# Summary

The traditional factors of production, such as land, labour, and capital, have typically determined a nation’s comparative advantage. However, in the context of a global Knowledge-Based Economy (KBE), a nation’s prosperity is now determined by its knowledge assets. This transition to a KBE offers endless advantages and is desirable for all countries. However, developing countries face significant challenges in adopting this new development paradigm, where knowledge is the key driver of economic growth. Yet, to effectively measure the extent to which a country is considered knowledge-based on the international level, a robust framework is needed. Although the burgeoning literature, existing KBE measurement frameworks have limitations and may not accurately reflect the progress and efficiency of the transition to a KBE, especially in developing countries. Consequently, relying on these frameworks can lead to misleading policy directions that hinder the necessary rapid transition in developing countries.

This thesis aims to fill the gap in understanding the KBE within developing countries through an extensive analysis. To achieve this, the thesis begins by reviewing the conceptual and theoretical literature on the KBE. It then critically examines existing measurement frameworks and empirical studies related to the KBE, specifically evaluating their suitability for developing countries. In response to the limitations found, a new and more effective measurement framework is proposed. This framework focuses on input-output indicators across four dimensions of the KBE: acquisition, distribution/dissemination, production, and utilization. Notably, it utilizes a non-parametric approach known as Data Envelopment Analysis (DEA), which differs from conventional econometric analysis. The DEA empirical results are then compared with those obtained from other existing KBE measurement frameworks, allowing for a comprehensive assessment of the advantages offered by DEA.

Based on the DEA empirical findings, knowledge production is identified as the weakest aspect, despite its utmost importance among the four KBE dimensions. As a result, this thesis places special emphasis on enhancing innovation development in selected developing countries through effective innovation policies tailored to their specific circumstances and utilizing country-specific innovation policy instruments.