

The attitude of Romanian economic academic researchers towards the Horizon 2020 funding grants

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Abstract

Academic research and, more precisely, its funding have been a major concern for both institutions and policymakers. And one way to tackle with the shortage of funds compared to the huge diversity of research plans, various organisms have developed open competition grants like Horizon 2020 that have brought the support so needed for academic research. But the successfulness of such an initiative depends on academics and their willingness to apply and manage research projects funded from Horizon 2020 budget. Therefore, a direct research was conducted among the researchers from the Bucharest University of Economic Studies to determine their awareness about various funding options available for them, their experience when approaching a Horizon 2020 research grant and their future intentions in terms of research. The main finding of this research approach relates to Horizon 2020 grants low attractiveness among Romanian researchers determined by researchers' lack of experience, self-confidence and institutional management support. This also shows that there is still room for improvement and growth in terms of knowledge, awareness and courage to obtain a Horizon 2020 grant that can be beneficial for researchers, universities, industries, countries and society as a whole.

Keywords: scientific research, international funding, economic universities.

JEL classification: I23, M31.

1. Introduction

Since the beginning of knowledge development and its structuring under comprehensive courses and educational institutions, research has always been the engine leading world's expansion and society's development. Beyond the increasing interest in expanding the limits of what the world knows, there is also a trend related to bringing forces, communities and people together to achieve development goals in a faster and more sustainable way. Within this framework, the Horizon 2020 emerged as the biggest European Union Research and Innovation program with €80 billion of funding available for seven years (2014-2020) (European Commission, 2019a). Focusing on the Horizon 2020 program as one major pillar for attracting funding in the academic research, the aim of this paper is to evaluate Romanian academics' perception and intention towards developing relevant research projects approaches in the Economics field. Upon establishing the current context of the field, a direct research was used to discover academics' attitude towards Horizon 2020 funding grants.

2. Literature review

Academic research is a major part of a university's mission since traditionally educational institutions have been one of the biggest providers of discoveries through research. Therefore, academics have been permanently pushed towards embracing a research challenge. The more interesting the research topic, the better for the authors in question and for their home universities, as a consequence. For example, Corsi, et al. (2019) proved that economists working on less popular research fields and/or with heterodox methods are less likely to qualify for top-tier academic positions, independently of their bibliometric indicators. Romanian academics research initiative is an even more interesting topic to approach since Romania is included in the group of Modest innovators with an innovation system's performance level below 50% of the EU average, even though after a substantial decrease for 4 years, 2015-2017 has brought a small, but steady increase (European Commission, 2019b).

Therefore, in an era of research expansion, external funding options are gaining more power and attractiveness, together with more popularity among researchers aiming to do profound and sustainable research, while evolving on the academic ladder. Moreover, research projects within different EU programs give an opportunity to expand knowledge and best practices transfer between members of project consortium (Yatskiv, et al., 2017). This becomes even more relevant, as European Union (EU) new member states (NMS) are lagging behind the western part of Europe in research and innovation (Luby, Lubyova, 2016). In the case of Romania, with a level of 0.4%, it had the lowest national budget for R&D of all CEE countries (and European Union) (Folea, 2017).

And this is where Horizon 2020 steps in as it aims to produce world-class science, remove barriers to innovation and make it easier for the public and private sectors to work together in delivering innovation (Folea, 2017). The same idea is also confirmed by Luby & Lubyova (2016) who argue that, given that R&D intensity in the EU new member states (except for Slovenia and Estonia) lags behind the EU average (2.03% in 2011), Horizon 2020 funding is a unique opportunity to advance the position of these states in research and innovation. As for Romania's involvement in Horizon 2020 projects, although it had a high number of successful European research projects, Romania attracted only 7.5% of the total EU funding attracted by CEE countries in Horizon 2020 in 2014-June 2017 (Folea, 2017).

Still, there are a few success enhancing factors to be considered when approaching Horizon 2020 research grants: a) having an excellent scientific idea; and b) having a thorough understanding of the evaluation process (McCarthy, 2017). Additionally, auxiliary factors that can help in bridging the divide between new and old EU member states in terms of European funding include, for example, effective information systems, granting the preparation of Horizon 2020 projects, and higher participation of doctoral students in Horizon 2020 projects (Luby, Lubyova, 2016).

