

An ethical scheme for internal research grant allocation in a democratic university

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Abstract

Purpose: Recently, public funding for Universities declined worldwide with universities seeking additional funding from external sources. Foundations responsible for the management of such funds have been established within universities in order to guarantee high levels of transparency when distributing them to labs, in the form of internal grants.

Methods: But how could a university establish an ethically just way of allocating such grants?

Results: In this paper we show that by assigning different relative weight coefficients to different ethical theory arguments a consensus for the allocation of funds to research labs can be reached, in line with the university's overall vision on research.

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1 INTRODUCTION

Over recent years, public funding for Universities has notably declined worldwide. Public universities need to secure additional funding from a variety of external sources, including foundations, industry groups and private companies (Nature Methods Editorial, 2016). When they work well, such strategic partnerships merge the discovery-driven culture of the university with the innovation-driven environment of the company, although for some this raises the 'specter' of a feudal society within science, where the wealthy few dictate what is and is not investigated (Holloway et al. 2019).

Universities usually have internal funding schemes to distribute this additional funding so as to help research labs develop networks, prepare complex grant applications and meet research costs in terms of equipment. Some universities direct all external private funding to a university's Foundation, further encouraging companies to donate since donations to a university's Foundation are usually tax-deductible and may offer additional benefits for student

recruitment etc. Foundations for this type of private funding, accountable to the university, may also guarantee high levels of oversight and transparency when distributing the funds in the form of internal grants, and thus, they are preferred (Aarhus University 2020, University of Pennsylvania 2020). Obviously, the university also has a responsibility to ensure that all funds it receives are spent in accordance with the legitimate expectations of the funding providers and the law and in the public interest. However, pressures to researchers and research directions are alleviated by the establishment of a university managed and controlled Foundation (Perkmann et al. 2012).

Common forms of internal grants are *Seed Grants*, supporting new, novel areas of research, *Bridge Grants* supporting research projects that require seed funding to collect proof of concept data needed to submit or resubmit a proposal for external funding, *New Faculty Grants* that enable new faculty to initiate their research, *Collaborative research grants*, encouraging collaborations and the formation of research teams, *Innovation and*

Entrepreneurship grants etc. (University of Houston 2020, Princeton University 2020, University of Cambridge 2020). But how could a university establish an ethically just way of allocating such grants to its research labs? Obviously, oversight of the procedure and transparency in the process are not sufficient unless accompanied by an *Ethical* means of distributing the funds. In this paper we propose an *Ethical Theory based* allocation scheme of private funds to research labs in a typical university. It is assumed that all external private funding is directed to the university's Foundation (or to a similar, centrally administrated structure) established for this purpose and the University Senate in the top-level decision-making body (usually assisted by a Research Administration Office). Additionally, it is assumed that Research Labs are legal entities that can provide services, the use of equipment, space and personnel to private companies, under some form of contract. Finally, the term Research Lab will include all capabilities, personnel expertise in research and innovation, equipment, services provided and physical space.

Since in most cases this ends up in a typical problem of limited resources and many contesters, fairness, justice and ethical dilemmas should be thoroughly considered. In a typical university the type of a Research Lab usually falls in one of three broad categories (without excluding in-between types):

- Well established, '*Mature*' Research Labs, operating a long time and having contributed largely to the university's Foundation through the attraction of private funds.
- Brand new, '*Newcomers*' Research Labs that have never been allocated any funds from the Foundation.
- '*Best Performer*' Research Labs, with high status researchers and state-of-the-art equipment.

Obviously, these '*Archetypal*' forms can be combined to express any type of a hybrid research lab, in an appropriate weighting scheme. Thus, a research lab could also be mostly '*Mature*' and sometimes '*Best Performer*', or a '*Newcomer*' may exhibit '*Best Performer*' characteristics right at the beginning, and so on. For the sake of clarity, only the prevailing research lab category will be referred to in this work.

