E u r o E c o n o m i c a

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Performance and Risks in Designing a Research Proposal

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Abstract: In order to address the global megatrends of today's society, namely the twin transition, globalization, demographic change, researchers in various fields have to reunite their efforts to promote innovation and to promptly respond to the needs of new economies and societies. Thus, the effective use of research resources becomes an important tool in responding to the socio-economic effects of recovering from the pandemic crisis and, also in facing the global megatrends, as well as the Ukrainian crisis. This paper intends to explore ways of designing research proposals in order to improve citizens' quality of life, the aim of the paper being to improve performance and results of the researchers in a timely manner. In this rapidly changing socio-economic and territorial environment, financial resources should be used more efficiently and effectively, and this paper intends to contribute further to create a synergy between researchers and other policies/instruments from "the real world", which should be created and managed in practice to strengthen the well-being of citizens.

Keywords: public priority areas; smart specialization; research funding agency; funding application

JEL Classification: O31; O38; R11; R58

1. Introduction

Since the outbreak of the pandemic in Europe, our societies have been critically affected by various types of crises with an unequal territorial impact.

Although cohesion policy is at the forefront of Europe's response to these crises, there are complementary instruments that contribute to a rapid and resilient economic recovery and create favourable conditions for investment to support structural reforms and the implementation of the EU's political agenda for 2021-2027, especially the green transition and digital transformation.

One of these instruments is the research proposals developed by experts from various fields of study which carries out their activity in academia, national research institutes and private sector. Even though these experts have their scientific profile world-wide recognized, being excellent in their scientific field, when they have to submit a proposal to receive funding for their research, there are always some "lessons" that should be learned in order to achieve optimal benefits.

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This paper intends to present some "good practices" in formulating a research proposal, with the aim of creating stronger links between these instruments and other public policies, in order to achieve synergies with the broader EU objectives for 2021-27: *smarter*, *greener*, more *connected* and more *social* Europe.

2. General Organization of the Proposal

Each project proposal should strictly respect the guidelines of the funding organization. Usually there are a set of documents which describe in detail how the evaluation process will occur, which are the expected results (outputs and outcomes) and, also defines the role and responsibilities of all the participants involved. Project proposals may be submitted by a research organization, project coordinator, or in partnership with other institutions or enterprises.

Before starting to write a proposal, it is important to know the *general information of the call* and to understand its *major goal*, in order to formulate the proposal accordingly. Other important aspects are related to the *maximum funding granted* for a project and the *implementation period*.

After reading the "Call document" it is important to check the eligibility of the organization and of the team members that will be involved during project implementation.

According to the "Call document" the *Funding Application* should respect some format parameters and a limit of pages (words or characters). It is important to address all these format criteria because otherwise it is possible that in the evaluation process, the pages or paragraphs exceeding the established limits not to be taken into consideration.

Most of the Application Forms are structured into 3 main parts:

- defining the project objectives and scope;
- presentation of the product, technology or concept that will be developed;
- description of project implementation.

Each criterion has its weight in the general score of the project.

3. Thumb Rules for Developing a Good Research Proposal

3.1. Define the Project Objectives and Scope

This section gathers detailed information about the scientific context, the scope and the objectives of the project, the approach to these objectives, and the required resources.

Describing the *scientific context* is essential because the project results should be relevant and innovative in relation to the national and international state of the art. Thus, it is very important to point out the degree of novelty and the relevance of any preliminary results related to the project in relation with the current state of research.

The *project scope* should be clearly presented, describing explicitly the product, the technology, the method or the service, that will be developed, tested or validated as a result of project implementation.

Also, in this part, it is necessary to relate the *project objectives* with its outcome, arguing the *project feasibility*.

Depending on the "Call document", it is necessary to clearly define and describe the *technology readiness level* (TRL) at the beginning of the project and the level reached after project implementation.

3.2. Present the Product, Technology or Concept

This section includes two important aspects: the presentation of *preliminary results* such as: publications, patents and other research projects that led to the basic concept of the project, and a brief presentation of the *expertise level of the researchers* nominated in the project team.

The presentation of *preliminary results* available on the date of submitting the proposal includes a description of theoretical developments and experimental results achieved prior the project application, together with the explicit indication of publications, patents and previous research projects.

The description of the *expertise level* of the project team provides necessary information regarding the researchers' qualifications and experiences, emphasizing their contribution in the project. The expertise of the experienced researchers from coordinator and partners research teams should be very well correlated with their role in the project team.

3.3. Describe the Project Implementation

This section covers aspects regarding the *activities* required to meet the project goal, the *budget and timetable* of the project, the *research infrastructure* used for project implementation, the *structure of the research teams* and their role during project implementation, the *impact and dissemination of project results* and the *sharing of the intellectual propriety rights* between team members.

Description of the *proposed activities* requires a special attention because these activities should be well-structured and correlated to their deliverables. To have a broader view on project implementation and to set the project timetable, a Gantt chart with planned activities will be created.

The *budget* and the *timetable* of the project should be well justified in terms of resources (financial, material and human resources), time and results.

The *research infrastructure* description will include information from all the organizations involved in project implementation, indicating (if applicable) the research infrastructure development during project implementation.

