing of the budget based on these estimated costs. In the reality, it would be probably somewhere between both options, the producer (or whoever who wants to shoot a film) would develop a preliminary budget, try to acquire a sufficient funding and then appropriately divide the money.

Based on this can be stated, that the cost management in the film production meets the characteristics of the project cost management.

## 5.6 Risk Management

From the theoretical part is known that with the project aspect of uncertainty, risks are present in all kinds of projects. In the film production is the aspect of uncertainty present from the beginning and assessment of the project risk starts immediately in the development. The person launching the project has to take into account whether the shooting of the film worth the risk. Here is spoken about the financial aspect of film production and potential risk of losing money. From the theoretical part is known that film industry is mainly about business and making money. The investors considering a film as a potential objective of an investment will be considering mostly the financial side of the project. From the cost, management is known that for these purposes is developed a preliminary budget but that does not have to be enough. That is the reason why trying to sign a well-known actor or director is important. The purpose is to reduce a potential risk of a film failure. This would be the effect of uncertainty as a whole and the overall project risk.

With regard to the individual risks, some of them would again arise directly from the script itself. Naturally, the extent of the risk management would be different if the producer wants to shoot some action film full of risky scenes or when he wants to shoot a romantic comedy. In the theoretical part is defined four phases of the risk management. Here is an example, how these phases can be applied in the film production, the identification of risk would be identifying a potential risky scene in an action film script, the risk assessment would identify the significance of the risk (who is going to be affected, level of risk, etc) One of the risk responses would be insuring of the actors or eventually of the equipment used during the scene. The controlling process would take place during the actual shooting of the scene.

However, there are still risks which can occur during any production, which are daily production issues during the shooting such as tech problems. Weather changes can also significantly influence the shooting, as they can interrupt the exterior shooting and the whole production has to move into the spare interior location. The production manager responsible for the scheduling of the film has to take all these issues into account because an even small

error can sometimes stop the shooting for a few hours. As is stated in the theoretical part, film production meets the characteristics of a project and every project has at least a small aspect of uncertainty. Therefore, even during a smaller scale production has to be applied the risk management.

In the first sub-chapter, the project management methodologies in the film production were examined and identified. The chapter indicated, that it is the Methodology which can be applied in the film production. In the second sub-chapter were identified the stakeholders in the film production.

Regarding scope management, in the theoretical is stated, that both Katsiris (2007) and Cheklich (2002) claim that in the film production, the work breakdown structure is done through breaking down the script. The chapter dealing with the scope management has shown, that this is only partially true, as breaking down the script does not include the post-production and distribution. Therefore, the script breakdown gives to the production team information about the scope of the shooting phase (length, equipment required) and ensures that the production team is well prepared for the shooting, but it does not provide information about the scope of following phases and the whole film production.

As seen from the schedule management use in the film production, some of the project management processes can be found also in the film production schedule management. The film schedule management also deals with the determination of individual activities and the activity list is here in the form of a shooting script. However, the schedule management in the film production deals again only with the planning of the shooting phase and does not include the post-production and distribution. The schedule management also differs, when it comes to the 'sequence activities' process. In the project management, the relations between activities and durations of the activities are examined in order to find out the predecessors and successors and develop a schedule. In the film production, the relations between the activities are also examined, but the purpose is to discover the similar features of individual activities (shots) so they can be grouped together in order to develop a shooting schedule (a stripboard). So, the goal is identical but the processes are different. The Stripboard then during the shooting serves as Gantt chart and also carries some of its characteristics. The chapter dealing with cost management showed that the cost management in the film production is done almost identically as in the project management and both the cost management methods can be found in the film production. The application of the risk

management can be considered as very universal what has been also proven in the chapter dealing with the risk management in the film production.



## **6 ANALYSIS OF PROBLEMS RELEVANT TO THE PARTICULAR FILM PRODUCTION PROJECT**

In this chapter, there will be analysed the relevant problems during the film production project management.

Regarding the developing of a project idea, the project manager has to consider several criteria and possible problems. Firstly, the project has to be realistic and feasible; therefore, the project manager needs to have resources for the execution of the project and the timeline of the project has to be achievable. Secondly, the development of a script can take much more time than it was planned, as the script is the most important input of the film and has to be done properly. Let us assume that the film project was authorised, script was developed and the production could move into the pre-production.