2 RESEARCH METHODS

Interviews with former members of the Senate of a typical Greek Higher Education Institute were conducted on the issue of internal research grant allocation, according to their experience. Ten such members were interviewed by the researcher herself, each interview lasted for about an hour. In the first part of the interviews, in a challenging thought experiment, it was assumed that one Research Lab from each category of the previous section is claiming the same Grant at the same time (as shown in Figure 1) and Senate member responses were examined with respect to their ethical theory grounds, based on their experience on similar choices they have made in the past. In the second part of the interviews Senate members were exposed to considerable variations - even more challenging ones- of the original situations, and their moral judgments were once more collected. The

interview transcripts were analysed using *Thematic Analysis*, which is a flexible method '*for identifying, analyzing and reporting patterns (themes) within data*' (Braun and Clarke, 2006: 79). It was chosen to perform manually the thematic analysis, immediately after the interviews, in order to get full grasp of all detailed information. In the analysis, text segments were coded particularly with regard to factors relating to main theories of *Ethical Justice* (Sen, 2011; Lamont et al., 2017; Rawls 1971) as listed below:

Libertarian Justice: Libertarianism is a family of views in political philosophy. Libertarians strongly value individual freedom and see this as justifying strong protections for individual freedom. Thus, libertarians insist that justice poses stringent limits to coercion. While people can be justifiably forced to do certain things (most obviously, to refrain from violating the rights of others) they cannot be coerced to serve the overall good of society. As a result, libertarians endorse strong rights to individual liberty and private property.

Egalitarian Justice: Egalitarianism is a trend of thought in political philosophy. An egalitarian favours equality of some sort: People should get the same, or be treated the same, or be treated as equals, in some respect. Egalitarian doctrines tend to rest on a background idea that all human persons are equal in fundamental worth or moral status. In modern democratic societies, the term "egalitarian" is often used to refer to a position that favours, for any of a wide array of reasons, a greater degree of equality of income and wealth across persons than currently exists (decreases inequalities).

Utilitarian Justice: Though there are many varieties of the view discussed, utilitarianism is generally held to be the view that the morally right action is the action that produces the most 'good'. One thing to note is that the theory is a form of consequentialism: the right action is understood entirely in terms of consequences produced. What distinguishes utilitarianism from egoism has to do with the scope of the relevant consequences. On the utilitarian view one ought to maximize the overall good — that is, consider the good of others as well as one's own good.

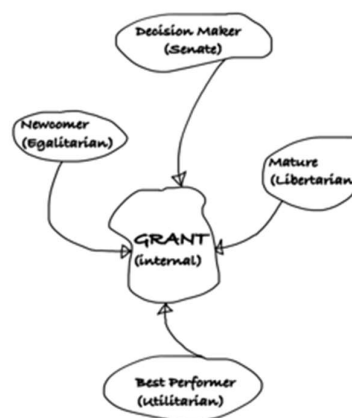


Figure 1: Internal Research Grant being claimed by different types of Labs

3 RESULTS AND DISCUSSION

After analyzing Senate member responses to the first part of the interviews (where it was assumed that one Research Lab from each category is claiming the same Grant at the same time) it was decided to introduce Ethical Theory principles to group and justify the different decisions for the allocation of the grant to the contesters, as follows:

Under a *Utilitarian ethical theory*, the grant should be given to the '*Best Performer*', since the criterion for distribution is to give preference to the Research Lab that will maximize overall utility, thus giving the grant to the lab that can make the most out of it. Also, this could be interpreted as a reward signal. This is probably one of the most common views across universities supporting *performance-based funding* for all their funding processes (Clayes-Kulik et al., 2015).

The '*Newcomer*' was chosen by *Egalitarians*, since the main concern of their distributive approach is to narrow economic gaps as much as possible and provide equal opportunities to all.

Finally, *Libertarians*, who emphasize rights-based ownership entitlements, claimed that the '*Mature*' contester should get the grant as the largest contributor to the Foundation, and that no other distributive concerns -*Egalitarian* or *Utilitarian*- can supersede the contester's entitlement.

