

Optimization of Document Workflow in Academic Organizations from Project Management Perspective

Petr TUCNIK* and Tereza OTCENASKOVA

University of Hradec Kralove, Hradec Kralove, Czech Republic; tereza.otcenaskova@uhk.cz; petr.tucnik@uhk.cz

* Corresponding author: petr.tucnik@uhk.cz

Abstract: This paper discusses issues related to document workflow in academic institutions (universities) related to the project preparation activities. The problem is analyzed primarily from the perspective of a project manager. The analysis is focused on the identification of various given limits (mostly derived from law or procedural requirements), typical problems occurring during the document preparation and processing, and various time constraints related to specific activities within the discussed workflow. A generalized case study is presented to illustrate these problems (process workflows of project initiation and contract preparation). Concluding discussion presents the examples of the best practice and highlights critical moments during the project preparation, as well as suggestions of possible improvements. The comparison with similar process workflows in SMEs, and public institutions is a part of the discussion as well.

Keywords: project management; document workflow; process optimization; BPMN

JEL Classification: D23; D73; M10

1. Introduction

Currently, the project management represents a very topical issue discussed within various types of organizations. The project management often requires the coordination of a lot of people as well as processes. This work and responsibility flow remain challenging even though particular methodologies are both available and applicable according to particular contexts.

The workflow and process flow of information, knowledge, documents, contracts, and the other necessary parts needed for project proposal preparation can accelerate as well as slow down the projects in their very beginning. The limitations and barriers which might occur are discussed within this paper together with specific recommendations and suggestions of countermeasures. The efficiency of these processes influences the motivation to propose and prepare the projects. This is obvious within various types of institutions within which the bureaucratic barriers significantly discourage potentially valuable, beneficial, and sustainable projects. If higher attention is paid to internal processes, the requirements connected with their management and administration, more time might be allocated to the projects themselves from the professional perspective (Shijun, 2020).

The efficiency of a documents' workflow within any organization may prove to be a challenging problem, usually further increasing in complexity in larger institutions (Marbach et al., 2019). This paper is focused on the efficiency of such documents' workflow (DW)

related to the project preparation activities. This problem is analyzed from the project management perspective, e.g. from the position of a project manager who is generally responsible for successful project preparation.

This problem is discussed over a model case study of research project preparation within which all important participants play their respective roles during approving steps. The case study, visualized with BPMN (Business Process Model and Notation) diagrams (Havey, 2005), highlights the important weak spots, mandatory steps, and the roles of individual participating entities. Another important information contained in these diagrams are the processes of creating, maintaining, and modifying data objects for respective steps during preparation phase of the project.

The discussion follows the BPMN analysis and is focused on the possible improvements and increase of efficiency of DW (Šramová et al., 2021). Obviously, many steps are mandatory, legally required, and cannot be avoided. On the other hand, there is often unnecessary large portion of workload handled by a project manager himself/herself and amendments ensuring to ease such bureaucratic burdens can and should be taken.

2. Methodology

From the methodological point of view, BPMN collaboration diagrams are used to capture the documentation workflow (Havey, 2005). There are many participants from various departments either collaborating on preparation of given documents or they serve as supervisors, maintaining control over processes at hand (Barendsen et al., 2021). Unfortunately, quite a large number of these participants are mandatory, while others seem to be crucial for internal functioning of processes within universities. As it is shown below, the process is not simple and the majority of the work related to document preparation is a responsibility of the project management team (or project manager himself/herself).

To support the discussion, an illustrative case study is presented in the form of two processes analyzed in detail in section 3 Results. These are related to the domain of project management. The first process shows workflow of initiation of the project, the second one captures the process of contract preparation and its signature by rector and submission via data box.

3. Results

In this section, two illustrative examples of process workflows are analyzed in detail. Analysis is divided into two processes:

- Process of project initiation (see Figure 1).
- Process of contract preparation (see Figure 2 and Figure 3).