Concerning the pre-production, multiple problems can occur. The searching for a location does not have to go according to plan, as the location can be hard to find or does not have to be available on the set date. The same applies for a hiring of people into the production team. The script breakdown and developing of a shooting script are another complex task which can take more time than expected. The project manager has to be aware of these potential problems and be prepared to react on them appropriately. However, the most problematic part will be the determining of the overall scope and scheduling the project. As was discovered in the chapter dealing with scope and schedule management in the film production, the scope and schedule management only deal with the shooting phase. The project manager has to take this into consideration and propose a solution.

The shooting phase is also problematic. The production team is limited in time and any unexpected event can delay the whole shooting process. The project manager has to ensure that all participants will be at the particular location together with all equipment. In case of some unexpected situation, he has to be ready to solve it as soon as possible in order to minimize the negative impact. With respect to the post-production process, the possible problems include for example a digital technology failure or difficulties with a video editing.

## **7 BACHELOR PROJECT - “PLAYING EU”**

The aim of the practical project was during a film production of smaller scale, appropriate for a Bachelor project, practically apply selected project management methods and their use was examined and verified. The story of the film is quite simple, two young people debate about the European Union while they play on a gaming console. The purpose of the project was to discuss some of the advantages/disadvantages of the European Union and try to present them to younger people through this short film. The only role of the gaming console was to reach the younger audience. The whole project was set approximately for three weeks and was proceeding according to the real stages of the film production.

Regarding the problem with scoping and scheduling the complete film project, a follow-up solution was used: firstly, for the purposes of scoping and scheduling of the entire project was used Gantt chart and also a logic bar chart. For the purposes of scoping and scheduling the shooting phase, were used the common film production methods; therefore, the script breakdown and developing of a shooting schedule.

### **7.1 Development**

The phase of development started with the development of an idea. Obviously, the project could not be full-featured film, so it has been decided that the content of the project will be just a short film consisting of several scenes.

When the development of the idea was finished, the work on the script began. The development phase started with the identification of the overall project scope. The project was broken down into the main tasks, needed for the project completion. This was followed by analysing each task in terms of its duration and the relationships with remaining tasks. It was discovered, that mostly the tasks have some predecessor which was needed to be carried out before the particular task can be executed. The exception was during the pre-production when some of the tasks such as searching for a location or team production and cast hiring, could have been run simultaneously after the script was finished. Otherwise, the project had to proceed step by step. Then, these tasks were listed in a simple Gantt chart but also a logic bar chart was developed. This logic bar chart was developed in order to depict the relations between the tasks and display the critical path.

### 7.1.1 Gantt chart

The Gantt chart which can be observed in Figure 5, was used during the whole project as the overall project schedule. The main advantage of the Gantt chart was a good overview of the overall course of the work. On the left side is a table with the main tasks of the project. Based on this table was developed a schedule from which was easy to understand in what phase the project currently had been and how many days had remained until the project was complete. The disadvantage was that that the production did not have information about tasks relations. For this reason, was developed the logic bar chart

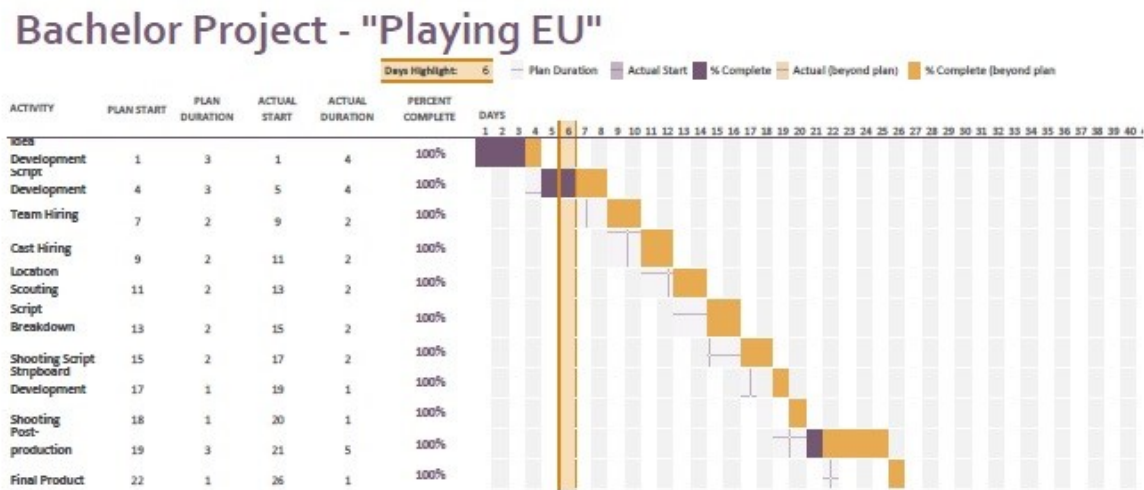


Figure 4 – Gantt Chart (author’s own work)

