Deploying Content Management System to enhance State Governance

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Abstract

Governments across developing countries worldwide have the challenge and responsibility of bringing their nations at par with the developed nations. To face such challenges, governments can bring in e-governance reforms. E-governance offers a new way of helping to improve government processes, connect citizens, and build interactions with and within the civil society. The existing system is a semi-static government website with aesthetically attractive homepages, but very little content value. Most of these sites present only "public relations" materials aimed at promoting the image of the state and for tourist attraction. Many of the government controlled websites are just moribund on the internet containing only outdated information. There is total absence of an integrated and interactive interface between government, businesses, and citizens where consultations can be made. There have been few attempts to solve these problems using various means. Various web-based applications have been launched as a step towards efficiency in governance, but the technology of Content Management System (CMS) is yet to be tried. CMS provides a collection of procedures used to manage workflow in a collaborative environment and permits a full-site search engine. In this paper we have designed a new e-governance model that uses the tool of CMS to guarantee free flow of government information.

KEYWORDS: Content Management, E-governance, Model, Search engine, ICT.

1.0 Introduction

Modern societies are experiencing fast and continuous change processes. This makes it imperative for governments to develop projects capable of making their full adaptation to these changes become a reality. This undoubtedly enhances the positive effects on both the citizens and governments activities, given that, in today's information society, a country's competitiveness and its citizens' standard of living depend to a certain degree on the speed and efficiency of state services.

Building citizen-oriented public services that is assisted by ICT, development of commitments to quality, increasing policy maker and public administration employees'

involvement in the change and modernization processes, e.g. making the most out of the opportunities provided by new Information and Communications Technologies (ICT), is the main challenge that governments have to tackle.

Electronic governance enables governments to provide public services with greater effectiveness, speed and quality. As a result of using ICT, new types of public service can be designed, contributing to an improved relationship between government and its citizens. This leads to increased efficiency in the workflow, and ICT-related industries would flourish, thereby contributing to the country's overall economic development.

The growth of Information and CommunicationTechnologies infrastructures in Nigeria is at the increase day by day but it is still at the infantry stage. Despite many expectations from the global community, African countries are yet to leverage ICT and the internet to enhance governance. In fact, Nigeria failed to make the top 50 of the United Nation e-Government readiness index for 2010.

1.1 Research Objective

This research paper entitled "Restructuring State Governance Using Content Management System" aims at designing an e-governance portal solution that empowers citizens to fully participate in the art of governance and seamlessly obtain information regarding government departments. It will lead to automation of services, ensuring that information regarding every work of public welfare is easily available to citizens. The target objectives therefore include:

- To design an indigenous e-governance model using a Content Management engine as gateway for mutual interactions between Government arms and the citizens.
- To design a database-driven portal solution that ensures consistent monitoring of government projects by citizens to build confidence in governance and enhance early project completion.
- To facilitate the interdepartmental exchange of information and merger of related services among government agencies.
- To create a feedback mechanism that enables government to manage citizens' grievances and suggestions online.
- To provide round-the-clock access to Government information and services through a single window irrespective of their physical location.
- To place the citizens in real-time contact with elected government officials and to eliminate all bureaucratic bottlenecks in government offices.

Basically, increased efficiency in workflow leads to good governance. In this research, we envisage a government that provides public services with greater efficiency in terms of speed and quality. As a result of using ICT, new types of public service can also emerge, contributing to improved relationship between the government and the citizenry.

2.0 Theoretical Framework for the Study

Modern governments across the world are driving governance with ICT and those lagging behind are expected to adopt ICT to transform their administrative landscapes.

This efficiency in governance due to effective deployment of Content Management System has been proved by a study of its performance in various countries. According to [1], ICTs actually present societies and individuals with the opportunity to question fundamental assumptions and institutions, to re-think existing approaches and mechanisms to collectively conceptualize new ideas and

community-based alternatives that can catalyse a social change. Since governance is conducted as a business, it means high productivity and optimum use of the resources if citizens are presented with the appropriate technologies and facilities to freely access public information and documents.

