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## Sustainable management in academic architectural research

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### Abstract

The success of any firm depends a great deal on good management, tailored to the particular character of the profession. Architecture research and design centres based in universities, however, are a breed apart, and their management differs from that of the average architecture firm in three key aspects: product – fundamental and applied knowledge, human resources – the academic staff, and profit – measured not only in currency, but also in recognition and prestige. The paper will examine the main, specific aspects of sustainable management in an academic setting, exemplified by the case study of the research centre at “Ion Mincu” University.

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### 1. Introduction

In the field of architecture, research and design centres based in universities are steadily gaining recognition as major competitors and promoters of innovative practices. Regardless of talent, creativity and professional know-how, the success of any architecture firm largely depends on good management, tailored specifically to the particular nature of the profession. The management of university-based architecture research centres has an even greater degree of specificity, since it differs from the management of the average firm in three key aspects: product, human resources, and profit.

Firstly, these centres function in academic environments, and are inextricably linked to research. Therefore, their product - abstract or applied knowledge - has a wider applicability than the very concrete products of architecture and urbanism firms. Secondly, the human resource pool of a research centre extends to the entirety of the academic staff – a significant number of highly qualified people who can form flexible, interdisciplinary teams suitable to any project. Thirdly, the results of successful management aren't measured merely in terms of profit (which plays a very important role in enabling the centre to pursue individual research interests due to financial stability and independence), but also in terms of institution recognition in the academic and professional architecture fields. Sustainable management in academic architectural research must also develop an international relationships network between universities, resulting in researcher mobility and continuous skill improvement.

In addition to these characteristics, there are three additional factors which further increase the need for a specific type of management suited to the nature and needs of each university-based research centre. Each country has a different set of laws, ordinances and regulations regarding research, innovation and creative development, and a

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particular socio-economic, political and cultural background which translate into certain research interests, directions and traditions. Moreover, architecture, a complex field of human activity with equal input from the hard sciences and artistic creativity, is tributary to research requirements and methodologies from the arena of the exact sciences (engineering, chemistry, physics, etc.), that of the arts, and that of the humanities (sociology, anthropology, urban geography, cultural studies, etc.). Each university has its own set of rules, governing research clusters, their performance and activities, which are circumscribed to an extent to the broad development interests of the institution. Finally, architecture research and design centres have strong connections with the accredited, professional organizations in their country of residence, and are therefore inclined to adopt strategies which enable them to better collaborate with notable institutions on cutting-edge projects requiring the application of specialized knowledge.

Due to the aforementioned factors, each university-based architecture research and design centre will have a unique profile, and a tailor-made sustainable management strategy. Further below, this particular instance of sustainable management will be illustrated by a case study of the Research Centre based at the “Ion Mincu” University of Architecture and Urbanism (I.M.U.A.U.) – Bucharest, Romania.

## **2. I.M.U.A.U.’s research centre – an overview**

The Research centre of the “Ion Mincu” University of Architecture and Urban Planning is a complex organism, structured and functioning in accordance with the Romanian laws and ordinances regarding education, scientific research and technological development, and the University Charter. Currently, the Research Centre has three nuclei, each specialized in a particular branch of knowledge within the broader fields of architecture and urbanism. The activities of all three centres, while retaining a reasonable degree of independence in terms of research interests and scientific enquiry directions, follow the University’s Strategic Research Plan, elaborated by the I.M.U.A.U. Council for Scientific Research in conjunction with the national and international research programmes relevant to architecture and urbanism. The Council itself is a branch of the University Senate concerned with the coordination and supervision of research, development, innovation and creativity within the University, and with ensuring optimum collaboration between the three research nuclei and the various faculties and departments.

### *2.1. The Centre for Research, Design, Expertise and Consulting - CCPEC*

The Centre for Research, Design, Expertise and Consulting is focused on applied knowledge and scientific research, sustaining a wide range of activities at the forefront of the profession: urban planning, architectural and interior design, restoration, graphic design, consulting and expertise, information, documentation and creation of data bases, computer assisted design, etc. Among the three research nuclei, CCPEC deals to an almost exclusive extent with the immediate application of cutting edge knowledge and developments, and specializes in large-scale, complex projects for the state or private firms and beneficiaries. Although it also offers courses and organizes symposia, exhibitions and conferences, they are all designed with a view to support the dissemination of applied knowledge developed by the centre.