### 7.1.2 Logic Bar Chart

Firstly, the tasks were incorporated without order as can be seen in Figure 5. After that was the logic bar chart sorted based on the predecessors as can be seen in Figure 6, for better illustration of how the tasks were sequenced. The red path is the critical path of the project. Any delay of any activity on the critical path would cause a delay of the whole project. The

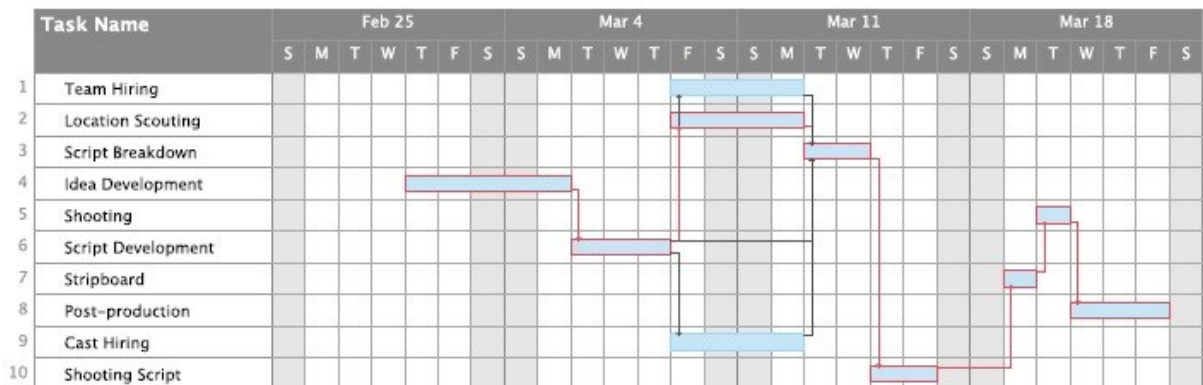


Figure 5 – Logic Bar Chart (author’s own work)

main advantage of logic bar chart was that the relations were displayed and also the timeline was very useful.

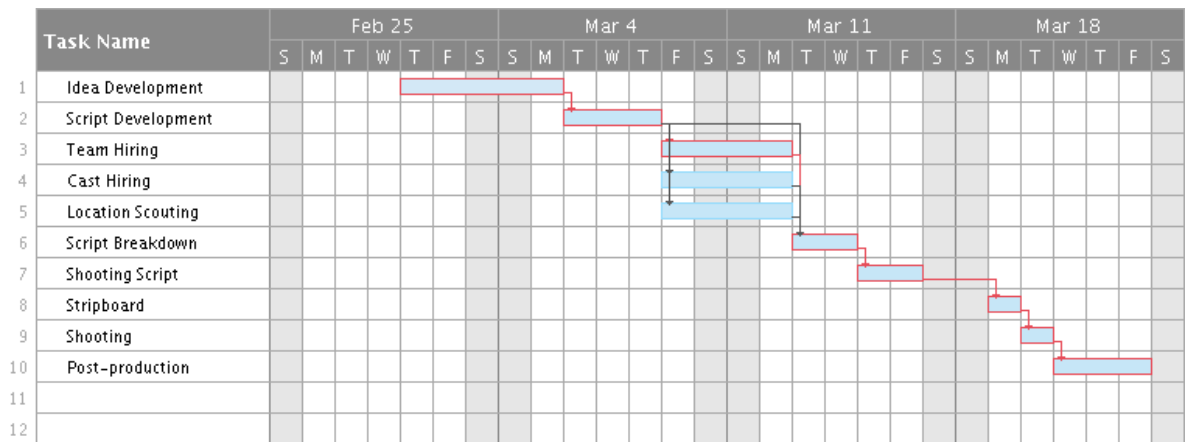


Figure 6 – Sorted Logic Bar Chart (author’s own work)