Taking into consideration the major contribution of research in academic life, on a small scale, and in society's evolution, on a large scale, bringing the right funding options within this framework is of a major use. Since Horizon 2020 is a solid opportunity to finance all research, discovering academics' attitude towards this funding source can lead the way to increasing the participation and success rate of Romanian research projects within the Horizon 2020 framework. In order to uncover this, a research was conducted and analyzed as it follows.

3. Romanian economic academic researchers' interest and capacity to access Horizon 2020 funding grants

3.1. Research methodology

3.1.1. Scope

The present study is focusing on Romanian economic academic researchers' interest and capacity to access Horizon 2020 (H2020) funding grants, as this is the biggest EU Research and Innovation program ever.

3.1.2. Objectives

The study goes from a broader perspective on funding sources, in order to identify H2020's place, to a more specific analysis focused only of this program's attractiveness for Romanian academic researchers, as it can be seen from the following objectives' structure:

- A. Funding sources for academic research activity
 - a. Level of awareness for existing funding sources of research
 - b. Application and success rate within these programs
- B. Knowledge and actions towards Horizon 2020
 - a. Level of familiarity with H2020 program
 - b. Intensity of the application process for H2020
 - c. H2020 subprograms with the highest rate of application
- C. Research interests for Romanian economic academic researchers
 - a. Topics of interest for the Romanian economic academic researchers
 - b. The research topics for which the funding was obtained
 - c. H2020 topics with interest for Romanian economic academic researchers
 - d. Future research priorities in terms of funding programs

3.1.3. Source of information

Information has been gathered directly from the source: employees and collaborators of one of the biggest Romanian economic universities, Bucharest University of Economic Studies (ASE). The research unit is represented by the person who carried out or intends to carry out research activities as an ASE employee or collaborator and knows about the H2020 program.

3.1.4. Data collection

The data was collected through an online survey in the Fall of 2019, using Lime Survey platform for designing, implementing and disseminating the questionnaire. The link to the questionnaire was sent to respondents within the intranet of ASE.

The sample size was determined with the condition of having a representative study, with a maximum margin of error of +/-5%, a confidence level of 95% and an 80% incidence level within the whole community (the share of permanent and auxiliary teachers involved in research activities in 2018). These values led to a total of 246 respondents needed. However, having a small researched collectivity allowed us to do a correction in the sample size, using $N=1175$ (total researchers from ASE) and reaching a final sample size of 204 persons.

In order to determine de sample structure, we have used the proportionate stratified sampling method, having as criteria which faculty the respondent belongs to and the scope of his/her research activity.

3.2. Research results

This part will be structured accordingly to the research objectives, thus presenting the information from the general perspective on research funds opportunities to the specific analysis on perception and actions taken towards H2020 funding.

3.2.1. Level of awareness for existing funding sources of research

It is important to evaluate the H2020 program not just by itself, but also in comparison with other funding opportunities, thus participants have been asked to first indicate which

funding sources they know, from a pre-established list (Table 1). This list has been previously identified and tested in a qualitative research.

Table 1. Known sources of research funding (%)

Funding sources	Known
Operational Program Competitiveness (POC)	69.2%
Horizon 2020 (H2020)	57.7%
UEFISCDI P2 - Increasing the competitiveness of the Romanian economy through RDI	53.8%
Projects with the economic-social environment	46.2%
UEFISCDI P1 - Development of the national R&D system	38.5%
UEFISCDI EEA & Norway Grants	38.5%
UEFISCDI P4 - Fundamental and borderline research	32.7%
Institutional Development Fund (FDI)	30.8%
International projects	26.9%
UEFISCDI P3 - European and international cooperation	25.0%
Institutional development project - Excellence financing projects RDI	23.1%
Sector plan	13.5%
I don't know any of the funding sources listed	3.85%

Horizon 2020 comes second (with 57.7%) in the awareness hierarchy, after a much more promoted program in Romania – Operational Program Competitiveness (POC), known by 69.2% of the respondents. POC is a program financed by European funds, through the Romanian Ministry of European Funds. POC supports investments that respond to the needs and challenges related to the low level of economic competitiveness, in research, development and innovation (RDI) and in Information and Communication Technology (ICT). On the third place (53,8%), we find an UEFISCDI program aimed at increasing the Romanian economy competitiveness through research, development and innovation. The UEFISCDI abbreviation comes from the Executive Unit for Financing Higher Education, Research, Development and Innovation, which is a public institution with legal personality, subordinated to the Ministry of National Education (MEN).

