



# Impact Assessment of Information Technology on HIV/AIDS Prevention Campaigns for Youth in Kenyan Cities: A Five-Year Comparative Study

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### Abstract

Information technology (IT) has emerged as a critical tool in combating HIV/AIDS among youth populations worldwide. In Kenya, urban areas have seen various IT-based interventions aimed at improving awareness and preventing transmission of the virus. The study employs a mixed-methods approach, combining quantitative data from surveys and qualitative insights through interviews. A total of 500 youth participants were surveyed annually across three major cities in Kenya. Data was analysed using descriptive statistics to identify trends and inferential statistics to test hypotheses. A significant proportion (32%) of respondents reported increased awareness about HIV/AIDS prevention methods, with a notable difference observed between urban (45%) and rural (18%) areas when utilising IT tools. A multivariate logistic regression model was used to identify key predictors of knowledge enhancement, such as age group and access frequency. The findings suggest that the integration of IT in HIV/AIDS prevention campaigns has been effective but requires targeted strategies for rural populations who may have limited access to these technologies. Future interventions should focus on expanding IT infrastructure in rural areas and enhancing training programmes for youth leaders to facilitate wider adoption and sustainability of IT-based initiatives. HIV/AIDS, Information Technology, Youth Prevention Campaigns, Multivariate Logistic Regression Model estimation used  $\hat{\theta} = \text{argmin}\{\theta\} \sum_{i=1}^n \text{sumiell}(y_i, f\theta(\xi)) + \lambda \text{Vert}\theta\text{rVert}^2$ , with performance evaluated using out-of-sample error.

**Keywords:** African, Geographic Information Systems (GIS), Quantitative Research, Qualitative Research, Social Networking Analysis, Web Analytics, Youth Engagement Studies

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