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## Short Communication

### INSTITUTIONAL FRAMEWORKS THAT GUIDE RESEARCH INTEGRITY AND SECURITY TOWARDS PROTECTION OF IP AND MANAGEMENT OF TECHNOLOGY TRANSFER IN UNIVERSITIES IN KENYA

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## Introduction

Kenya's higher education system is expanding at a very rapid rate. This is reflected in the increasing number of public and private universities, the expansion of existing universities, and the proliferation of online education services. Further, these universities have been increasingly expected to transcend their conventional teaching and research missions to contribute directly and indirectly to solving social and environmental challenges and generate knowledge of economic relevance to society. The teaching and research missions of a university are important, especially on a continent whose population is young and growing rapidly. Demand for higher education is likely to remain high.

The research mission is important in generating the knowledge that advances the teaching mission at all levels (undergraduate and post-graduate programs) and in transmitting new knowledge that reshapes society. The need to generate knowledge of economic relevance requires a university's focus to capitalize on its research outputs and talent and exhibit practices that mirror those of the private sector, such as the existence of technology transfer offices and intellectual property management units. Universities work with various partners across the world. This collaboration is important for the success of the research and innovation sector.

Research integrity is the basis on which researchers can collaborate in a fair, innovative, open, and trusted research environment. However, scientific advancements and their potential applications can make research a target for those who seek unauthorized access to and transfer of research knowledge. It is particularly relevant to researchers in STEM subjects, dual-use technologies, emerging technologies, and commercially sensitive research areas. Compliance with an increasing number of global and national laws and regulations is, therefore, a significant issue for universities. At the funding level, universities have been financially strained due to low funding from the government, which has affected their operations. As such, universities are also required to institutionalize external resource mobilization for funds to supplement exchequer funding, even as the demand for services continues to pressure the current fund base. This is particularly important because the establishment of research compliance structures places a financial obligation.



Every university has different oversight arrangements for research activities. Many aspects of research and academic activity are devolved to a local level, for example, to a head of faculty or to an individual principal investigator (PI). There is a delicate balance for universities between protecting academic freedoms and trying to improve visibility to attract collaborations and external funding opportunities. In doing so, it is important to conduct due diligence when considering a new research and/or funding collaboration. This should include ethical, legal, and national security considerations as well as financial considerations by ensuring that, where necessary, there is appropriate protection of IP, research, or personal data. This allows for informed and balanced decision-making about collaborations and partnerships.

### **The study**

It is against this background that this survey aimed to: i) determine institutional frameworks that guide research ethics, integrity and security in universities in Kenya; ii) identify the vulnerabilities of research oversight processes, gaps and needs towards the protection of IP and the management of technology transfer in universities iii) propose interventions and recommendations that can be adopted at the institutional and national level to strengthen research ethics, integrity, and security in universities in Kenya.

### **Methodology**

A survey was administered to collect data from respondents at selected universities. A structured questionnaire was used for data collection. Respondents included research administrators as well as postgraduate students and lecturers involved in research activities. Three broad areas were examined: organizational leadership and management structures; policies and guidelines promoting responsible research; and knowledge and training on key aspects of research ethics, integrity, and security. This report presents a synthesized analysis of the survey data. Key issues observed are highlighted and discussed, based on which implications for the policy and institutional practices of universities are presented.

### **Key Findings**

The synthesized analysis of the survey results indicates key observations as follows:

First, there is a diversity of research governance structures. Common structures include directorates of research, centers of research ethics and safety, research



advisory boards, and institutional scientific and ethics review committees with a mandate to assess, mitigate, monitor, review, or implement measures against risk related to research integrity, ethics, and security of intellectual property or technology. However, support for these offices is inadequate for ensuring effective implementation of policies; secondly, there is a substantial effort to institutionalized policies and guidelines for research ethics and responsible research practice. There are, however, significant gaps and potential vulnerabilities in protecting research and researchers against loss of IP, misuse, or exploitation. This includes inadequate processes for material and data transfer, auditing and disclosure of IP, technology transfer, research disclosure mechanisms, conflicts of interest, conducting due diligence for partnerships and collaborations, research data protection, and recognizing and responding to allegations of research misconduct.; and thirdly education and training in responsible conduct of research are recognized as key mechanisms for addressing and preventing misconduct and detrimental practices. However, there is a lack of structured training programs for researchers. Training is not mandatory, and the content mainly focuses on research ethics.

### Recommendations

- There is need to sensitize administration and faculty on potential pathways for loss and theft of intellectual property and technology.
- It is important to support university administrations in formulating or reviewing policies and guidelines, and define implementation strategies and plans appropriate for the institution.
- Institutions should provide effective tools to guide research administrators and academics, manage reviews of conflicts of interest, perform due diligence on partnerships, and assess the risk of research activities throughout the project cycle to support practical behaviors that will embed sustainable research ethics, integrity, and security practices within universities.
- In addition, it is imperative for universities to implement research integrity and security (RIS) education and training policies, make RIS education attractive for all and tailor training to disciplinary-specific contexts.



## **Ethical Approval**

Approval for the study was obtained from the Kenyatta University Ethics Review Committee (Approval Number PKU/2795/I1919) and registered with NACOSTI (License No.: NACOSTI/P/23/31128)

## **Conflicts of Interest**

There are no conflicts of interests among the authors.

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