3.2.2. Application and success rate within these programs

This section highlights the precarious situation of Romanian researchers' involvement in H2020 projects, compared to other funding programs, both in applications and success rate. As it can be seen in Table 2, H2020 is on the 8th place when it comes to applications, with 3.8% of respondents checking this program for their research grants. The percentage is halved when it comes to the success rate, where just 1.9% have obtained funding within this program.

Table 2. Sources of funding applied to and accessed (%)

Funding sources	Applied to as a project manager	Accessed (percentage out of those 42.3% who applied to at least one program)
UEFISCDI P1 - Development of the national R&D system	15.4%	7.7%
UEFISCDI P2 - Increasing the competitiveness of the Romanian economy through RDI	13.5%	9.6%
Operational Program Competitiveness (POC)	9.6%	5.8%
Projects with the economic-social environment	7.7%	9.6%
UEFISCDI EEA & Norway Grants	5.8%	0%
UEFISCDI P4 - Fundamental and borderline research	5.8%	3.8%
International projects	5.8%	3.8%
Horizon 2020 (H2020)	3.8%	1.9%
Institutional Development Fund (FDI)	3.8%	5.8%

UEFISCDI P3 - European and international cooperation	1.9%	0%
Institutional development project - Excellence financing projects RDI	1.9%	0%
Sector plan	1.9%	3.8%
I have not so far submitted any application for funding as a manager	57.7%	
I have submitted, but I have not received any funding so far		9.6%

3.2.3. Level of familiarity with H2020 program

We can see that just knowing about the existence of H2020 fund is not sufficient, thus we have asked participants to evaluate their own level of familiarity about this program (see Figure 1). Most participants gave a rate of 5 out of 10, which led to an average score of 4.7, on a scale from 1 to 10. This shows the instability felt by researchers when deciding to apply for H2020 grant funding, as there are not sure that they properly understand the system.

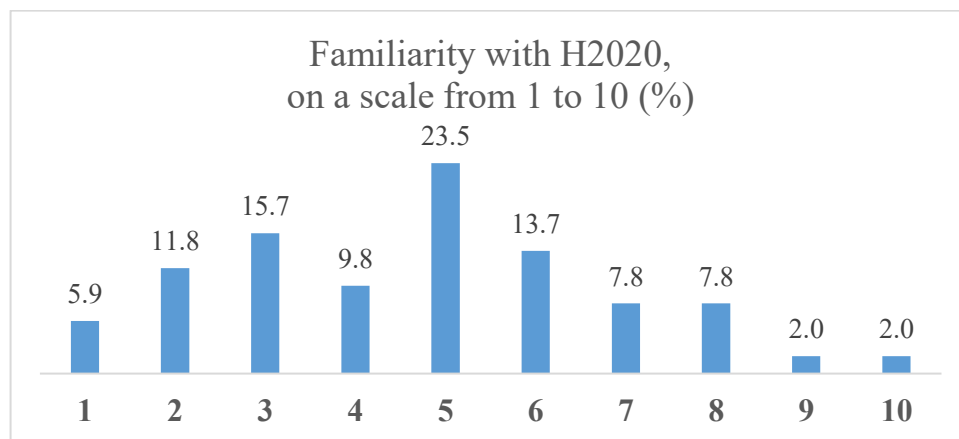


Figure 1. Familiarity with H2020, on a scale from 1 to 10 (%)

3.2.4. Intensity of the application process for H2020

The familiarity level has a big influence in the intensity of the application process, defined here in numbers of applications as a member of the research team.

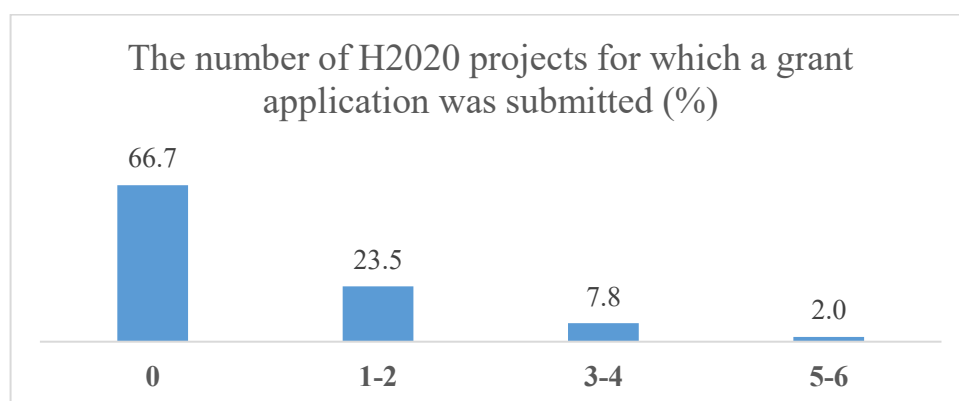


Figure 2. The number of H2020 projects for which a grant application was submitted (%)