Although all claims of the labs are legitimate, each under its own Ethical Theory as introduced in this research, further complexity arises if the situation changes slightly. In the second part of the interviews Senate members were exposed to the following variations on the original situations: Assuming the '*Best Performer*' lab invents a drug for a lethal disease and is willing to give it to patients but only for an outrageously expensive price. If it sticks to his claim, patients will die and nobody -this is the *Libertarian* claim- can take the medicine away from it, since it has ownership rights as a producer. Thus, it seems clear that sticking solely to the *Libertarian* approach to ownership rights, regardless of the outcome, is wrong. Even if we assert that there are such rights surely, they should not be absolute, as concluded by the interviewees.

Similarly, a serious argument is made and presented to Senate members, against the other grand theory -*Utilitarianism*. Let's assume the '*Mature*' lab and the '*Best Performer*' lab require new equipment. Then why don't they snatch and share all of the '*Newcomers*' equipment? From a strict *Utilitarian* perspective, as a matter of principle, there is a justification for removing all equipment to put it to best use, but such a violation of the '*Newcomers*' rights, concluded the interviewees, seem totally wrong. It also traumatizes the university's '*ecosystem*' of labs in terms of their number, variety etc. Moreover, the *Egalitarian* approach is also vulnerable to serious criticism. If the '*Mature*' lab is by far the best contributor to the Foundation, and everything that it contributes is given by the *Egalitarians* to the '*Newcomer*', so as to minimize the economic gaps, we can expect that the '*Mature*' lab will soon stop contributing altogether. And that will end up harming the '*Newcomer*', among others, since available funds will be cut, as concluded by the interviewees. Thus, since the truth of the matter could not be reached by sticking to single, absolute moral judgements, a relative weighting scheme must be introduced, assigning relative

weighting coefficients to relative moral judgments, in order to reach a consensus.

Further to the desired consensus, it would be useful to assess the overall final state reached, according to these alternative moral judgments, with respect to some predefined criteria. These may come as a result of the final part of the interviews, where the Senate members' views on the establishment of a coherent framework for research policy were examined. Obviously, the choice to foster and boost research in the university's decision-making process is considered by them as a *political prerogative*. It was also reported that the university's research policy should also reflect the country's needs, at least to some extent. It is understood by the academics that at the time the interviews are taken, the country is facing major economic challenges that require an ambitious economic policy, confronting structural weaknesses through progress in three mutually reinforcing priorities: *smart growth*, based on knowledge and innovation; *sustainable growth*, promoting a more resource efficient, greener and competitive economy; *inclusive growth*, fostering a high employment economy delivering economic, social and territorial cohesion. Finally, academics supported the view that the potential for innovation is strongly related to regional assets, such as technological infrastructures, to linkages with the rest of the world and the position of the region within the European and global economy and to the dynamics of the entrepreneurial environment.

Thus, such criteria, proposed in the context of this research, could be the overall *Wealth of the Foundation* (delivering successful economic prosperity), the *Health of the Lab Ecosystem* (number and variety of labs, as implied in the previous discussion, fostering sustainable growth), *Cutting Edge Research Results* (contributing to smart growth), and so on. The following methodology based on Multi-objective Optimization Theory (Emmerich et. al., 2018), may provide such an assessment:

Initially, let's assume there exist Indicators representative of these criteria (e.g. *Overall Wealth Value*, *Number of Distinct Research Labs*, *Prestigious Research Prizes won* etc.). Then a *Weighted Sum Model* could be used. In general, for a given problem defined on m alternatives (possible states reached after the Senate decisions on internal grant allocation in our case) and n decision criteria (Indicators):

Suppose that w_j denotes the relative weight of importance of the criterion (Indicator) C_j and a_{ij} is the performance value of alternative A_i (University State) when it is evaluated in terms of criterion C_j . Then, the total (i.e., when all the criteria are considered simultaneously) importance of alternative State A_i , denoted as $A_i^{\text{WSM-score}}$, is defined as follows:

$$A_i^{\text{WSM-score}} = \sum_{j=1}^n w_j a_{ij}, \text{ for } i = 1, 2, 3, \dots, m.$$

For the maximization case, the best State out of the possible n States would be the one that yields the maximum total performance value.

