COMPUTATIONAL POLITICS AND ECONOMY FOR THE ESTABLISHMENT OF AN INTEGRATED INTELLIGENT GOVERNMENT

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Abstract

This paper aims at covering the following issues: computational approach to social sciences, analysis & reasoning in politics/economy, and the role of electronic technology in governing. The major goal of the first part is to create a new way of thinking about politics and economy, viewing them from a different perspective, not only as humanity disciplines but also considering engineering and computational patterns in these sciences. Next, we focus on designing an Integrated Intelligent Government (IIG) by partitioning a government's structure into different intelligent agents which use diverse knowledge bases and inference methodologies. Finally, we illustrate the role of electronic technology in a novel governing framework from various angles and come up with new ideas in this regard to develop participation, democratization, etc by an International Electronic Government (IEG).

Keywords*: Computational Politics; Integrated Intelligent Government; International Electronic Government.*

1. Introduction

Scientists are trying to develop various methods in computational politics and economy to create an infrastructure for defining political/economic problems and therefore computational solutions for these issues. Due to the potential complexity of these problems for human beings, scientists would like to apply intelligent techniques to see if they can achieve better results in comparison to the human's decisions.

The first problem is the need for more discussions among engineers, scientists, politicians and economists for a common language and understanding. The second problem is that we do not have any unified intelligent system with a defined objective as a high level approach in computational politics. And the third problem is that considering the current applications of electronic technology such as e-forms, e-learning, e-commerce and etc, the other useful applications have not been extended in governmental domains. Hence, the purpose of this paper and our major motivations are to tackle these problems by proposing 1) a new approach in social sciences, 2) an innovation to construct an *Integrated Intelligent Government (IIG)* which refers to a system of intelligent software agents rather than a human government, and 3) novel applications of electronic technology such as *International Electronic Government (IEG)*

perceives these concepts all together and forms inference based on a unified approach.

For example, an international crisis such as Iran's nuclear program may lead to a long term negotiation or military attack which somehow depends on electoral results: who or which political party is in power? As a consequence, it may also cause fluctuation on the oil price or affect military expenditures and other economic parameters all around the world. On the other side it may form different coalitions, which have effects on the foreign policy of countries. In this example, you can see a lot of complications and dependencies which are results of the human's brain perception, analysis and decision; it demonstrates that we require an appropriate model. Cederman [5] believes behavioral aspects of social systems are the most active research area in agent-based modeling.

To tackle this problem, we would like to propose a more compatible pattern which is a multi-agent representation. If we partition the government's structure into distributed and concurrent intelligent agents, we can then form an *Integrated Intelligent Governing System.* In fact, a multi-agent system is a network of agents that interact to solve problems which are beyond the individual capacities or m(the m)8nchh m 018 Tc 0.2572 Tw 365a[PLA

beliefs, participate in international crisis decision-making, ratify international legislations, etc. By this direct contribution, the behavior of the national governments for a superior responsibility can also be monitored in respect to transparency, accountability, human rights and democracy. One main feature of IEG would be an Electronic Consulting System (ECS). This system can receive and process citizens' opinions; it facilitates the globalization process which is meaningless without the involvement of all human beings.

By such an approach we can enhance the role of public while declining the role of statesmen. As a result, we can fashion a multi-polar world and substitute other solutions in preference to war for democracy development. From the other perspective, by an ECS we can supplement the performance of IIG through a Human-Computer Interaction (HCI) scheme.