A comment is needed here when speaking about the percentage of people declaring that they have applied at least once to H2020 grants: the question here relates not only to decisions taken as project manager, but also as team member. We all know that not all the time the manager is the one handling the submission application, thus in this section we have the total participants that have put in the work in writing and registering the grant proposal. As seen in

Figure 2, out of 33,3% participants that have applied at least once, two thirds of them have a low intensity of the application process, with the experience of 1 or 2 applications.

3.2.5. H2020 subprograms with the highest rate of application

The whole purpose of this research is to correlate the research interests of Romanian economic academic researchers with the subprograms and research topics offered by H2020 grants. In order to do that, we have first asked respondents to mention which are the subprograms for which they have already applied.

Table 3. H2020 subprogram applied to as a member of the research team (%)

Subprograms of H2020	%
Innovation in SMEs	7.7
Societal Challenge 1 (Health, demographic change and wellbeing)	7.7
Europe in a changing world - Inclusive, innovative and reflective societies	7.7
Excellent Science - European Research Council	3.8
Excellent Science - Future and Emerging Technologies	3.8
Excellent Science - Research Infrastructures, including e-Infrastructures	3.8
Leadership in Enabling and Industrial Technologies - Information and Communication Technologies	3.8
Leadership in Enabling and Industrial Technologies - Nanotechnologies, Advanced Materials, Biotechnology, and Advanced Manufacturing and Processing (NMBP)	1.9
Societal Challenge 2 (Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy)	1.9
Societal Challenge 5 (Climate Action, Environment, Resource Efficiency and Raw Materials)	1.9
Secure societies – Protecting freedom and security of Europe and its citizens	1.9
Spreading Excellence and Widening Participation	1.9
Excellent Science - Marie Skłodowska-Curie actions	0.0
Access to Risk Finance	0.0
Societal Challenge 3 (Secure, Clean and Efficient Energy)	0.0
Societal Challenge 4 (Smart, Green and Integrated Transport)	0.0
Science with and for Society	0.0

As we can see in Table 3, researchers from ASE were attracted to subprograms that tackle with innovation and social issues, the most frequent applications being for:

- **Innovation in SMEs**
The objective of ‘Innovation in SMEs’ is to optimize the Research, Development & Innovation environment for SMEs, including through the establishment and facilitation of a range of support services, with the aim of strengthening the innovation capacity of SMEs and creating value on the market and/or into society, thus underpinning the Europe2020 strategy for smart, inclusive and sustainable growth (European Commission, 2019c).
- **Societal Challenge 1 (Health, demographic change and wellbeing)**
This program aims to improve our understanding of the causes and mechanisms underlying health, healthy ageing and disease; improve our ability to monitor health and to prevent, detect, treat and manage disease; support older persons to remain active and healthy; and test and demonstrate new models and tools for health and care delivery (European Commission, 2019d)
- **Europe in a changing world - Inclusive, innovative and reflective societies**
This program aims at fostering a greater understanding of Europe, by providing solutions and support inclusive, innovative and reflective European societies with an

innovative public sector in a context of unprecedented transformations and growing global interdependencies.

3.2.6. Topics of interest for the Romanian economic academic researchers

When asked about their own interests related to the research activities, participants have presented a variety of topics, as it can be seen in Table 4. In order to increase the application rate to H2020, all these topics have to be matched in the future with the above-mentioned subprograms, in order to give more sense to the application proposals and a higher involvement per total in the academic research activity.

One of the most frequent topics of interest seems to be sustainable development (34.1%). This topic, which is defined by the European Commission as the development that meets the needs of present generations without compromising the ability of future generations to meet their needs, is deeply rooted in the European project also (European Commission, 2019e). Thus, having interest in such a topic is very opportune for the future development of Romanian economic academic research.