In his article entitled "Content Management System and University Websites" [7] discussed the application of content management system in Universities in order to enhance effectiveness in university administration, efficient academic environment and staff control. [5] presented a detailed background of e-governance and content management system and their application in various countries of the world. A good number of developed nations of the world such as USA, India, Finland, Australia and France, have embraced e-governance and implemented applications to harness its various advantages such as e-commerce, e-banking etc. Countries like Russia, Kenya and the Republic of Korea (South Korea) have made strides in e-governance. Russia uses technology in just about every sector – healthcare, education, and politics. The Russian Federation is also ranked by the 2012 United Nations E-Government Survey as one of the seven leaders in e-government. In Kenya, there is an Information Communication Technology department that focuses solely on e-governance and its implementation. Report shows that the Republic of Korea (South Korea) is ranked number one and their e-government activities are the best and the fastest growing in the world [10].

Nigeria, with its vast bureaucratic networks should be able to look to these countries as a scheme and begin to restructure its governmental process. As the "giant of Africa" Nigeria cannot afford to lag behind. No doubt, Nigeria has a unique challenge to "e-Governance" professionals because of several reasons ranging from poverty, awareness, literacy, basic infrastructure, bandwidth issues, multilingual and cultural issues.

For an effective design of e-governance system, a good e-governance model must be adopted [6]. Some established e-governance models exist and these models were broadly illustrated by [6] in their article "An E-governance model for Imo State, Nigeria". According to them, the choice of a model depends on a number of factors including e-ready index of the society, infrastructure, etc. In this study however, we shall adopt the Broadcasting/Wider Disseminating model because if its peculiarities that is based on the broadcast of useful government information already existent in the public domain into the wider public domain through the use of ICT and convergent media.

3.0 Content Management System Defined

A Content Management System (CMS) is a web application system that allows publishing, editing, and modifying content as well as site maintenance from a central page. It provides a collection of procedures used to manage workflow in a collaborative environment, and these procedures can only be internet computer-based.

Web CMS is a bundle application used to create, manage, store, and deploy content on Web pages. Web content includes text and embedded graphics, photos, video, audio, and code (e.g., for applications) that renders other content or interacts with the user. A web CMS may also catalog or index content, select or assemble content at runtime, or deliver content to specific visitors in a personalized way, such as in different languages.

Advantages

Content Management System quite literally allows you to control and manage the content within your web site without technical training. Using this uncomplicated system you can easily add, delete text and images, and edit them on your web site online. You can also have an unlimited number of pages and a full site-search engine. The following advantages therefore suffice:

Low Cost: The cost of maintaining a website after hosting is a challenge to website owners. Hence, Content Management System can be maintained with or without technical knowhow.

Easy Customization: A universal layout is created, making pages have a similar theme and design without much code. Many CMS tools use a drag and drop AJAX system for their design modes. It makes it easy for beginner users to create custom front-ends.

Easy to use: CMSs are designed with non-technical people in mind. Simplicity in design of the administrator's section allows website content managers and other users to update content without much training in coding or technical aspects of system maintenance.

Workflow management: CMSs provide the facility to control how content is published, when it is published, and who publishes it. Some WCMSs allow administrators to set up rules for workflow management, guiding content managers through a series of steps required for each task.

Therefore, incorporating this concept on a website will break the barrier where only expert programmers can interact with the back end of the system design, making the data supply and updating more of technical works. With content management system, no HTML knowledge is require, as it's provides a template like interface where current information can be entered, edited, deleted and updated.

4.0 Choice of Structural Framework

In their paper entitled "Enabling e-governance: Integrated Citizen Relationship Management Framework", [9] describes some of the best practices that have emerged during the course of many implementations of e-governance models and content management system. Their focus was on how an e-Governance system can be successfully implemented and used. It was written specifically for those in Government and technical specialists who are directly responsible for its design and/or deployment. It also provides guidelines for developing an effective e-Governance plan. The purpose here is to choose a framework through which effective and efficient e-Governance system can be designed and proposes an integrated framework for a good Citizen Relationship Management System.

The Self Help component

Specifically, e-Government scenarios give rise to new requirements. Citizens expect their business to be dealt with promptly. Availability of assistance with their inquiries and applications via a choice of media, such as the Internet, telephone, floppy disk, etc constitute an important organizational service.

Citizens wish to be able to find and understand the reason for decisions via these diverse communications channels or to determine the current status of their application in the organization's processes. For example, a citizen application system on the Web can offer a service where you complete your tax return by working through the steps of a dialog. The system can immediately feed the steps into the organization's workflow.

