THE ROLE OF UNIVERSITIES IN KNOWLEDGE-BASED INDUSTRIALISATION IN KENYA: A STUDY OF UNIVERSITY-INDUSTRY-GOVERNMENT LINKAGES IN MANUFACTURING SECTOR

Student Name: Onesmus Muroki Thuo

Supervisors:
Prof. F. Q. Gravenir
School of Education, Kenyatta University

Dr. Andrew R. Riechi
School of Education and Distance Learning, University of Nairobi

ABSTRACT
The purpose of this study was to identify and document the patterns in university-industry-government linkages (UIGLs) as platforms for the commercialization of knowledge and technology, particularly in the technology-dependent manufacturing sector of the economy. This would be the basis for proposals to support the development of a knowledge-based manufacturing sector as envisioned in Kenya Vision 2030. To do so, the following research questions guided the study: a) What is the extent of UIGLs in the manufacturing sector? b) What is the motivation for these linkages? c) To what extent can these linkages contribute to the creation of knowledge-based manufacturing in Kenya? d) What are the challenges facing these linkages? e) How can these linkages be enhanced so as to facilitate knowledge-based manufacturing in Kenya? These questions were generated within the framework of Etzkowitz (1999) Triple Helix (TH) model of an innovation system in which an entrepreneurial university is the key driver of innovation as part of a dynamic National Innovation System (NIS) constituted by UIG institutional spheres and linkages that interact closely and co-evolve as a triadic web of innovation into a knowledge-based economy. To answer the research questions, the QUAN-qual explanatory mixed methods design was used. The study targeted 49 senior university managers; 5 senior policymakers in the Ministries of Devolution and Planning; Industrialisation and Enterprise Development and Education, Science and Technology; and 2 key informants from the Kenya Private Sector Alliance (KEPSA) and Kenya Association of Manufacturers (KAM) in the manufacturing industry. A stratified sample of 18 university managers was selected for the UIGL survey. The AAU/AUCC Survey Questionnaire was adapted for the survey. The AU/NEPAD Community Innovation Survey (CIS) Questionnaire and
an interview schedule were used for an innovating manufacturing firm connected to a university. Interview schedules were used for the Director of a university-based UIGL platform and selected informants in relevant policymaking positions in the government ministries. Document analysis of policy documents on Science, Technology and Innovation (STI) and on industrialisation in Kenya was done to identify the role of the government in UIGLs. Descriptive statistics were used to describe the survey findings on the types of UIGLs. Cross-case analysis of the interview findings and qualitative contingency analysis of policy documents were done to contextualize the survey findings. The study found that only 5 respondent universities reported having any interactions with the manufacturing sector. Of those, only 2 had UIGL platforms and university-based commercialized products on these platforms. The 2 linkage platforms are only tangentially motivated by Kenya Vision 2030 innovation-based policy priorities. Key challenges in creating UIGLs are research and policy-related: financial support for research, limited research partnerships between universities and the manufacturing sector, poor research infrastructure, and dissonance between national development and STI policies. The study concludes that there are limited university-driven linkage platforms that support the transfer of knowledge and technology to the manufacturing sector. Therefore, the attainment of a knowledge-based manufacturing sector is unlikely if the current levels of UIGLs persist. Thus, study recommends the strengthening of the knowledge and technology generation and transfer system, and the prioritisation of sector-relevant research and robust partnerships for its commercialisation in manufacturing in both national and institutional policy.