The following schemes depict the processes experienced at the example university. These show and prove the current situation. The presented situation might vary institution to institution which should be considered as well. Nevertheless, but it can be anticipated that the general idea will be in crucial points similar to the mentioned examples.

3.1. Process of Project Initiation

According to project management methodologies such as PRINCE2, the project initiation phase is the first stage of project preparation process. Its main purpose includes three steps: (1) obtain project mandate for project manager, (2) obtain approval of the project concept from the representative of the faculty management, and (3) fulfill initiation conditions to be able to begin with detailed preparation (specified budget, project plan, project team, work breakdown structure, etc.). The whole process of project initiation is shown in Figure 1.

3.2. Process of Contract Preparation

During various stages of the project, many formal contracts are required to be signed by all relevant stakeholders. The bureaucratic workload might be eased through use (after necessary modifications) of previous contracts, usually from similar project calls. Before obtaining signature of the main organization representative (in this case, the rector of the university), the document workflow goes through many departments or people with specific project roles. The most important participants during the contract approval activities are the legal department, vice-dean office, principal investigator, executive secretary of the faculty, vice-rector for science and creative activities, and, finally, the rector office.

Although the flow of documentation might seem to be unnecessarily complex, all participating departments are on the contrary necessary and cannot be avoided. The main factors which might prove to be most efficient in increasing effectiveness seems to be use of digital signatures, and speed of process workflow as a whole. This complexity is prevalent characteristic for all larger institutions, because majority of large municipal institutions or corporate companies have processes of similar complexity as well. This makes situation even more complicated because the contract must be signed by at least two (in some project calls even more) parties. Moreover, the process is repeated for all relevant contracts, such as cooperation agreement with the project partner, contract with application guarantor, and contract with grant provider. These contracts serve only as examples in discussed case but are usually required in projects of Czech Science Foundation projects, Technology Agency of the Czech Republic projects, or departmental projects (of various ministries). It can be expected that situation will worsen in the case of large international projects with multiple participating institutions (including necessary translations and consultations of legal documents).

4. Discussion

The paper reveals the differences between and among institutions considering the document workflow. Based on the case study, these might be perceived as a bit complicated and inoperable in relation to the academic institutions. Within the workflow, particular extent of rigidity occurs. Partly, this is given by the fact that some of the processes must follow the sequence strictly and unavoidably given by the laws and regulations (both official and if relevant internal too) which defines and sets also the conditions for particular approvals, signature retrievals, etc.

