

# **Academic Innovation Fund Organization and Management**

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## **Introduction**

An Academic (Competitive) Innovation Fund in Tertiary Education is a development instrument to improve quality. Usually, it is intended to help institutions fulfill their main functions — teaching, research and outreach activities — and contribute to their links with regional and national development. Ultimately, the idea is to help improve and introduce innovations in higher level technical education and undergraduate, graduate and postgraduate university education, so as to train advanced human resources — technologists, engineers, and postgraduates — which a country needs to achieve economic and social development more effectively. An Academic Innovation Fund operates on the basis of specific multi-annual projects awarded through competitive methods according to performance-based agreements that include previously defined measurable results.

An Innovation Fund is based on publicly announced competitions and projects submitted by tertiary education institutions and on agreements signed by the institutions to which the projects have been awarded. Its basic principles are equal opportunity, transparent procedures and technically-based decisions. It has in place systems for project evaluation, selection, awarding and follow-up. Furthermore, it performs dissemination activities and prepares material to support the preparation and management of projects carried out by eligible institutions. Funding may be public, private or a combination of both.

An Innovation Fund is conceived as an instrument for medium-term higher education policies to encourage innovation, qualitative change and management. It involves a broad and multidimensional concept of quality that includes further training for educational agents, curricular changes, pertinence of education, modern methodologies, infrastructure and equipment, and pertinent employability. An Innovation Fund should be part of the strategies for change in higher education in a country to enable a quantum leap that is consistent with its competitiveness, development and culture, in accordance with its national and regional needs in the framework of higher education policies defined by the Government and by the Ministry of Education.

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## **Organizing an Innovation Fund**

In Chile, the Innovation Fund of the Program to Improve Quality in Higher Education (MECESUP) is attached to the Ministry of Education's Higher Education Division, as its main development instrument. In previous years, the Vice-Ministry of Education was responsible for similar development instruments to promote elementary and secondary education. On the other hand, according to Chilean law, the Scientific and Technological Research Funds (FONDECYT and FONDEF) operate independently. Administratively, they are dependent on the National Commission for Scientific and Technological Research (CONICYT).

These organizational arrangements have advantages and disadvantages that must be carefully considered before making a choice. Depending directly on the Ministry of Education and the Higher Education Division ensures integration and consistency with current public policies and their implementation. However, the potential bureaucratic burden is an unavoidable disadvantage. Depending on one-person authorities such as Vice-Ministers is probably not the best option since, although it apparently offers some administrative advantages, it can isolate actions through extremely personal approaches or those of special interest groups and separate actions from higher education public policy management. An independent organization from the Ministry of Education is an interesting option because of its sustainability and stability over time. Nevertheless, if possible, it should be regulated by law to ensure appropriate transparency, organization, operation and its relationship with the Ministry of Education in matters involving public policies and their implementation.

Regardless of the agency it is attached to, the Fund should have a duly represented Governing Council, an Executive Director (Manager) and competent and stable professional and administrative staff, in addition to the resources to ensure its proper operation.

For reference purposes, the Operations Manual of the Academic Innovation Fund of the MECESUP 2 Program of the Government de Chile is attached hereto.

## **Management of the Innovation Fund**

Managing a competitive Innovation Fund is a major challenge that calls for considerable experience and requirements in terms of management. Management features are thus critical. It is crucial to remember that the main relationship is between the Fund (the party offering resources) and its beneficiaries (the petitioning party), and the latter, in the case of tertiary education, are the intellectual elite of the country. This means that the contractual relationship between both parties

must be balanced to ensure a common degree of trust, the ability to communicate and share information and to agree on mutually beneficial actions that will prove effective for the Fund's development. Moreover, there should be a proper and loyal dependency between the Fund and the Ministry of Education to ensure appropriate consistency between the Fund's implementation and public policies in force.

These special features determine the profile of the professional in charge of the Executive Direction of the Fund, thereby raising the level of requirement to a person with considerable university experience, specifically in academic management and one who also possesses special human qualities. Concretely, this implies a deep knowledge of the general mission, the goals, organization and operation of universities, in terms of the teaching offered to students, as well as their capabilities (or limitations) to carry out important and productive research and, as a result, to offer pertinent post-graduate programs for the country's social and economic development. Such a professional must also be experienced in academic management, self-regulation and quality assurance so as to be able to identify the strengths and weaknesses of higher education institutions and the system in general, and the opportunities and threats that the new settings of economic globalization and the knowledge society currently pose. Lastly, this professional must be clear on the leadership capabilities needed to manage change, be strong in skills such as communication, facilitation, argumentation, conviction, attention to and concern for detail, tact and diplomacy, willingness to know and master the ways that the World Bank runs and its rules, in addition to other abilities for interpersonal relations.

