A structured methodology for addressing gender imbalances in a Computer Science R&D Ecosystem

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Abstract

The underrepresentation of women in Computer Science and STEM remains a persistent and well-recognized challenge across Europe, particularly within research and innovation environments. This paper presents a systematic and evidence-based methodology developed to support institutional transformation towards greater gender equality within a large research organization, namely the Institute of Computer Science of the Foundation for Research and Technology Hellas (FORTH-ICS) operating in the fields of Computer Science and Information and Communication Technologies (ICT).
The proposed methodology combines quantitative and qualitative analysis, organizational assessment, policy review, stakeholder engagement and comparative benchmarking with leading European universities and research organizations. Based on the findings, a pathway for institutional development was designed incorporating strategic interventions, governance mechanisms, monitoring procedures, and a multidimensional system of Key Performance Indicators (KPIs) to support evidence-based decision making and continuous assessment. The proposed interventions address gender representation, leadership participation, mentoring, work-life balance, organizational culture and the integration of the gender dimension into research and innovation activities.
The methodological framework resulted in the development of a three-year institutional roadmap for change, accompanied by a monitoring and evaluation framework aimed at assessing progress and impact over time. The paper demonstrates how systematic monitoring, evidence-based policy design, and structured governance could support sustainable institutional transformation, strengthen inclusivity, and enhance organizational resilience and research excellence within the European Research Area. Furthermore, it provides a transferable methodological framework that may be adapted by other research-performing organizations seeking to address gender inequalities in STEM and ICT environments.

Keywords: Evidence-Based Policy; Gender Gap; Governance; Institutional Transformation; Key Performance Indicators