### 7.2 Pre-production

With the finishing of the script could the project move into the pre-production. The pre-production phases started with the hiring of a crew and cast. Usually, the film production crew consists of dozens of people but in such a small production was needed only a producer, scriptwriter, and an experienced cameraman, who would be also in charge of the post-production responsibilities. Therefore, the production team consisted of the producer who was at the same time one the two scriptwriters, the second scriptwriter and the cameraman. For the position of the second scriptwriter was addressed a student of journalism Václav Pilka and for the position of the cameraman was addressed Jan Šebesta, high school student with plenty of experience in video shooting and its subsequent editing. Both of them agreed on participating in this project. As professional actors were not needed for this kind of a project, real casting process was not necessary. As Václav Pilka was the co-author of the script and he did not have to learn the text, he offered himself to perform one of the characters. The producer then addressed one of his friends if he would be willing to participate in the project and he agreed. The searching for the location begun after the script had been finished. The film takes place only in an apartment so the production team did not have to wait for the development of the shooting script and could start searching for the location right after the script had been developed. The initial plan was to shoot in the producer’s house, but the downside was the location of the house, outside of Zlín. Eventually, the second scriptwriter offered his apartment as a potential location for the shooting. The flat was located almost in the centre of Zlín; therefore, it was an ideal place.

After weighing down both options, the production team decided to shoot in the apartment in Zlín.

The production team did not have any official budget as this was only a bachelor project all participants agreed to participate for free. However, if the budgeting would take place, it would be used the top-down costing. The producer would have to invest his money or try to acquire some funding, for example through a product placement in the film. The only relevant expenditure would concern the shooting day when the producer covered the expenses for the food for the participants, and for the gasoline into the car, which was during the day.

After the script was developed, production team and the cast were hired and the location was secured, the producer proceeded to the script breakdown. As is stated in the theoretical part,

### BREAKDOWN SHEET #2

Page Count: 2

Date: 24.3.2018

Production Title: Playing EU

Location: Zlín – apartment.

Scene #: 2

Scene Name: ARRIVAL

INT/EXT: INT

DAY/NIGHT: DAY

Description: Jan enters the apartment

<b>CAST</b> JAN ŠALANDA VÁCLAV PILKA	<b>STUNTS</b> n/a	<b>EXTRAS/ATMOSPHERE</b> n/a
	<b>EXTRAS/SILENT</b> n/a	
<b>SPECIAL EFFECTS</b> n/a	<b>PROPS</b> n/a	<b>VEHICLES/ANIMALS</b> n/a
<b>WARDROBE</b> Actors bring their own costumes	<b>MAKEUP/HAIR</b> Natural look	<b>SOUND EFFECTS/MUSIC</b> n/a

breaking down the script consists of dividing the script into the individual scenes, and then for each scene is developed a breakdown sheet, containing information such as a number of the scene, location, etc. The script for this project was divided into 5 simple scenes; therefore, four breakdown sheets was generated. The first scene is only introductory with some exterior shots of Zlín. During, the second scene is Jan entering the apartment, the breakdown sheet of this scene can be seen in Figure 7.

In the third scene, they are both standing in the kitchen and Václav is offering a beverage to Jan, after that, they move into the living room. The fourth scene is the main one, where the debate about the European Union takes place while playing on a gaming console. In the last scene is Jan leaving the apartment and the film ends.

The pre-visualization phase began after the breakdown of the script was finished. The shooting script was developed and the individual scenes were deconstructed into the particular shots. However, as the scenes were quite simple and consisted only from a shot or two, it was not necessary to include them into the stripboard; therefore, the stripboard consisted from the scenes and can be seen in Figure 8. We had only one camera so the overhead diagrams were not necessary, so the storyboard technique.

With the prepared breakdown sheets and Stripboard developed, the production team was prepared for the shooting and could move into the production phase.

<b>STRIPBOARD – Playing EU</b>							
SCENE #	INT/EXT	SCENE TITLE	DAY/NIGHT	CAST	LOCATION	PAGE COUN T	EST. SHOOTING TIME (hours)
1	EXT	CITY	DAY	-	ZLIN	2	1:00
2	INT	ARRIVAL	DAY	1,2	APARTMENT	2	0:30
3	INT	KITCHEN	DAY	1,2	APARTMENT	3	1:00
4	INT	DEBATE	DAY	1,2	APARTMENT	3-5	2:00
5	INT	FAREWELL	DAY	1,2	APARTMENT	5	0:30
END OF THE DAY – Saturday, March 24, 2018							5:00