Given that managing an Innovation Fund is a considerably complex matter, the Executive Director needs to be seconded by middle-level managers to provide support in carrying out its duties (even standing-in when necessary), perform specific management tasks in evaluating proposals to the Fund, and monitor and evaluate awarded projects and their progress and concrete results. In turn, middle managers should have an adequate number of competent and professional analysts to carry out the tasks required to implement the projects awarded.

### **Analysts**

The Fund's professional analysts are responsible for monitoring the awarded projects. In practice, this means knowing the eligible higher education institutions, determining the eligibility of projects submitted to the competitions, supporting their evaluation with external peers, facilitating their implementation and managing their monitoring and evaluation of results (by participating in field visits when necessary). Thus, it must be understood that the number of analysts needed to run a portfolio of projects must be in direct proportion to the amount of projects awarded and the average work load involved in managing a typical project.

Another fact to bear in mind is that the central task of analysts is that of facilitating the job of project teams—rather than playing the role of auditors—thereby helping to attain the project goals.

In the Chilean experience with the MECESUP Program, each analyst manages an average of three universities and 40 projects. This number is excessive and affects the effectiveness and efficiency of the Fund's operation. It therefore seems more reasonable to **entrust no more than 30 projects to each analyst.** Evidently, the administration resources available and the personnel policies to which the Innovation Fund is subject shall also determine this number.

### **Transferring Resources**

A very important issue for the proper use of Fund resources is the way that resources awarded in a competition are transferred. Consequently, not only financial and accounting issues are at stake. Legal and regulatory matters also need to be taken into account to ensure the timely and proper use of the resources, consistent with the aims of each project. Furthermore, there are administrative matters to consider in order to comply with commitments made in the Loan Agreement in addition to administrative requirements of public administration, plus national and international auditing obligations. Furthermore, in matters regarding resources all precautions should be taken to avoid influence mongering, corruption and misappropriation of funds. Finally, all the **necessary legal precautions** need to be taken to insure the resources transferred (by means of insurance or guaranties), monitor bank accounts established exclusively for the projects and avoid misappropriation of assets and works purchased with project funds through legal protections, timely stock-taking and guarantees of appropriate use.

To transfer project awarded resources to the special bank accounts, arrangements must be made with the Ministry of Finance or other pertinent authorities to program the necessary flow of funds for the timely development of the projects. One of the safest procedures for transfers to this type of projects is the **"accounts payable" method whereby part of the resources allocated are advanced to the beneficiary project, in concert with the activities and purchases planned and, once that quota has been completed, a new installment for new activities is disbursed** once accounts for the previous one have been duly "rendered" by providing adequate information and/or documentation on progress, achievements and expenses. Another option is to have the funds transferred on a semi-annual or annual basis. This makes the transfers more regular and makes management easier, but it definitely creates a surplus of funds for some projects and a lack thereof in others, requiring adjustments in the meantime. Considering that World Bank loan funds are usually transferred into special government accounts involving the rendering of accounts for new transfers,

the first option appears as the more flexible and effective one. Projects that make good progress can be “rewarded” with new transfers consistent with their needs, while slower ones or those with implementation difficulties will face a temporary suspension of additional funds.

### **Management in Beneficiary Institutions**

The number of projects awarded by the Fund to the beneficiary institutions will depend on the resources available, on eligibility criteria established and on the ability to prepare successful proposals, with “success” understood as a set of attributes that include consistency with the institution’s strategic plan (if available) or other methods of defining and establishing priorities of plans and actions for academic improvement, an updated strategic diagnosis, pertinence, willingness to change, innovation, substantiation of benefits and feasibility and suitable drafting and presentation. Accordingly, some institutions will be more successful than others when the Fund starts operating, and they will learn and improve with time. (This can be reinforced through appropriate training in project management). Lastly, most of the beneficiary universities may have more than one project underway — and even several in some cases — thereby creating implementation challenges that they shall have to address effectively.

From the standpoint of the Innovation Fund and the monitoring and evaluation of the awarded projects, management of awarded resources and compliance with procurement rules agreed upon in the Loan Agreement should not be left to the free will of universities. It is more effective to agree, in advance, to have a counterpart organization reporting to the pertinent higher authority (e.g. the University Chancellor) to manage and prepare proposals according to the Fund’s context, terms and conditions, and forms, to ensure proper management of resources and their disbursement according to agreed procurement standards, and to effectively monitor and evaluate progress made and achievements attained. An **Institutional (Project) Coordination Unit at universities may be a suitable counterpart for the Fund** and can be a highly effective means of communication, coordination and management for achieving the contracted results. It should have a light structure and use existing units in the organization (such as financial, procurement and internal auditing departments) to carry out their task. Nevertheless, whoever heads this unit should have an **academic profile in addition to management skills**, because he will thus be viewed as a peer by project managers, thereby becoming a significant source of support for the project’s success. Their only additional duties will be to comply with the contractual obligations imposed by the Fund in terms of rendering accounts (financial and accounting), adapting and implementing procurement regulations established by funding agencies and providing all the necessary support for the successful implementation of the projects. If this facility is not already in place, a small number of professionals can be hired to carry out this task. An Institutional Coordination Unit, with this

minimum operating organization can also serve to manage other externally funded programs and projects.