Here are some examples of possible Internet self-services:

- An integrated view of various account items, such as charges, taxes, advance payments, grants
- Retrieving information offerings
- Web form services
- Registration for events
- Information area on the law and how it is interpreted
- Subscription tools
- Simulation of tax calculations

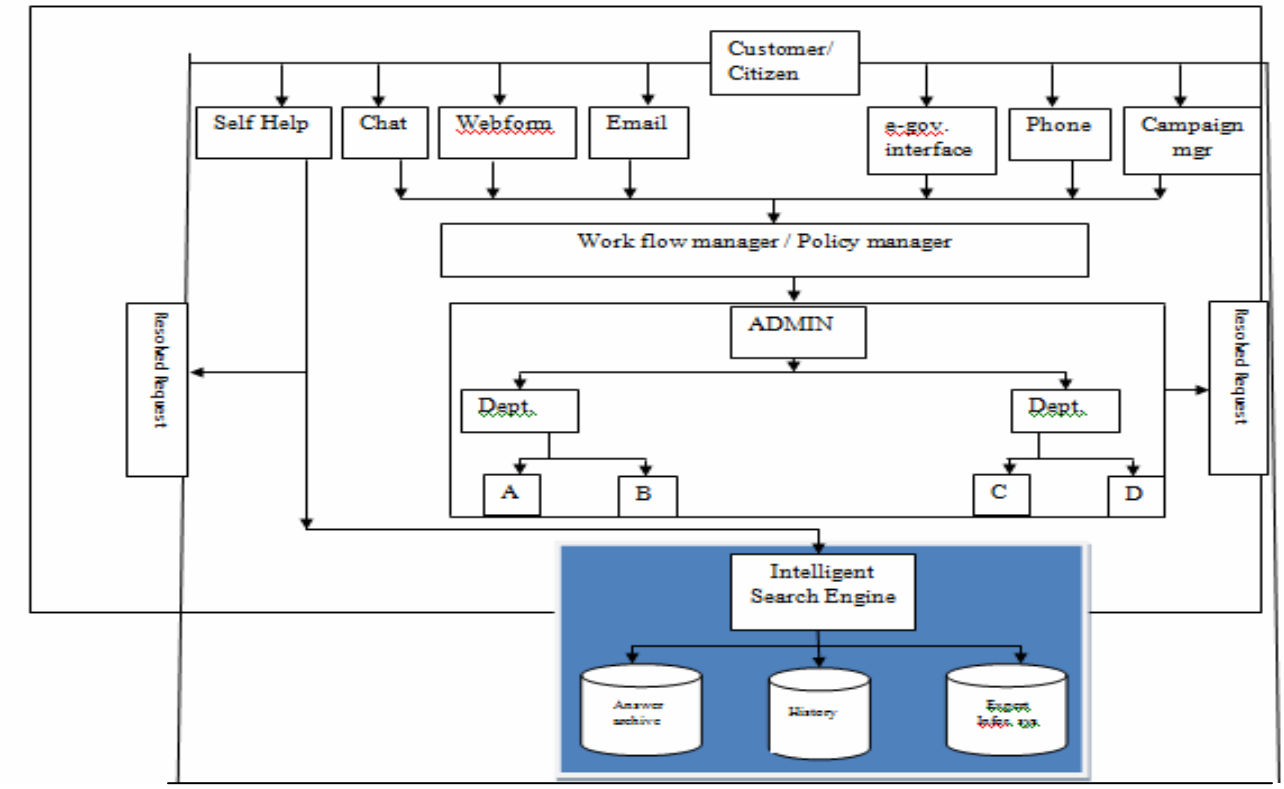

Fig. 1: E-governance Framework and the Content Management Systedm

5.0 Methodology

We now investigate the approach to be adopted in the analysis and design of our proposed system. Different approaches exist that can be adopted in the analysis and design of any Information system some of which are the Structured Systems Analysis and Design Methodology (SSADM), Object Oriented Analysis and Design Methodology (OOADM), Prototyping, Expert systems, etc. When choosing a methodology, it is important to consider not only the features of the methodology, but also the cost, the type of problems to which it is best suited, and its limitations. We shall adopt the prototyping methodology and the SSADM.

Our focus is to capture all the user requirements for the system and to model the basic classes and collaboration between them. We shall give a detailed and insightful investigation and analysis of the existing system, its working procedures, and its mode of operation.

We shall put the following factors into consideration: sources of data, data analysis techniques, model specifications, and the identification of its strengths and weaknesses. We adopted the prototyping methodology for this project since the e-governance model being proposed in this paper will have several applications and web pages for citizenship interaction with government (and may be relatively complex). Prototyping creates prototypes of software applications, i.e., incomplete versions of the software program being developed. A prototype typically implements only a small subset of the features of the eventual program. It is an effective way to gain understanding of the requirements, reduce the complexity of the problem and provide an early validation of the system design.