Obviously, universities as educational institutions, also play a vital role in the development and improvement of the society, contributing to the welfare of citizens. This role of

the university can be highlighted with the aid of the well-known *Helices* models (Schutz et. al. 2019). The interactions between university, industry and government in the *Triple Helix* model of innovation aims in fostering economic and social development towards the knowledge economy. The *Quadruple Helix* model adds a fourth component: the public, consisting of civil society and the media, aiming to bridge the gaps between innovation and civil society. Finally, the *Quintuple Helix* model adds as fifth helix: the natural environment. It views the natural environments of society and the economy as drivers for knowledge production and innovation, thus creating socio-ecological opportunities for the knowledge economy.

In view of the above, when considering the *Social Responsibility* of universities with a large number of stakeholders (students, institutions, government, employees, companies, local community, etc.), one should also examine how these institutions establish the mission, objectives and strategic actions oriented at meeting these expectations (Bokhari 2017, University of London 2020). Along this line, research labs in their daily management are also considered as corporate entities, which set up strategic plans and practices, an essential process to achieve their success in the long term. But which are the necessary steps for adjusting these strategic plans to the new challenge of introducing a *Socially Responsible* orientation in their management? There is growing evidence that investors realize nonpecuniary benefits from investing in a socially responsible manner and are willing to sacrifice financial returns from doing so. Several asset managers cater to these preferences by offering products that adopt socially responsible investment (SRI) policies in their capital allocation decisions. Thus, it would be worth investigating the determinants and consequences of SRI policy adoption by research labs, such as those proposed in this paper.

However, the adoption of SRI policies involves an important trade-off well-reflected in the microcosm of university fund allocation schemes. On the one hand, as it was clearly stated, external income is a crucial source of funding for research lab operations. But imposing constraints on the activities of labs, like *fossil fuel divestment* for example (University of Manchester, 2020), could hamper investment performance and jeopardize lab funding. Thus, labs relying more on external income may be less inclined to pursue SRI if doing so leads to underperformance in the long run. On the other hand, donations and tuition revenues or other charitable giving from a university's stakeholders (e.g., alumni, charities) in support of its social mission could represent a compensating differential for SRI-related drags on investment performance. This could be easily incorporated in the proposed model described by the equation above, representing the performance value of an alternative university state when it is evaluated in terms of an appropriate SRI criterion (after defining its respective indicators). Similarly, additional *ethical/bioethical* criteria could be taken into consideration and could be easily accommodated in the proposed model. For example, *Ethical Review Boards* (ERB) and university committees that have been designated to approve and monitor biomedical and behavioural research involving humans with the aim to protect the rights and welfare of the research subjects, operate almost in all

universities (e.g. Aristotle University of Thessaloniki, 2020). Studies which are submitted to ERB for approval are clinical trials, evaluation of safety and efficacy of new drugs and dietetic interventions, studies of personal or social behaviour, opinions or attitudes, or they may be studies of how health care is delivered and might be improved, etc.

4 IMPLICATIONS

In this research we argue that the best way of making comparative judgments is by considering multiple points of view as they are refined by different ethical theories and by weighing the diverse claims that they make. Afterall, the idea that there exists an objective, unique standard of 'social' justice has been criticized by many authors. For example, *moral relativists* deny that there is any kind of objective standard for justice in general whereas, *non-cognitivists*, *moral sceptics*, *moral nihilists*, and most *logical positivists* deny the epistemic possibility of objective notions of justice. *Political realists* on the other hand, believe that any ideal of social justice is ultimately a mere justification for the status quo (Novak 2000). This is also the essence of democracy, i.e., government by discussion (Sen 2017). In a true democratic university, the Senate members should be open to ideas and methods that originate outside their own cultural and political traditions. It is shown that by determining and assigning relative weights to different arguments a consensus about the truth of a matter can be reached, without claiming to possess any perfect or ideal or absolute standard. In any case, any type of injustice in funds distribution within the university would destroy the '*social contract*' with academics, ripping up the academic social fabric, and thus creating chaos, and cynicism -to say the least- in the labs research policies. A harmonious '*social contract*' with the university's lab ecosystem should be based on the perception of their research capabilities as well as economic justice, based on legitimate fund allocation schemes.

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