Table 4. Research topics of interest for Romanian academic researchers (%)

<i>Research topic</i>	<i>%</i>	<i>Research topic</i>	<i>%</i>
Sustainable Development	34.1%	Development of insurance markets	2.3%
Entrepreneurship	11.4%	VUCA world	2.3%
Good governance / public administration	11.4%	The market of agri-food products	2.3%
Consumer behavior	11.4%	Management	2.3%
Online/digital marketing	11.4%	Big data	2.3%
Competitiveness	9.1%	Institutional economics	2.3%
Cyber security	9.1%	Semantic web	2.3%
Capitalizing on tourism resources	9.1%	SAP	2.3%
Marketing	9%	Social inclusion	2.3%
Fiscal policy	9%	Smart-marketing	2.3%
Agriculture	6.8%	Circular economy	2.3%
Investment management	6.8%	Financial contagion	2.3%
Economic growth and development	6.8%	Artificial intelligence	2.3%
Human resources	6.8%	Financial Accounting audit	2.3%
Emerging technologies in marketing	6.8%	Personal branding	2.3%
Business Intelligence	4.5%	Services quality	2.3%
Marketing communication	4.5%	Industrial economy	2.3%
e-learning	4.5%	Green economy in tourism	2.3%
ERP	4.5%	Ecotourism	2.3%
Risk assessment and management	4.5%	Education	2.3%
Neuromarketing	4.5%	Ethics	2.3%
Capital markets	4.5%	Health	2.3%
Productivity	4.5%	Technology in agriculture	2.3%
Innovation	4.5%	IoT	2.3%
Business Administration	4.5%	Machine Learning	2.3%
Cloud computing	2.3%	Ecological marketing	2.3%
Inter-communal cooperation	2.3%	Migration	2.3%
The efficiency of the marketing activity	2.3%		

Other topics of interest that are worth mentioning are Entrepreneurship, Good governance/public administration, Consumer behavior and Online/digital marketing, all of them being, first of all, aligned with the economic specialization and, secondly, correlated with the market's need (both in the private and public sector).

3.2.7. *The research topics for which the funding was obtained*

Besides research interests, it is important to also know which are the areas of expertise for our participants, so the university research strategy can be developed in a sustainable way, based on its actual resources and potential. For this aim, Table 5 shows that successful research projects are very different, covering a lot of economic specializations, such as agriculture, marketing, business administration, IT, finance or tourism. Thus, there is a vast potential for covering several H2020 subprograms with specialists from within the university, based on their previous experience in other research projects.

Table 5. Funded research topics

<i>Funded research topics</i>
Agriculture
Entrepreneurship, the student entrepreneurial society
Insurance, corporate finance
SME marketing communication
Increasing performance and reducing university dropout
Development of entrepreneurial capacity
Risk and productivity assessment
Fiscal policy
Innovation, neuromarketing, eco-marketing
IT
University management
Waste management of electrical and electronic equipment, risk management in the context of the digital economy, Green economy
Marketing
Social responsibility - waste management
Strategy for tourism development and promotion of Dâmbovița county
Emerging technologies in marketing - knowledge transfer
Violence in the social field - knowledge transfer in public affairs

We can mention also an area in which the expertise seems to be already high: academic management, in which we find funded research projects such as increasing performance and reducing university dropout.

3.2.8. *H2020 topics of interest for Romanian economic academic researchers*

Now that we already know which are the topics of interest for Romanian economic academic researchers, we can correlate them with the interest in H2020 topics, which is presented in Table 6.

Table 6. Interest shown in H2020 topics (%)

<i>H2020 topics</i>	<i>%</i>
Social Sciences and Humanities	59.6%
Innovation	51.1%

SMEs	42.6%
Environment & Climate Action	34.0%
Society	29.8%
ICT Research & Innovation	25.5%
Agriculture and forestry	19.1%
Food & Healthy Diet	17.0%
International Cooperation	17.0%
Funding Researchers	14.9%
The European Research Area (ERA)	14.9%
Energy	12.8%
Partnerships with Industry and Member States	12.8%
Security	10.6%
Health	8.5%
Research Infrastructures	8.5%
Biotechnology	4.3%
Key Enabling Technologies	4.3%
Bio-based Industries	2.1%
Plastics	2.1%
Space	2.1%

As expected, the most interesting research topics are the ones related to the economic specialization: social sciences and humanities (59.6%), innovation (51.5%) and SMEs (42.6%). One other topic that is not directly related to the economic disciplines, but it can be embedded through research and strategies of sustainable development, is Environment & Climate Action, which draws the attention of 34% respondents.