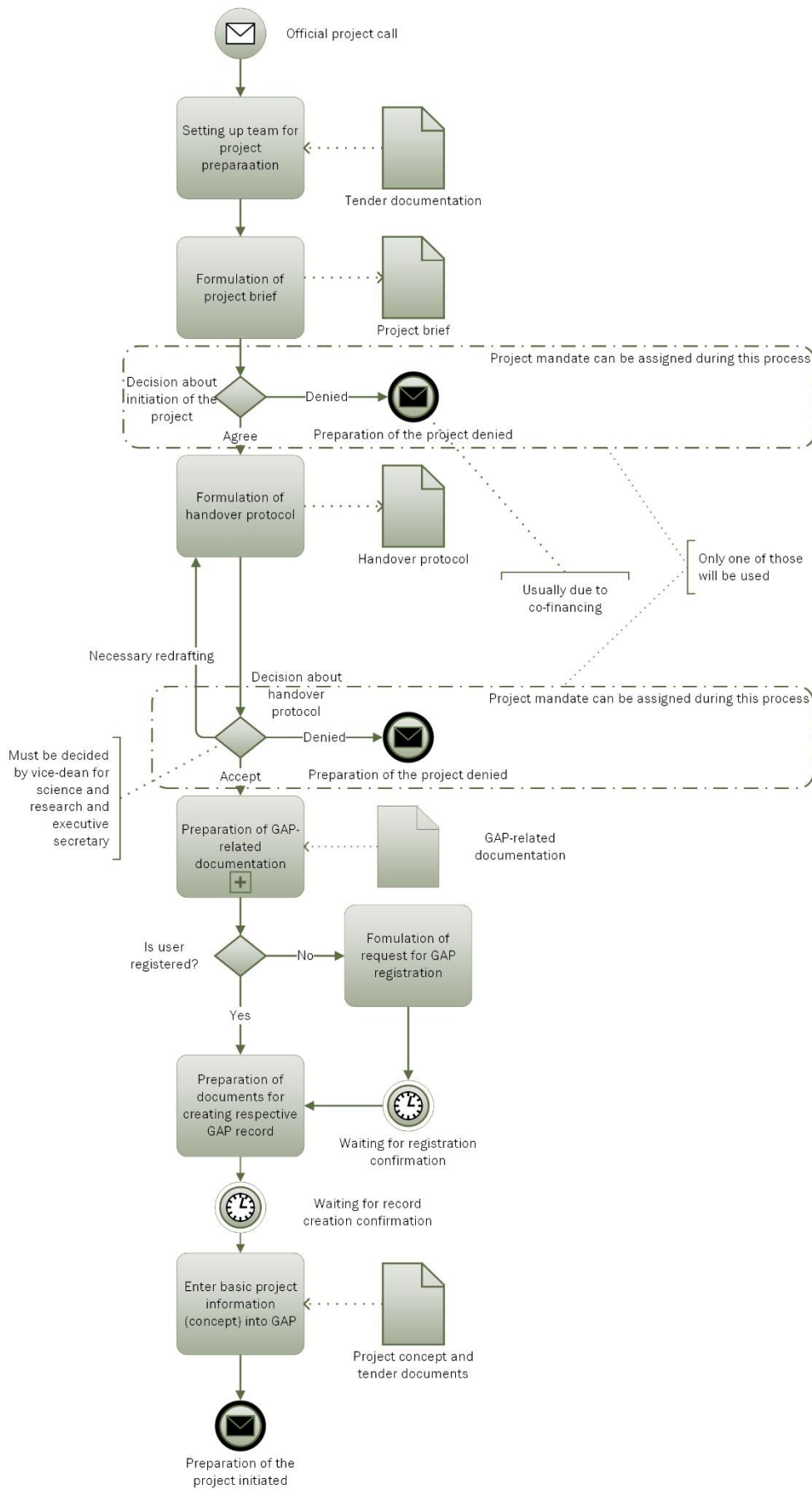


Figure 1. Process of project initiation

