New Development of Knowledge Based Multi-agent Management Model, Case Study E-Governance and its Activities

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Abstract
Knowledge Management is main characteristic of Knowledge Based System. In the field of ‘E-Governance’ it includes government, nonprofit, and private-sector entities without distinct boundaries. The model for e-governance is a one-stop portal, such as firtgov.gov, where citizens have access to a variety of information and services. But standard models which are developed do not contain any knowledge based management system. After the development of specialized Multi-agent Knowledge based management model for e-governance we are going to implement it. This paper presents the new Multi-agent Knowledge based management model to represent work of e-governance and enhancing its activities by implementation. This paper discusses main characteristic of e-governance models the problems of old developed model and its area. This paper also discuss detail methodology that how this model is working. There is some limitation of knowledge based management model which is also discussed over here. This paper also includes implementation of developed model.

Keywords
Multi-agent Knowledge Management, E-Governance, Multi-agent Knowledge Activity, Knowledge capturing, Knowledge sharing, Multi-agent Knowledge preserving & enhancing.

1. Introduction
Electronic governance or E-Governance is the latest buzzword for governments trying to involve people in administration, address transparency in their bureaucracies, and make themselves more responsive to their citizens. E-Governance is a technique derived from E-Government. The primary delivery models of e-Government can be divided into:
- Government-to-Citizen or Government-to-Customer (G2C),
- Government-to-Business (G2B),
- Government-to-Government (G2G),
- Government-to-Employees (G2E).
Within each of these interaction domains, four kinds of activities take place.

E-Governance brings urban and rural together and breaks the barrier of distance to lead an efficient administration. Surprisingly, E-Governance have not made enough impact on the people as eCommerce and eLearning have done. There are several barriers on the roads of E-Governance. From the software engineering point of view, E-Governance has a lot of characteristics, which are different from eCommerce and eLearning. It is enough for eCommerce and eLearning to be reactive whereas E-Governance needs to be proactive. While eCommerce and eLearning involve Information Management, E-Governance involves Knowledge Management (KM). Knowledge management is the management of information, skill, experience, innovation, and intelligence.

2. Concept of Paper
In this paper we propose a Knowledge Based Management Model based on E-Governance. This model is based on Knowledge management with typical features of e-governance. In which it contains Information Management, Event Management, Privacy Management, Capabilities Management, Creative Management e.t.c. The above features as well as shares knowledge which supports different aspects.

3. E-Governance and its related work
In simple terms Electronic Governance can be defined as giving citizens the choice of when and where they access government information and services. While e-Governance entails the processes used to provide services to the public, e-Government is the tool to accomplish e-Governance. Putting the citizen at the center of government means taking a delivery channel view. This would mean using more and more of Electronics & Information Technology in many of the government functions. There are three aspects to the e-Governance:
- IT enabling the government functions - something similar to back-office automation,
- Web-enabling the government functions so that the citizens will have a direct access, and
c) Improving Government processes so that openness, accountability, accuracy, speed of operations, effectiveness and efficiency may be achieved.

Typically, this would mean web-enabled applications, but e-Governance would also cater to automated applications for the government sector, which helps in achieving SMART governance which some define as:

- Speed
- Moral
- Accountable/Accurate
- Responsive and
- Transparent Governance

According to one school of thought, e-Governance is not just about government web site and e-mail. It is not just about service delivery over the Internet. It is not just about digital access to government information or electronic payments. It will change how citizens relate to governments as much as it changes how citizens relate to each other. It will bring forth, new concepts of citizenship, both in terms of needs and responsibilities.

The Govt. of India has been focusing extensively on e-Governance services for the delivery of citizen services for supplementing country’s Rural Development efforts. There is a wide-consensus on the Objectives and Benefits of the e-Governance services:

- Extending access to un-served groups.
- Minimizing distance to access.
- Introducing transparency.
- Simplifying transaction procedures.
- Minimizing costs to citizens.
- Minimizing cost to Govt. (internal efficiency)

4. Latest existing Models of E-Governance

The objective of the conventional E-Governance is to help citizens in (i) paying utility bills (telephone, water, electricity, etc.), taxes and so on, (ii) handling registration formalities for land ownership, marriage, birth, and death (iii) processing application forms and renewals of driving licenses, work permits and passports (iv) lodging complaints. The object of the conventional E-Governance is a set of documents which may be rule books, guidelines, files, applications, circulars, government orders, memorandums, letters, archives and classified information.