3.2.9. Future research priorities in terms of funding programs

In the end of our study we wanted to see if there is an intention towards changing in the future, thus we have asked participants to point out which will be the funding sources that they will try to access for their future research projects. Figure 3 shows that participants tend to focus more on projects for the economic-social environment (48.8%), as the criteria here are easier to fulfill. In second and third places we see 3 funding programs that actually have the highest awareness level: H2020 (41.9%), UEFISCDI's 'Increasing the competitiveness of the Romanian economy through RDI' (41.9%) and POC (39.5%).

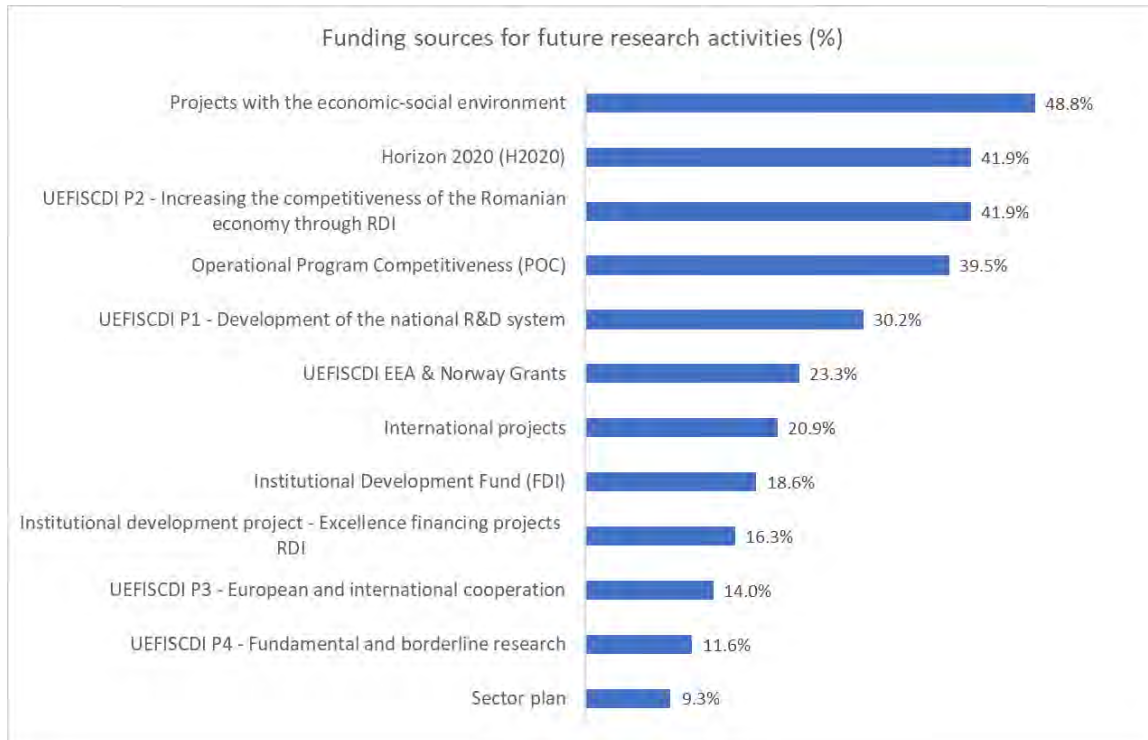


Figure 3. Funding sources for future activities (%)

The high percentage corresponding to H2020 (41.9%) is more than nourishing for the future institutional strategies regarding research involvement increase and H2020 application growth.

4. Conclusions, managerial implications and future researches

The main conclusion that can be drawn from this research is that, although H2020 is one of the most known funding programs, it is at the bottom of the list when it comes to applications and funded projects. We can explain this situation both by researchers' lack of experience and confidence in their own capabilities of winning a grant competition, and by the lack of support from the institution's management.

The present study's managerial implications stand, first of all, in the valuable insight offered to the institution's research responsible about employees' level of knowledge and implication in the research activities and, secondly, in the correlations that can be made between the H2020 subprograms and topics and the Romanian economic academic researcher's interests. The latter is necessary so that the success rate of research proposals can be increased, which will lead to a higher visibility of Romanian researchers in the international environment.

Regarding the research limits, the present study can be criticized based on its sample, which represents just one university from Romania, a fact that limits the extrapolation of results. Future research directions on this topic might relate to extending to various educational institutions, covering all important fields of study, not just Economics.

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