Figure 8 – Stripboard (author's own work)

### 7.3 Production

As the film is quite short, the shooting was set only for one day. The shooting day was basically divided into three parts. In the beginning of the day, director and cameraman went to shoot the exterior shots of Zlín. After that, all participants met at the selected location

what was followed by preparing of the set. Actors were preparing for the shooting and everything was controlled through the breakdown sheets. The production team followed the Stripboard and everything was proceeding as planned. The only unexpected problem which occurred was that the actors had difficulties with debating and at the same time playing on the gaming console. Fortunately, it did not cause any significant delay. Each shot was taken several times for the purposes of the post-production process, so the production team then could choose the best shot. The third part consisted of wrapping out the set, everything was returned to its original state and the production team left the location.

#### **7.4 Post-Production**

With the finishing of the production phase, the project could move into the post-production. For the post-production process was mainly responsible the cameraman, and the producer was discussing only some details. During the post-production were picked the proper shots and the film was cut and edited into the final form.

#### **7.5 Benefits, Costs, and Risks associated with the Bachelor Project**

In this chapter, there will be presented the problems which occurred during the project and how they were managed. Furthermore, the costs and benefit will be discussed and the conclusion will be drawn.

Both, idea development and script development showed to be more difficult than expected and each of them lasted one day longer. This caused that the shooting day had to be re-scheduled but all participants were available; therefore, it was not a significant problem. The same problem occurred during the post-production when the responsible person was too busy and the post-production lasted two days longer. However, the post-production was the last task, therefore, the delay did not cause any damage. The problem which was not anticipated occurred during the shooting when the actors had difficulties with following of the script and at the same time playing on the gaming console. However, this problem did not cause any delay. As is stated in the project, the production did not have any official budget and the only relevant expenditure would be the food and gasoline during the shooting. These costs were covered by the producer.

The main benefit of the project was a practical application of the project management methods described in this paper. Moreover, it was a great experience for all participants.

To draw a conclusion, during the scheduling process of the project was discovered, that most of the task had some predecessor, which had to be executed before the particular task could

begin. Therefore, the project had to proceed step by step and often the output of one task was an input to the following task. This clearly confirmed the presence and suitability of the Waterfall approach.

The work breakdown structure technique showed to be very useful and valuable project management method, both in the case of the overall scope or shooting scope. Dividing the total amount of work into smaller units was very practical and the producer had a complete overview of the individual tasks and activities needed for the project completion.

The Gantt chart was very easy to follow and provide information about a current project phase, about the progress or delay. As is stated in the theoretical part, during the shooting, Stripboard replaces the Gantt chart which was also the case of this project. The stripboard was easy to work with, although it did not provide information about the current progress, for a day schedule this was not necessary. In conclusion, the practical project confirmed that the project management methods can be effectively used in the film production.



## CONCLUSION

This Bachelor thesis was focused on the use of project management in the field of film production. In the theoretical part, the principles and methods of the project management were analysed. Main focus was put on the scope, schedule, cost and risk management methods. Then was stated that the project meets the characteristics of the project. In the practical part, the selected project management methods applied in the field of film production were critically reviewed, relevant problems were analysed and the practical project was presented. After that, benefits, costs and problems which occurred during the project were stated.

The main goal was to verify, if the selected project management principles and methods can be applied in the film production. The subsequent objectives were critically reviewed the selected project management methods in the field of film production, analysed the relevant problems connected with the particular project and present the benefits, costs and problems. The main goal was fulfilled during the practical project, where the project management methods were practically used. The project has proven, that the project management can be very effectively used during the film production. The scope management provided good overview about the extent of the project and made scheduling process much easier. The scheduling process provided the schedule in the form of Gantt chart and Logic Bar Chart. Both of them has been proven to be very useful during the completion of the project. The practical application of the risk management helped with anticipating of the problem, what made their future managing easier. The project has also confirmed the use of the Waterfall methodology. Therefore, the film production consists mainly of sequenced activities and is based on thorough planning.

The subsequent objectives were also fulfilled, during the critical review of the selected project management methods and principles was discovered, that these project management methods and principle are often present and used during the film production. However, the scope and schedule management methods differed in terms of their focus. In the film production, the scope and schedule management are focused only of the shooting phase and not on the whole project. From this reason, in the practical project were these methods applied on the overall project and verified together with the standard film production methods. The risk and cost management in the film production were in many respects identical with the project management methods.

