



**UNIVERSITY OF NAIROBI**  
**SCHOOL OF COMPUTING AND INFORMATICS**

**ENHANCING WEB-BASED e-GOVERNMENT MODELS  
THROUGH INTEGRATED EMAIL-SMS ALERT  
SYSTEM**

**BY**

**PETER KYALO MULWA**  
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## ABSTRACT

The development of ICT has enormously influenced the social, economic and political life pattern in both developed and developing countries. Governance, democracy and commerce have changed due to the development of ICT (Tony, Goodwin and Paul, 2008). This has led to the development of new terms like e-Government, e-Democracy and e-Commerce among others. This study focused on the existing e-Government models, their functionalities, effectiveness, efficiency and reliability.

E-government models adopted by most countries are Web-based or SMS-based. This project was a case study of the use of the web-based e-Government model in the University of Nairobi which is a Government agency. This study focused on the email and SMS as the main communication tools used by government agencies for communication. The study investigated the use of the email tool to ascertain its effectiveness. The study sought to improve the email effectiveness and reduce response time through alert messages send to the mobile phones of the email account owners. This will integrate the Web-based (email) and the SMS-based e-government models to reap on the benefits of both models.

Questionnaire was used as the main data collection instrument. The data collected was analyzed using Statistical Package for Social Science (SPSS) to determine extend of the use, effectiveness, efficiency and reliability of Email and SMS based Information Systems. Stratified random sampling was used to determine the population from where the research data was collected.

The collected data was prepared for analysis using SPSS. Inferences were drawn from the research findings to justify the need of improving the Web-based e-Government Model. The findings indicated that web-based (websites, blogs and Email) models are the widely used e-government models in developed and developing countries. It was also found out that SMS-based models are increasingly becoming popular in developed and developing countries. It was further found that integrating both models is possible to enable citizens, businesses and other entities that interact with the government to reap on the benefits of both models. Based on these findings, a prototype of the proposed e-government model was designed, developed, tested and an implementation framework developed. The entire study took a maximum duration of six (6) months.