6.0 System Analysis

We now analyze the architecture and operational procedure of the present system of government administration in Nigeria at various levels, ministries and parastatals. Many of the government controlled websites are just moribund on the internet and contain outdated information. Also, the technical personals needed for web management are crossly inadequate, making information sharing almost impossible, even after the hosting of such websites. The existing system in most Nigerian states is a semi static website which only contains online news and a one way means of information sharing from the citizens to the government. With this, government may ignore any message from the citizenry or deny receiving such message. None of the government website can boast of a simple Content Management System (CMS). Thus, there are no platforms for online updating and editing of data.

7.0 The proposed System

The proposed system is made up of two major sections that works together to achieve its functions: the administrator's section and the clients' section.

1. Administrator's Section

This is the server side of the system which is designed to house and create interfaces for administrative duties. The user of this section carries out all the online administrative functions some of which include entering of new information such as news and images, updating of existing information and the removal of obsolete ones.

In order to have access to this platform, the administrator logs in with the administrator's username and password and clicks the SUBMIT button. He then selects the section and enters the title and its content. To edit already submitted information, may be in the case of an error, he can select the "Panel" on a tab, make his changes and re-submit the information. Obsolete information can be removed from the system using the REMOVE function component of the system.

This section is designed with non-technical people in mind. Simplicity in design of the administrator's section allows website content managers and other users to update content without much training in programming or other technical aspects of system maintenance.

To access these functions of the administrator, the system is designed to restrict access to these functions by providing a user authorization form, which will authenticate user before permitting access.

2. Clients' Section

This is the section of the website that is open and accessible to everyone and contains general information on normal web

behavior, by providing an overview of relevant information. It displays the content of databases, some of which consisting of information and relevant publications on government legislations, governance, appointments, constitution, laws, etc. others may include; photos/ videos of government agencies and individuals. It will also contain an interactive session between the citizens and the government, and navigation buttons for movement within the website. This section has no restrictions and can be accessed from anywhere in the world.

8.0 Model Formulation and Discussions

The proposed model for our content management system is shown in the figure 1.2 below. The model is all encompassing and information flow is maintained between the government and the citizenry, and between the government and business units. The model can be automated to usher in a new government-citizen network which rests on governing the people through a democratic system. A well planned e-governance strategy can make leaps into the building of a more efficient, accountable and transparent government. The implementation of this model means that the need for citizens to always approach government for information will be done away with and the entire society will be better for it..