The main conclusion is that the selected project management methods can be effectively used in the field film production together with the standard film production methods. Therefore, the project management methods can improve and simplify the managing of the film production.

**BIBLIOGRAPHY**

- Aston, Ben. 2017. "9 Project Management Methodologies Made Simple." *The Digital Project Manager*, March 2. Accessed February 23, 2018. <https://thedigitalprojectmanager.com/project-management-methodologies-made-simple/>
- Brook, George. 2005. "Surviving the roller coaster." *Project Management Journal* 36, no. 1: 5-14. Accessed February 24, 2018. <https://www.pmi.org/learning/library/worst-practices-pm-television-production-industry-2540>
- Cheklich, Diane C. 2002. "Lights, camera, project management!" *PM Network*, July 1, 2002. Accessed February 25, 2018. <https://www.pmi.org/learning/library/lights-camera-project-management-4491>
- Clevé, Bastian. 2006. *Film Production Management*. 3rd ed. Oxford: Focal Press.
- Duncan, William R. 1993. "The process of project management." *Project Management Journal* 24, no. 3 (September): 5-10. Accessed March 12, 2018. <https://www.pmi.org/learning/library/basic-process-project-management-2114>
- Honthaner, Eve L. 2010. *The Complete Film Production Handbook*. 10th ed. Oxford: Focal Press.
- Hurbis-Cherrier, Mick. 2012. *Voice & Vision: A Creative Approach to Narrative Film and DV Production*. 2nd ed. Oxford: Focal Press.
- Katsiris, John. 2007. "Project management at the movies." Paper presented at PMI® Global Congress 2007 – Hong Kong, People's Republic of China, January 29-31. Accessed February 23, 2018. <https://www.pmi.org/learning/library/project-management-movies-processes-practices-7369>
- Kerzner, Harold. 2009. *Project management: a system approach to planning, scheduling, and controlling*. 10th ed. New Jersey: John Wiley & Sons.
- Lock, Dennis. 2007. *Project Management*. 9th ed. Aldershot: Gower Publishing Limited.
- Mamer, Bruce. 2009. *Film Production Technique: Creating the Accomplished Image*. Belmont: Wadsworth Cengage Learning.
- Maylor, Harvey. 2010. *Project Management*. 4th ed. Harlow: Financial Times Prentice Hall.
- Project Management Institute. 2017. *A Guide to the Project Management Body of Knowledge*. 6th ed. Newtown Square, Pa: Project Management Institute.

- Rhyne, Christopher C. 2008. "Looking behind the scene – project management in the motion picture industry." Paper presented at PMI® Research Conference: Defining the Future of Project Management, Warsaw, Poland. Accessed February 17, 2018. <https://www.pmi.org/learning/library/project-management-motion-picture-industry-7121>
- Ryan, Maureen A. 2010. *Producer to Producer: A Step-By-Step Guide to Low-Budget Independent Film Producing*. Los Angeles: Michael Wiese Production. Kindle.
- Visual Paradigm. "What is Project Management Methodologies?" Accessed February 24, 2018. <https://www.visual-paradigm.com/guide/project-management/what-is-project-management-methodologies/>
- Worley, Tracy L. 2005. "Using constraint management to optimize motion picture production management." *Project Management Journal* 36, no.4: 44-52. Accessed March 17, 2018. <https://www.pmi.org/learning/library/cm-optimize-motion-picture-production-management-5529>
- Wrike. "Choose Your Project Management Methodology." Accessed February 23, 2018. <https://www.wrike.com/project-management-guide/methodologies/>
- Wysocki, Robert K. 2014. *Effective Project Management*. 7<sup>th</sup> ed. Indianapolis: John Wiley & Sons.

## **LIST OF ABBREVIATIONS**

PMBOK Project Management Body of Knowledge

PMI Project Management Institute

**LIST OF FIGURES**

Figure 1 – Project Management Methodologies (Aston 2017).....	14
Figure 2 - Production phases vs Project Phases (Brook 2005).....	30
Figure 3 – Film production stages in the typical life cycle (Cheklich 2002).....	31
Figure 4 – Gantt Chart (author’s own work) .....	42
Figure 5 – Logic Bar Chart (author’s own work) .....	42
Figure 6 – Sorted Logic Bar Chart (author’s own work).....	43
Figure 7 – Breakdown Sheet (author’s own work).....	44
Figure 8 – Stripboard (author’s own work) .....	45