

E-PARTICIPATION TOWARDS LEGISLATION: THE CASE OF THE PHILIPPINES

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Abstract - This paper discusses the issues toward the development of an eParticipation framework contextualized to the Philippine setting for legislation and the development of an ICT system. The project aims to enhance citizen participation and community empowerment in two key roles of the legislature – law making and executive oversight. The project used the concepts of eTransformation and Rapid Application Development Approach (RAD) to identify issues that will affect the future deployment of eParticipation Systems.

I. Introduction

The emergence of the knowledge-based economy has ushered in a growing recognition of knowledge as an economic resource and at the same time challenging the role of information and communications technology (ICT). As a general purpose technology (GPT) that is powering the current information revolution, ICT is seen as a tool that enables a wide array of transformation. From economics to governance and even in development, the role of ICT has evolved from the transactional view (e.g. automation) to that of the transformational [1].

This transformational view is at the heart of the discourse on the on-going techno-economic paradigm shift: viewing the role of ICT as an enabler, a tool that opens the potential for growth through integration and transformation of products and services [2]. This potential is true not only in business and economics but also in governance specifically in political participation.

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This paper sees the transformational role of ICT as one that challenges the existing models of political participation in the Philippines. This paper pushes the idea of e-transformation in participation resulting into an integrative democracy [3] that highlights the importance of recognizing a) democracy as a social practice and b) the imminent role of information resulting to the development of new frameworks in viewing the practice of participation.

In the Philippines, a central theme in the on-going socio-political reform effort is enabling participation in the process of governance. Expressed through the empowerment of citizens through the cascading administrative and resource control to the local governments, existing laws like the Republic Act No. 7160 (R.A. 7160), which is an Act Providing for a Local Government Code of 1991, and the Social Reform and Poverty Alleviation Law (R.A. 8425) bring forth new responsibilities resulting to the constant test of ensuring participation of local governments and their constituent communities in the process of governance. In addition, the e-Commerce Law of 2000 (R.A. 8792) mandates government agencies to make government services available on-line to citizens clearly provides a basis for moving towards electronic participation (e-participation) or the enabling of active participation of citizens in the process of governance through the use of ICT.

Parallel with this growing recognition of the importance of participation and the potency of ICT is the value of sourcing the right information/knowledge and routing these to potential users. This trend thus paves the way for the scope of this project which is the use of the internet as a 24/7 tool, some established document management (DM) and innovative natural language processing (NLP) techniques to serve not only as a tool to leverage information vis-à-vis knowledge, but also to effectively become an alternate view on how to enhance “democratic participation” in the process of local governance thus resulting to the question,

“How can knowledge and ICT be leveraged to ensure an integrated approach to democratic participation in policy-making?”

1.1 The Context: The Senate Blue Ribbon Committee

The study was pilot tested at the Senate’s Blue Ribbon Committee (BRC), also known as the Committee on Accountability of Public Officers and Investigations, which is a regular Philippine Senate committee that has within its jurisdiction all matters relating to, including investigation of, malfeasance, misfeasance and nonfeasance in office by officers and employees of the government, its branches, agencies, subdivisions and instrumentalities. The committee is also concerned with the implementation of the provision of existing laws and statutes on nepotism; it has in its powers to conduct investigations (in aid of legislation) of any matter of public interest. In the event of existence of probable cause, the committee can recommend prosecution to appropriate agencies. The current process allows for concerned citizens and civil society groups to file position papers on current legislative issues. ‘Public hearings’ are aired on television on committee hearings that tackle highly controversial issues. To add, there remains the issue of legislature's ability to process the information that is electronically provided. An increased in the number of (electronic) submissions would at best require the legislature to hire more staff members to process the said submissions. At worst, public participation would end at the stage of submission as legislature (or to be more precise, legislative committees) and receiving of information through the hearings that are aired on television.

The traditional solution is to hire more staff to process the increased number of submissions. Another solution is for the legislature to require structured inputs from stakeholders to facilitate information processing. And currently, there is no electronic document management system infrastructure in the Blue Ribbon Committee (BRC), specifically in the Blue Ribbon Oversight Office Management (BROOM) of the Philippine Senate. In fact, only one person is tasked and knowledgeable of the agency's documents filing, cataloguing and retrieval procedures, and incidentally, is about to retire.

These current mechanisms in place limit the opportunity for stakeholders to actually express their views about issues that are handled by the committee.

1.2 Scope of the Project

With the emphasis on participatory governance, this study centers on the use of ICT in the Philippine legislative process. ICT solutions applied to the legislative process will focus on three (3) factors that would enable participation. These factors are: a) retrieval/extraction of relevant information (pull); b) routing of information (push) to intended recipients; and c) storage of information.

The study integrated both top-down (legislature to citizens) and bottom-up (citizens to legislature) approaches in the development of the framework. Given the complex nature of the project and the need for close collaboration with the various stakeholders, the research design used qualitative methods for triangulation such as focus group discussions, key informant interviews and model review and document analysis.