All in all, the challenge imposed by introducing external rules to the university (such as the World Bank's procurement regulations and international accounting standards) can be considerable and very demanding, particularly when rendering accounts, proving the proper use of procurement rules and showing progress in achieving goals. It is necessary to bear in mind (particularly in the case of projects implemented with *ex - post* verification of progress) that this type of operations are prone to procedural errors that someone will have to pay for. A formal coordination unit at the universities is highly suitable to deal with this type of challenges and problems since it will have the required management authority and competence. On the other hand, the Fund will be in a position to provide significant support to training the staff involved and supply technical support to management when necessary.

### **Organizing Procurement**

Programs and projects operating under World Bank loans normally require rigorous implementation of procurement rules, currently governed by the Guidelines: Procurement under IBRD Loans and IDA Credits, issued in May 2004, and special provisions established in the Loan Agreements. These are mandatory regulations that legally override local rules. In the Chilean case, therefore, they are mentioned explicitly in the agreements that rule the goals and commitments of each awarded project, that are signed by the Minister of Education and the Chancellor of the pertinent university. The different methods available, scope of application and procedures are set out in detail in the summary of the Procurement Manual attached hereto.

In operational terms, implementing these procurement guidelines through bidding follows strict pre-established processes that do not allow for improvisation. Infringement thereof may involve fines to the loan granted by the World Bank which, if unresolved, will eventually be discounted from the loan itself. Therefore, it is essential to have specially trained, qualified staff working for the Innovation Fund's administration unit so that they may analyze operations and issue the "no objection" (when so authorized by the Bank) or request it from the Bank when applicable. This explains why it is necessary to have equivalent abilities in place at the counterpart beneficiary institution.

For adequate organization, as described above, the different procurement methods, such as International Competitive Bidding (for major purchases), Limited International Bidding (useful for purchasing science equipment), National Competitive Bidding (for smaller purchases) and Shopping (for minor purchases) are different procurement methods to be adopted according to the clauses established in the Loan Agreement. In the case of Consultants' Services, similar specific

rules and procedures apply. However, they are more complex due to the contractual nature of the relationship with these professionals. Special precautions need to be taken to comply with eligibility and professional competence established in the terms of reference, and in minimizing conflicts of interest.

### **Monitoring Projects**

The main challenges in all Innovation Funds are implementing equal opportunity for access to resources, transparency in the process of calling for proposals, external evaluation of initiatives, and awards and monitoring of the projects selected for funding, so as to verify progress and achievement of the promised results. Usually, follow-up is conducted by monitoring programmed activities and evaluating results by means of performance indicators. Both methods require funds, adequately trained professional staff, monitoring and evaluation instruments, effective data systems, time for field visits and good judgment.

As in the case of procurement, it is advisable to have in place at the Innovation Fund or the Program (if it has more components) a small study, monitoring and evaluation unit, duly consistent with a similar unit at the Ministry of Education, and in correspondence with the Institutional Coordination Units of the projects at the beneficiary institutions. This will allow aggregating monitoring information from the projects to those of component, program and country. Capabilities should contemplate experience in qualitative and quantitative handling of higher education variables, data management, analysis of results and performance indicators.

Monitoring and evaluating projects is a complex process that should include aims, actions and goals set forth in the final version of approved proposals and agreements signed by both parties, the implementation and progress according to the work plan, the procurement of goods, works and Consultants' Services, the procurement plan measured through milestones and performance indicators previously agreed upon. In order to be effective, this process should include modern and current information management, which in turn calls for computer information systems, preferably integrated ones, available on line. The effectiveness of such systems depends on their adequate logical design and this, in turn, on the prior experience and conceptual clarity of the Fund's authorities in defining its features. An inadequate definition of the information problem will result in a poor quality technological solution.

### **The Innovation Fund's Projection**

The main goal of an Innovation Fund is to manage incremental funds to develop innovation and quality in higher education. Nevertheless, its projection and significance in terms of developing

advanced human capital must be borne in mind, as well as the development of national research needs, development and innovation capacities, generation of links between academia and industry (in the broader sense of the term) and cultural development. Adequate integration of public policies for these areas and their different development instruments is highly desirable to achieve effective development results.

In this respect, an Innovation Fund must achieve coordination between its policies, purposes and specific actions with other development instruments. A good example of integration are competitive funds that support scientific research and technological development, educational grants available for graduate studies (both at home and abroad) and the purchase of expensive science equipment. In institutional management, for example, the Fund can also play an essential role by supporting and reaffirming strategic plans of institutions, quality assurance through self-regulation and by creating the ability to study, monitor and evaluate academic development plans, programs, projects and actions.