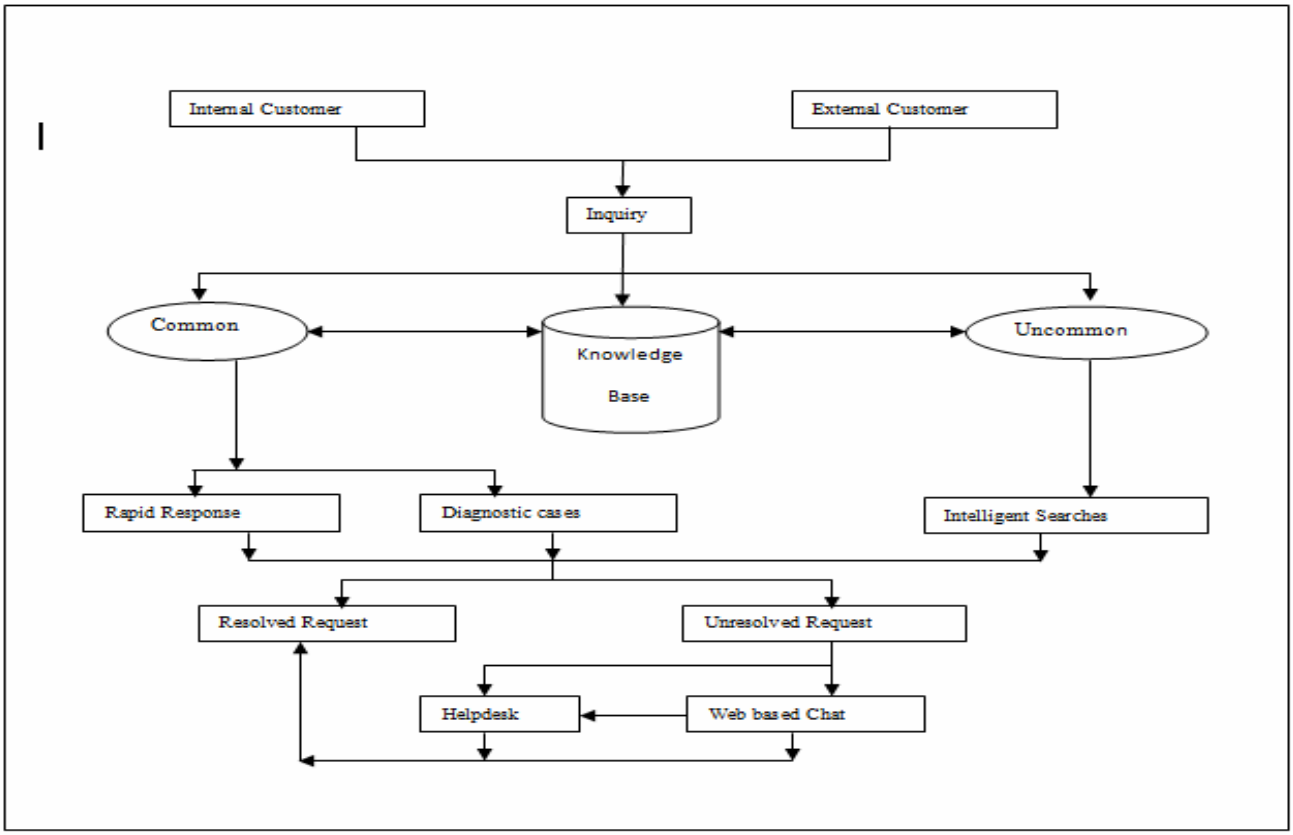

Fig. 2: Proposed model framework of Content Management System

The implementation of this model will follow the Broadcasting or WiderD isseminating model of e-governance to disseminate government information and policies to the wider society using the convergent media. However, this model loses its effectiveness in cases where the free flow of information is restricted (due to lack of information sharing culture and in cases of optimal ignorance).

9.0 Broadcasting/wider Disseminating Model

Public Domain ⟶ Wider Public Domain

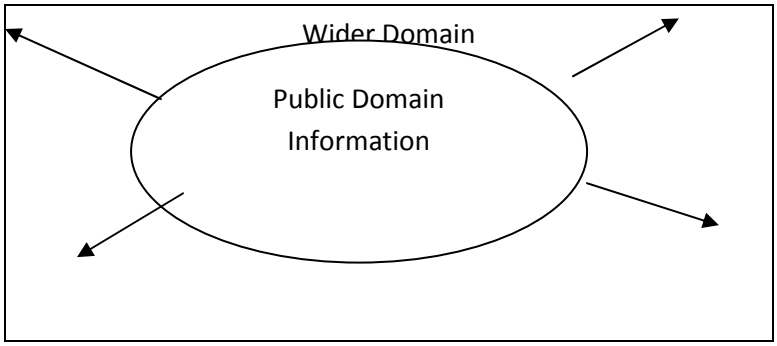

Fig. 3 Broadcasting model of E-governance

1.5 Conclusion and Findings

All activities of government ministries and agencies, both procedural and administrative, can be captured online, including budgetary allocations, government expenditure, contract awards, civil applications, bidding and procurement, sources and volumes of internally generated revenue, demographic data, land allocation criteria, records of government facilities, (including loans and scholarships), insurance, renewal of licenses, employment information, professional transactions, current legislation, etc. All things can now be done in such as away that citizens can monitor government proceedings without any face-to-face contact with government officials. This will reduce the frustrations caused by various bureaucratic bottlenecks associated with government processes. It will also go a long way in reducing corruption.

The implementation of this model design will give a boost to state governance in Nigeria and the long awaited transparency in governance will become a reality. It will improve government's responsiveness to citizens, reduce cost of governance, and enhance greater citizenship participation in government decisions making process.

The main challenge of e-government implementation in any country is whether the intended objective of reaching the citizens was actually achieved. E-government should reach all citizens who need government services regardless of their location, age, status, and language. The e-government global survey is a means by which governments can assess their level of preparedness for the provision of services to their citizens using modern ICT and telecommunication techniques.

Greater service delivery via the content management system can be achieved by the provision of adequate ICT infrastructure, improving online services and citizens' access to these services and dedicating itself to improving the country's literacy level. A country will benefit if it critically examines its present state and then identifies those areas that it needs to improve. Nigeria still needs to improve further on its ICT services and telecommunications infrastructure.

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