The internal structure of the CCPEC is extremely flexible: the only fixed positions are those of the personnel not specialized in architecture or urban planning (general manager, marketing director, accountants, economists, analysts and programmers and secretaries), with the exception of the technical director, who is a licensed architect or urbanist. For each project, teams of specialized personnel are assembled from the university’s academic staff, sometimes including PhD students and undergraduates. Depending on the size and complexity of the project, the centre assembles teams whose dimensions and professional makeup (architects, urbanists, engineers, technicians, etc.) respond most effectively to the project’s requirements. Using project-based teams from the university’s highly trained academic staff doesn’t only ensure the best possible project results (in terms of efficiency and overall quality), but is also part of the sustainable development strategy of the centre, meaning a reduction of reducing staff remuneration costs for the periods between projects. Since remuneration is project-based, taking part in CCPEC

projects is extremely rewarding and stimulating for university staff: the activity counts as continuous development, and the financial rewards supplement their teaching salaries.

Contracts are also specially devised for each project, but observe a few general conditions. If required by the complexity of the project, third parties with special qualifications can be integrated into the project team, for a specific fraction of the contract value. From each contract, a percentage is reserved under the U.A.U.I.M.-CCPEC seal of excellence, and used to cover the expenses such as permanent staff wages, project drafting and plotting, travel costs, etc. The prices of all CCPEC services are in accordance with those stipulated by current laws and methodologies for architecture, urbanism and associated research activities, and approved by the major organisations of the profession in Romania.

Besides quality, the CCPEC also deals in prestige. Since CCPEC functions under the tutelage of the I.M.U.A.U., Romania's oldest and most prestigious architecture university, all prospective projects and their contracts must be reviewed and approved by a special branch of the professorial council. The relationship is mutually beneficial: the prestige of the university draws a significant number of prospective clients and projects, from which only those aligned with the broad research directions and intended development of the university are selected. In turn, the income generated by CCPEC allows it to maintain financial self-sufficiency, and to contribute to the material endowment of the university.

By exchanging highly specialized, applied knowledge translated into practice at an unmatched quality, the CCPEC is a very effective mechanism which provides the university with the funds required for the pursuit of fundamental knowledge enquiries, for supporting ongoing research projects, and for sponsoring members of the teaching and research staff and students in a very diverse range of theoretical and practical research directions.

## *2.2. The Specialized studies nuclei: CSAU and CSAV*

CSAU (Centre for Architecture and Urbanism Studies) and CSAV (Centre for Vernacular Architecture Studies) are the two nuclei of the IMUAU research centre concerned with the production and dissemination of fundamental knowledge in their respective areas. CSAU studies the morphogenesis and evolution of urban and extra-urban territories, with regard to historical, cultural and socio-economic factors, as well as the evolutions of varied architectural spaces and typologies. CSAV focuses on all aspects of vernacular architecture in Romania, and actively seeks to preserve and promote the country's specific cultural landscapes. Based in a fortified church at Dealu-Frumos, in Sibiu county, CSAV is the only nucleus operating outside the University HQ, a decision justified by the nature of the centre's educational activities of training specialists in restoration and research related to vernacular architecture, which entails on-site courses and workshops.

Both CSAU and CSAV are autonomous units engaged in complex research activities and cultural pursuits, involving specialists, teaching staff and researchers from all areas connected to urban and architectural evolution, and vernacular architecture, respectively. The activities of the two centres consist mainly of studies and research, providing an academic framework for the tutelage and supervision of post-graduate studies, workshops, courses, seminars, practice and on-site projects, and organizing conferences, exhibitions and ensuring knowledge propagation via specialized publications. Since their size is significantly smaller than CCPEC's, the two centres employ on a permanent basis a leadership and management team each, consisting of members of the academic staff specialized in various aspects of each nucleus' area of research, and observe the same project-based employment scheme detailed above.

One considerable difference is that CSAU and CSAV are significantly more involved with the corresponding faculties and departments at I.M.U.A.U., and that all projects engage an increased number of PhD students. Financing for the two centres comes from grants, scholarships, sponsorships, national and international research programmes. Unlike the CCPEC, these research nuclei undertake projects without immediate financial gratification, as their aims relate to the generation of fundamental knowledge or the initiation and support of vital cultural endeavours, such as the preservation and rehabilitation of national patrimony sites.

Finally, CSAU and CSAV are twin motors of international knowledge exchanges, charged within the I.M.U.A.U. research strategy with seeking and establishing connections with other European universities, initiating interdisciplinary studies and furthering the scope of the university's research directions.

### **3. Sustainable management and the I.M.U.A.U. Strategic research plan**

As previously mentioned, the sustainable management of an architecture research and design centre functioning in an academic environment differs from that of an architecture firm in three main aspects – the nature of the product, the availability and training of the human resources, and the dual type of profit generated by the centre's activities. In the case of the "Ion Mincu" University of Architecture and Urbanism, these represent key points in the Strategic plan of scientific research and artistic creativity, a section of the university's General plan of sustainable development.