In Figure 1 model has two independent components: (I) Administration (II) Citizen & Government. The administration component has two major subdivisions, which are inter-department and intra department. In the same way the component of “Citizen & Government” has two major subdivisions such as citizen to government and government to citizen.

![Figure 1: Independent E-Governance Model](image-url)
Intra-department activities are secure as well as authenticated. Decision-making and activities of government of intra department are hierarchical based. In figure 2 it explains inter-department activities such as sharing information of province.

In figure 3 there is hierarchy of peoples in E-Governance in which it contains Decision-making and activities of government of intra department. Generally in above all models we can say it is just interaction part of E-Governance. The existing model of E-Governance we discussed above does not fully represent people and their needs. It means it doesn’t able to perform knowledge based management in E-Governance. In this paper we discuss and analyzing various parameters involving and interaction of E-Governance.

5. New Knowledge based Model of E-Governance

There are some models to represent knowledge. A good model of knowledge management system is a blend of solution and innovation. The major four phases for knowledge management\(^\text{[6][7][8]}\)

- Knowledge Capturing or Creation
- Knowledge Sharing
- Knowledge enhancing
- Knowledge preserving

In knowledge based management model each phase perform that task parallel. The cycle based process which is available in software engineering is not is not appropriate for knowledge management model of e-governance.
It must go hand in hand. The issues included in knowledge based E-Governance model are information management, Event management, Privacy management, Capabilities management and creativity management. The best model of e-governance should have above features.

5.1 Information Management [Knowledge Preserving]
The system stores and retrieves the data, documents, and records of government. It also generates reports for the administrators and the people with the appropriate access privileges and confidentiality. The system is smart enough to extract statistical and intelligent forecast reports for future planning.

5.2 Event Management [Knowledge Capturing]
The system provides a platform for discussion, debate, snap poll, referendum for the communities. The goals are to provide flexible collaborative environments with targeted services for the different parts of the community, to support interactions between organizations and research networks where new social issue or need or change is floated, defined and analyzed. The outcomes of these events are stored and forwarded to appropriate destination.

5.3 Privacy Management [Knowledge Security]
The system is designed in such a way that the privacy of discussion, debate, snap poll, referendum is strictly maintained. Necessary copyright and intellectual property is taken care.

5.4 Capabilities Management [Knowledge Sharing]
The system uses Knowledge Sharing approaches to assist development organizations in sharing their capabilities, experiences and knowledge with the goal of increasing the effectiveness of development work overall. The aim is also to support and nurture collaboration within individual organizations as well as the development community as a whole.
5.5 Creativities Management [ Knowledge Enhancing ]
The system provides a platform where multiple perspectives have an opportunity to interact, where different disciplines cross one another, where good is challenged by bad, rich is challenged by poor, and revolutionary ideas are challenged by conservative ideas. The system encourages social activists, researchers, business people and knowledge workers from all sectors to join there to create some real innovative breakthroughs in technology, new organizational forms and methods, new leadership skills, new collaborations beyond age boundaries, beyond discipline boundaries, and beyond sector boundaries.

6. Implementation with Graphical Interface
The implementation of E-Governance website in Visual studio 2005 with framework 2.0 and it contain all the activities which are available in our knowledge based management model. Consider Event Management system which provides different task like Add New Event, Register Event and Event Information e.t.c.

7. Limitations Of Model
This model does not contain the other important areas of E-Governance without Knowledge Management. These areas are Community Management System, Transition Management System and Infrastructure Management System etc.

8. Future Work
The Proposed model will be expand to contain other different areas of E-Governance which are not included over here. The other areas should also perform their task and activity with the aspect of Knowledge based Management System.

Figure 5: XML files
9. Conclusion
In our Knowledge Based Management Model of E-Governance concept of to sharing knowledge is central. Our Model of E-Governance based on Knowledge Management System which is considering activities such as Knowledge Preserving, Knowledge Capturing, Knowledge Security, Knowledge Sharing, Knowledge Enhancing.

10. REFERENCES