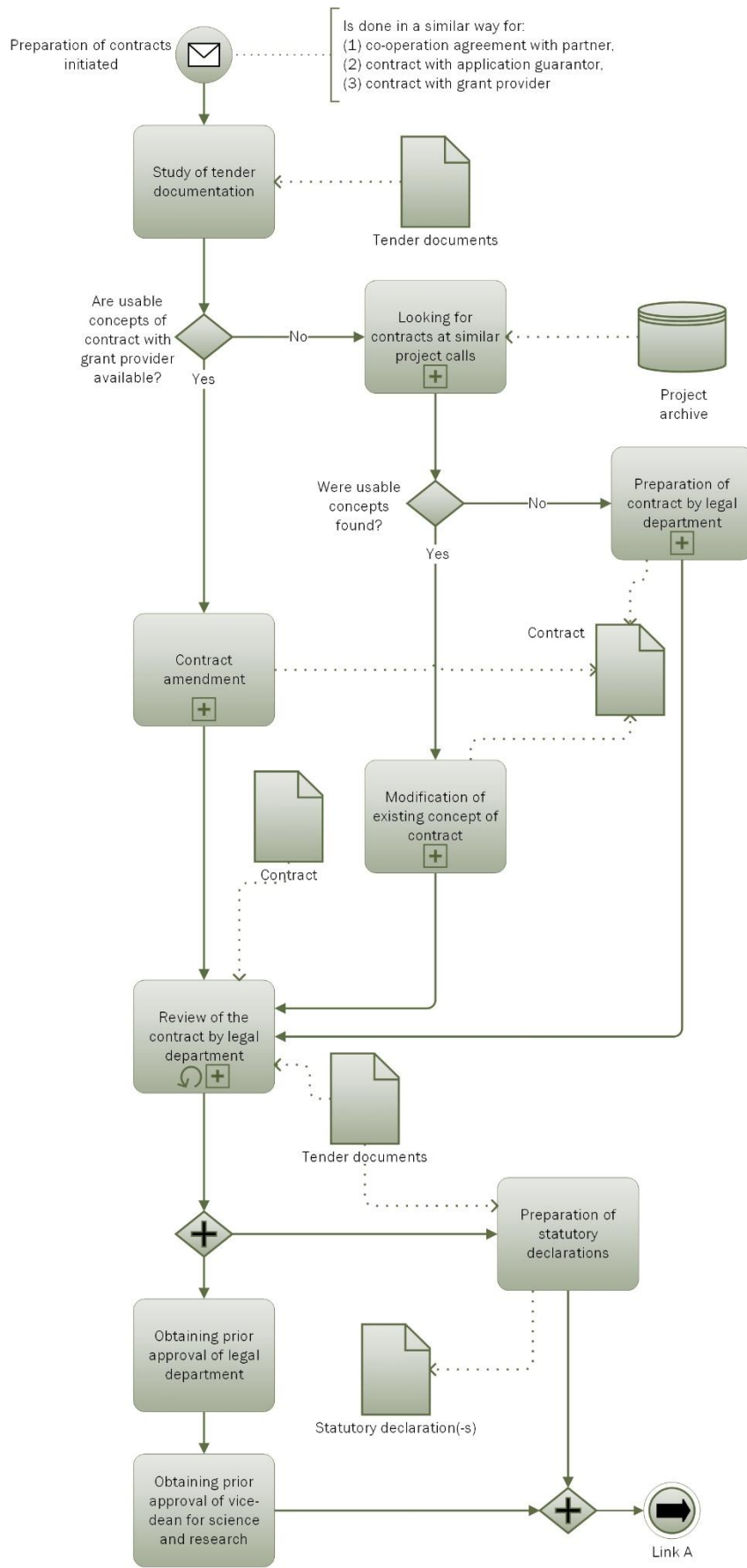


Figure 2. Process of contract preparation (part 1 of 2)

