NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOLOGY (NUST)

FACULTY OF APPLIED SCIENCES

DEPARTMENT OF COMPUTER SCIENCE

A FRAMEWORK FOR THE ADOPTION OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) IN SERVICE DELIVERY: A CASE OF HARARE MUNICIPALITY.
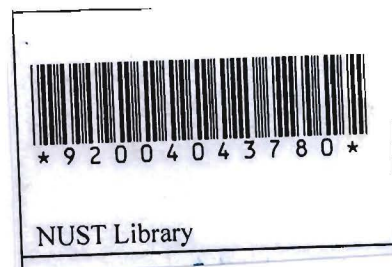
A DISSERTATION BY:

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Abstract

The aim of this research was to come up with an Adoption Framework for Geographic Information Systems (GIS) in Service Delivery in the context of developing countries, a case study of the Harare Municipality. The study used triangulation research design, which is the use of more than one approach for the investigation of the research questions that is GIS technology adoption framework. In trying to dissect the perceptions of the research participants on the subject matter, the study adopted a mixed methods research design. This entailed the use of multiple data collection tools to understand the phenomenon of interest under study. Data was analysed using content analysis that identified the emerging themes as well as SPSS for the quantitative data component. Furthermore, triangulation of data sets was conducted from key informant interviews, observations, semi-structured questionnaire, documentary review of archival records and literature to corroborate research findings and results. The study revealed that there is a link between effective GIS utilisation and service delivery. The study further established the factors that are critical for GIS adoption, which included the availability of qualified personnel, training of personnel, availability of financial resources and top leadership support to mention but just a few. The researcher then developed a proposed GIS adoption framework that was informed by research findings and results as well as literature review and or documentary analysis of archival records. The proposed framework has five competing and equally important components that needs to be addressed for the success of GIS adoption in local authorities in developing countries. These are Organisational Settings, Stakeholder Engagement or Participation, Enabling Infrastructure, Government Support and a Conducive Environment. The study established a number of recommendations on how Local Authorities in developing countries can successfully adopt and or implement the GIS technology. Chief among the recommendations is for the Local authorities or municipalities to adopt E-governance, which has become a prominent and critical success factor as well as an important component in the ease of doing business.