

## **Measuring the Role of Universities in Knowledge-based Industrialization in Kenya**

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### **Abstract**

Today, more than ever, innovation is at the heart of any efforts to deal with the increasingly complex challenges of human development, especially so in the developing world. From a Triple Helix perspective, the role of entrepreneurial universities in a national innovation system within the context of knowledge-based economies is to capitalize knowledge and technology through trilateral networks and hybrid organizations. Joint R&D projects, incubators, science and technology parks which require closer interaction between universities, industry and government are the platforms through which innovation happens and a knowledge-based economy emerges. Whereas these theoretical propositions on how innovation occurs and on how a knowledge-based economy is created have generated a lot of interest among scholars, policymakers and global development bodies, there is a dearth of empirical evidence on how to actually measure the actual contribution of innovation to economic growth. This paper examines the relationship between commercialization of knowledge from universities contributes to Total Factor Productivity (TFP) using the case of the manufacturing sector in Kenya.

**Keywords:** Triple Helix approach; product innovation; hybrid organizations; knowledge-based manufacturing; Total Factor Productivity

### **Introduction and Research Question**

The manufacturing sector is a key component of industrialization as the link between crude extractive activities and value-addition. Value-addition implies higher investments in technical skills and technology to drive the growth of vibrant enterprises and the innovation that develops varied competitive products. In a highly competitive world, these investments are at the heart of a country's competitive edge. The spillover effects are instrumental for the attainment of such human development goals as poverty alleviation and improvements in the overall quality of life. These investments include such targeted interventions such as conducive policy environments, a vibrant STI infrastructure, a national entrepreneurial culture, synergies in the efforts of various institutional actors, among others.

Kenya is an example of a country with a rapidly growing economy. Over the last 10 years, the country's economy has been growing at an annual average of ...%. However, this growth has not been evident in the growth of the manufacturing sector. Ever since the vital role of this sector in economic growth and development was recognized and prioritized in Sessional Paper 10 of 1996 (Republic of Kenya, 1996), its performance with regard to contribution to the Gross Domestic Product (GDP) has averaged to only around 10 percent. Policymakers and scholars alike agree that this has undermined its capacity to drive industrialization in Kenya. Although the Government has endeavored to address the numerous constraints to its growth, it is the eminence it has received in the Kenya Vision 2030 as a key driver of a knowledge-based economy towards attainment of a middle income rapidly industrializing country that is of

interest in this paper. Is this empty rhetoric or naïve ambition or are there specific instruments to track the progress on that road? The most important requirement is a measurement system that links innovation policy incentives to economic growth policy through a national growth accounting system that can disaggregate differentiated output from the manufacturing sector to knowledge and technology-based product innovations and innovative activities and their support systems. So far, empirical research in this area is lacking. The present study enters into this debate from this point and attempts to answer two questions: to what extent is Kenya's manufacturing sector knowledge-based and is there a metric system to link growth of manufacturing value-added to various measures of knowledge-based innovation?

## **Literature review**

## **Methodology**

## **Findings**

## **Interpretation**

## **Conclusions**

## **Policy implications**

## **Directions for further research**

## **References**