Regarding the structure of the *team members* it is important to stress each individual role, according to project activities, providing, at the same time, a clearly justification of salary expenses.

Description of the *expected impact* of project results will be realized taking into account the risks associated with project implementation activities, together with the ways of treating those risks, considering the likelihood of occurrence and their impact on project execution.

Any research activity is exposed to *inherent risks* such as:

- scientific risks – related to advanced research and/or to research infrastructure and equipment;

- administrative risks – related to short project frame time, project team, delays in funding project activity, delays caused by the public procurement process.

The potential impact of the project results should be described from different perspectives:

- scientific impact;
- social impact;
- economic impact;
- environmental impact.

Moreover, it is important to present the proposed research impact on the host institution and research team, as well.

4. Some Suggestions for Writing an Integrative Research Proposal

Writing an integrative research proposal increases the chances for receiving financing. Therefore, this section of this article will succinctly provide some potentially useful tips and suggestions on how to present different parts of a research proposal in order to improve its chances to be eligible for funding. Thus, I will present several well-structured tables with useful data and synthesizing content, which may be used in a research proposal.

4.1. Designing the Working Plan

Using an organizing framework will help the experts who evaluate the proposal to better understand the project proposal, its development, context, characteristics, and methodology/product. An important part of the proposal is the Working Plan, which is useful for organizing the activities in a way that makes the process description much simpler. One way that seems particularly helpful in organizing the activities in presented below. For each objective of the project a Work Plan is set up, and for the entire project, a Work Plan related to the project management is established.

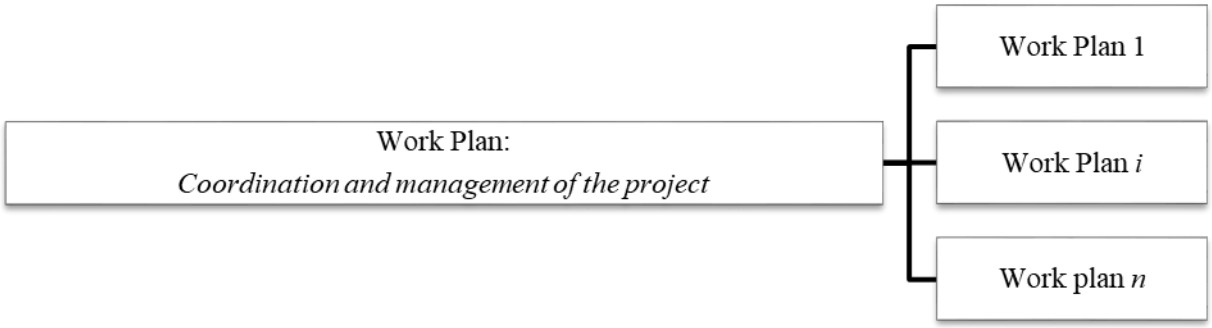

Figure 1. Organizing Framework of the Work Plan

Table 1. Sample of Work Plan

WP no.	*i*
WP title	Name of the WP
Start month	Month *a*
End month	Month *z*
Objective	…
Description of the work and contribution made by the team	A*x.y* Deliverables: D*x.y* Milestones: M*x.y* Contribution: …

Follow a similar pattern, a Gantt diagram should be added in order to have a better view on project development. At this step of writing the proposal, the gaps on Gantt chart could provide clues about the gaps between different activities.

Table 2. Sample of Gantt Chart

Month & Activities	***1***	**…**	***i***	**…**	***n***
A.1		M*1.y*			
			D*x.i*	M*x.y*	
A.*i*			M*i.i*		
				D*l.s* M*l.s*	
A.*n*			D*n.i*		D*n.n*

4.2. Structure of research team and justification of salary expenses

Table 3. Sample of Salary Expenses Justification

Current number	**Team Member**	**Organization**	**Role in the project**	**Activities**	**Euro/hour**
1	Name Surname	Coordinator	*Project director*	A*x.y.*	
…		…	*Researcher*		
n		Partner *i*	*Technician*		

The personal cost is set up for each team member as follow: $o/month \times number\ of\ months$.

4.3. Presentation of Risks Associated with Project Implementation Activities

From point of view of project security, it is important to consider the risks which may occur during the implementation period and to scale the probability of their occurrence: $minor = 0,\ \ low = 1,$ $average = 2,\ relevant = 3,\ very\ high = 4.$

Table 4. Sample of Risks Description

Risks	**Probability score**	**Causes**	**Impact**	**Mitigation measures**
A*x.y.*				

5. Conclusion

Many times, researchers have good and relevant projects, but they fail to demonstrate well in a research proposal. Thus, this article intends to offer some key findings on how to design a research proposal, in a more rigorous, relevant and impactful manner.

'Looking back to look forward' is the statement of this article. Accordingly, a coherent understanding of how prior research has examined and captured the foundations of the project proposal, discussing in the same time the agenda for future developments, together with a very good description of the working plan, resources and budget, will contribute to further advancement of the proposal in the competition for funding.

I hope readers really enjoy the outcome of this article at least as much as I have enjoyed presented it in 17th edition of EIRP conference (https://conferences.univ-danubius.ro/index.php/EIRP/EIRP2022).

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