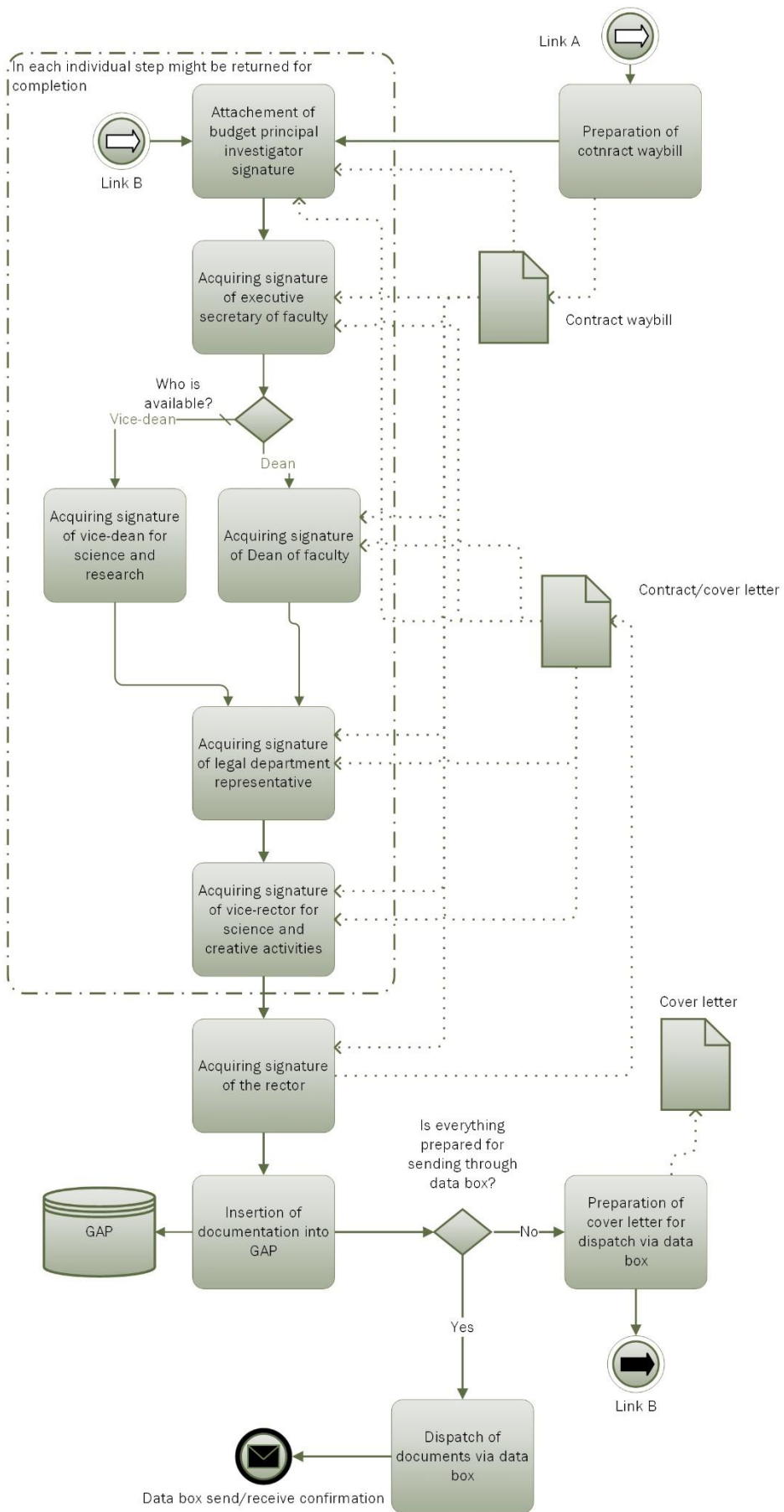


Figure 3. Process of contract preparation (part 2 of 2)

The comparison with other types of organizations might help to understand the current situation. There are significant differences between public and private sector. Then, the size of organization matters. Except from the beforementioned, the field of business plays its role. Mostly, the corporate organizations and public sector (including academic one) are quite similar. Their inflexibility matters during the negotiations with the external partners, but also within the organization itself. In that realm, the SMEs (small and medium sized companies) have mostly the competitive advantage (Arturo-Delgado & Díaz-Piraquive, 2021). The communication, information and data flows are simply affected. Nevertheless, even this advantage is usually eliminated due to missing administrative support and organizational project workflow codification which might help to clarify these processes on the other hand.

The limitations of this paper include the fact that the specific academic institution environment is considered within the case study. Nevertheless, from the author's experience, similar conditions and requirements are required at the other institutions. This leads to further limitation represented by the national environment which imply particular cultural, social, legal, economical and other conditions.

5. Conclusions

The orchestration as well as synchronization of the processes will enable the promptness and smoothness of the document workflow (Lau, 2021). Nevertheless, some mentioned variations are shaped by the given or deeply established practices, and these can be hardly changed quickly and without any further consequences. At the university level, it is a long-term issue which should be managed at the managerial level. The proper and well-planned reengineering represents one of the solutions. The processes should not be unifyingly perceived as there are in most cases similar stakeholders involved. Another approach will include the currently promoted and employed efficient agile methods (Miller, 2020; Oprins et al., 2019).

Furthermore, the reengineering sometimes implies the necessary organizational, departmental, team as well as individual changes or amendments. As generally known, a lot of people struggle with the change acceptance and implementation no matter which beforementioned level they feel majorly to be. Therefore, the potential reengineering and change management of the organizational processes ensuring their higher presence require a lot of both attention and patience. The implementation of the changes connected with those processes will take some time and sometimes legal or internal regulation scheme changes delay the overall efficiency increase. Consequently, these remain a challenge for the future.

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Conflict of interest: none

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