

**DEVELOPING A PROTOTYPE CORPORATE SPATIAL
DATA INFRASTRUCTURE:
A CASE STUDY OF KPLC, REA AND KETRACO**

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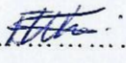
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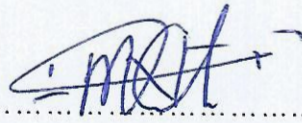
Declaration

This research project is my original work and has not been presented for a degree in any other university.

Signature.......... Date. 01/02/2016.

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This research project has been submitted for examination with my approval as the university supervisor.

Signature.......... Date. 4.2.2016

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Abstract

Electricity sub-sector in Kenya consists of several players who are responsible for regulation, generation, transmission, distribution and maintenance of electrical network in the country. The players deal with similar data sets in their operations but each operates independently in terms of collection and storage of both spatial and non-spatial data. This disconnected way of operation results to duplication of data collection efforts, duplication of projects, uninformed decision making and inconsistency in the data collected and stored.

The main objective of the research was to develop a prototype for corporate spatial data infrastructure with the case study being organisations dealing with transmission and distribution of electricity. The three organizations are involved in transmission and distribution of electricity in Kenya. The research started with establishing through questionnaires and meeting if the need for data sharing existed among the three organizations and the data sets that each organization held. The data sharing need existed and that data sharing would help in reducing duplication of projects, reducing the time taken for customers to be connected, save on resources used for duplicated data collection and also improve customer service quality.

The methodology involved creating a personal data base for each organization. Then the geoportal was installed and the interface customized to fit the theme of the research “Kenya Electrical Network SDI Geoportal”. In the geoportal users for all the organization were created and different roles assigned to them. Combination of tools were used which included Esri Geoportal server, Apache directory server and directory studio for establishing LDAP connection to the data base, Postgresql for the database, apache tomcat and ArcGIS. Finally, metadata for the sample data was created and published, and approved by the administrator and only then was the data available for viewing. The results were a working geoportal with all capabilities and interactive web map embedded on map viewer. In conclusion the research showed that there was need for data sharing among the three organizations. The main recommendation was that the model could be adopted by the whole energy sector and other related sector which could eventually to the realization of the Kenya National Spatial Data Infrastructure.

Key words: Electrical Sub-sector, Geoportal, Spatial Data Infrastructure.