#### *3.1. The I.M.U.A.U. Strategic research plan*

Developed by the Council of Scientific Research, a branch of the University Senate which coordinates and supervises research, development, innovation and creative activities within the university, the Strategic research plan is designed to promote and support the production and distribution of fundamental and applied knowledge and interdisciplinary studies in the fields of architecture and urbanism, as well as provide the logistic framework for their application. Tellingly, the majority of its main objectives are concerned with maintaining the standing of the University as leader of the architectural profession in Romania, in terms of practice and research, improving its position among the notable European centres of architectural research, and increasing and strengthening the international network of connections which grant staff and students alike increased mobility and the opportunity to hone their skills abroad. Although they refer exclusively to institutional prestige, achieved through research and increased expertise, these goals have a tremendous impact on the lucrative prospects of the three research nuclei (CCPEC, CSAU and CSAV), which in turn generate the profit and the funds necessary for the further pursuit of research endeavours and the constant upgrading of the university's facilities.

The Plan's strategic objectives are also aimed at the continuous improvement of the mechanism through which the three components of the I.M.U.A.U. research centre are structured, run, financed, evaluated in terms of quality and compliance with national and European guidelines. Defining the rapports between the various attributes, responsibilities and research interests of the research nuclei, the doctoral school and the university's faculties and departments is vital to establishing a functional research structure: the overlap of research interests is beneficial to a certain degree, but hazardous if it concentrates too big a percentage of the allocated budget and of the staff's time on duplicate endeavours. Likewise, the simple identification of the internal and external sources of funding and the distribution of this information to the academic staff is not sufficient for a successful rate of obtaining grants and sponsorships, and one of the plan's sustainable objectives refers to the instatement of a grant and sponsorship application department, designed to help researchers formulate feasible and smartly managed research plans.

#### *3.2. Product*

Knowledge is power – an age-old adage which has never been truer than in this information-driven society. University-based research centres produce knowledge of two types - fundamental and applied, in various ratios. For more than 50 years, the research at I.M.U.A.U. has been overly concerned with the applicable, immediately tangible side of architectural knowledge, which resulted in an architectural culture famous for the excellence of its practice and execution. During the past couple of decades, efforts have been made (through the Strategic research plan) to shift the ratio in favour of fundamental knowledge - a manoeuvre geared towards sustainability, since the value of a sound, consistent production of fundamental knowledge increases a great deal when used as the basis for applied knowledge. This is an important development not only in the academic field, where fundamental knowledge and its producers are the most coveted resource, but also in the business sector: many firms now prefer to invest in research,

and be rewarded with essential knowledge which can later be applied and developed into a multitude of profitable ways.

### 3.3. Human resources, Profit and Prestige

The human resources of the I.M.U.A.U. research structure comprise senior and junior staff, PhD students and even Master's and undergraduate students – a vast pool of highly trained and research oriented people, which can be assembled into teams tailored to the specifics of any project. This resource, however, is far from inexhaustible and needs to be constantly developed through a sustainable approach so that research efficiency, quality and the personal fulfilment of the staff do not become mutually exclusive. The permanent or temporary personnel of the three research nuclei, involved in both teaching and research, are motivated to engage with the University's main research directions and stimulated to do so through career, financial and professional growth opportunities, but are also allowed the freedom to pursue their own research interests and encouraged to seek inter-university collaborative prospects.

Perhaps the most striking feature of the research centre studied above is that it manages to generate a consistent profit which goes mostly towards funding research endeavours resulting in fundamental knowledge, even without prerequisite requests for the application of said knowledge. In other words, the services of the CCPEC, which aren't only excellent in quality, but nationally and internationally *recognized* as being first rate through association with I.M.U.A.U.'s reputation, are an unremitting, sustainable investment in future research. In the case of universities and their research centres, prestige and academic status are also immensely important types of profit.

## 4. Conclusions

Having examined a few of the characteristics of sustainable management in academic architectural research, and the key aspects which make it quite different from efficient running of an architectural firm, as illustrated by the case study of I.M.U.A.U.'s research centre, it becomes apparent that the success of such a centre largely depends on giving due attention given to three main areas.

Firstly, the nature and scope of the centre's product must be clearly defined: here, the rapport between fundamental and applied knowledge must be in perfect alignment not only with the rigueur of the academic field, but also with the economy-driven requirements of the practical side of the profession. An efficient human resources development strategy is crucial, as is the astute use and distribution of profit.

Finally, and, perhaps, most importantly, the development of sustainable strategies for any university-based research centre must capitalize on the prestige of the institution, and increase it in return through the quality of its services and activities.

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