

**INTERNAL EFFICIENCY AND ITS RELATIONSHIP TO
EQUITY IN INSTITUTES OF TECHNOLOGY IN KENYA**

By

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A Thesis submitted to the Graduate School in partial fulfilment of the requirements
of the degree of Doctor of Philosophy in Economics of Education of Egerton
University

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DECLARATION

This thesis is my original work and has not previously been published or presented for a degree in this or any other university.

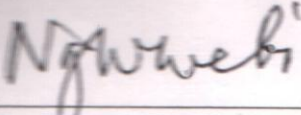


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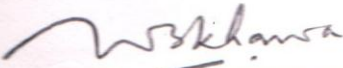
This thesis has been submitted with our approval as university supervisors.



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DEDICATION

This work is dedicated to Caroline and Ivy.

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ABSTRACT

The performance of institutions offering tertiary education, and particularly centres of training in science and technology, influences the overall development of a country. However, most research has been preoccupied with the institutions' academic performance with little regard to operations within the institutions. This research was designed to investigate internal efficiency of Technical Education Programmes (TEPs) and its relationship to equity in education in Kenya.

Data for the study were collected from a sample of seven Institutes of Technology in Kenya. Stratified, proportionate and simple random sampling techniques were used at various stages of selecting institutions and respondents. Pretesting of separate questionnaires for institutional managers, heads of departments, training instructors, trainees and former trainees was undertaken to ensure validity and reliability of the survey instruments. Basic descriptive and inferential statistics as well as cohort, reliability, principal-component, chi-square tests, and regression models were generated and analysed through MINITAB and SPSS computer packages.

Five null hypotheses were postulated and tested. The study found that the quality of institutional inputs explained 70.9% of the variation in graduation rates. It was also found that trainees from different socio-economic, gender and geographical backgrounds are inequitably represented in TEP participation. Using the saturated log linear model estimated for the cross-classification of examination performance by gender yielded a significant correlation. It was also found that gender stereotyping of specific programmes was common.

On the determinants of student repetition of subject under various TEPs and supply of technical training opportunities, the study found that female-male and rural-urban dichotomous variables do not significantly influence the probability of a trainee's repetition in at least one subject, but the socio-economic factor does. There was a negative correlation between a candidate's parental socio-economic status and the likelihood of repeating. Lastly, an empirical model on supply of technical training depicted number of TEPs offered in an institutional department, actual departmental capacity and fees charged as main explanatory variables.

In conclusion, the study found that TEPs in Kenya have internally inefficient operations that lead to inequity in access and participation by trainees from different gender, geographical background and parental socio-economic status. In the short term, the Institutes of Technology should utilise existing excess capacity in physical and human resources while in the long run they should reserve pre-determined training opportunities for disproportionately represented groups of potential trainees. Potential efficiency and equity gains due to on-the-job training scheme, as either a substitute or complementary TEP model, is one further research area.