Given these factors, current trends in document management (DM) and natural language processing (NLP) were taken into account in the development of a web-based, open-source eParticipation system. The document management system (DMS) is the application for storing, retrieving and tracking electronic documents and/or images of paper documents. Augmenting this with NLP allows for automatic organization of data obfuscated in texts found in documents that can facilitate better searching and retrieval of documents, as well as mining knowledge found in the voluminous documents in the DMS.

NLP, or the modern-day nomenclature, language technology (LT) provides an interesting solution to this problem. NLP studies the problems of automated manipulation and understanding of natural human languages. A particular NLP area is information extraction (IE), which is the acquisition and analysis of data from unstructured text, and transformed into structured information. Unstructured texts refer to documents which can have varying formats, composition and writing styles, point of views, and varying topics from one document to another. These would include raw data or texts from email texts, web pages, newsgroup and forum postings, news articles, research papers, business reports, and other forms involving human texts. Thus, IE techniques provided a way to identify relevant information from large amounts of texts. Using IE approaches, documents can be searched, mined or discovered, organized and interpreted into more understandable and concise forms. Structured information will include the identification of relevant entities in the texts such as people, organizations, places, dates, monetary amounts, figures, and establishing the relationships between and among these entities. Another NLP application used in this study is the automatic opinion clustering or classification. With the forums feature of the

eParticipation system, enabling e-citizens to contribute and express their views on particular topics, the automatic opinion clustering component allows for automatic grouping of these inputs into a summarized form so that the law-makers will have an idea of the leaning of public opinion on the matter at hand.

1.3 Methodology

Subscribing to the tenets of descriptive research and case study approach, the paper's methodology can be summarized into three phases: a) Review of Models and best practices; b) Requirements Definition and c) Prototype Construction & Validation of Results. The initial phase (Review of Models) saw the review of existing democratic and e-participation models. Best practices on e-Participation and NLP applications were reviewed by the group.

With the intention of capturing the requirements of the stakeholders, the second phase made use of data gathering tools such as the key informant interviews, participant observation and review of existing documents and related information systems. The stakeholder requirements were captured through regular consultations and focused group discussions (FGDs) with identified stakeholders, which include:

- the Senate MIS staff, who will be maintaining the system once it is deployed;
- the Senators and their staff, who will be using the knowledge generated by the system to aid them in their legislative duties;
- academe-based researchers, non-government organizations, government offices, including the Philippine Commission on Women, and the media, who will be evaluating the impact of the system; and
- select interested public.

After defining the stakeholder requirements, a functional prototype was designed and developed through rapid development cycle, with continuous verification of stakeholder requirements. Prototype development entails use of programming and database management platforms. A system quality assurance group was formed for internal quality control for the system capabilities and documents. As the study is being undertaken, regular validation of prototype was conducted with the Senate MIS staff and Senate's BRC staff. As one of the main users of the eParticipation system, their feedback and comments were, as much as possible, incorporated into the system's design. During these validation sessions, the Senate users were able to anticipate the possible changes/improvements in their processes and methodologies in case a full-scale eParticipation system is deployed.

The final phase deals with the evaluation and final verification of the system capabilities with the stakeholders through pilot-testing techniques. External experts were tasked to evaluate and benchmark the prototype's capabilities. Lessons learned from the process of design and implementation were documented.

2.0 Components of the eParticipation System

Using the rapid applications development approach, the design and the implementation of the eParticipation system with its components are described in this section. The components are

mainly the web portal, the document management system (myDMS), the case management system: *eKaso* (in English, eCase), and the forums for expressing citizens' views: *talkingPoints*, and *eKomunidad* (in English, eCommunity). The web portal holds together the different components of the eParticipation system. It includes the links to the other components. It is also a venue for information dissemination.

2.1 DMS: myDMS

myDMS is an open-source document management system that is used to track and store electronic documents related to the on-going cases under Senate BRC. To facilitate efficient search and retrieval of these voluminous documents, the study utilized an NLP tool called information extraction (IE) that extracts relevant information in a document and stored them in a structured format. The IE engine eliminates the need to manually read entire documents and manually provide searchable keywords for each document. This allows recently uploaded documents to be readily searchable and retrievable. Equally important is the structured data output of the IE engine from these documents that contribute to a growing database suited for knowledge mining.

The Senate's BRC is constrained by regulations that documents duly signed, endorsed, and stamped are the only official documents of the committee allowed. Some of which are considered confidential, and others can be released to the public if needed. This means that the documents released by BRC are only those that have gone through the process. Computationally, these documents have to be scanned, recognized (through an optical character recognition system), edited and finally, used as a document by the system. For the current implementation of the IE engine, 100 documents have been reviewed by the BRC, and relevant entries in the documents have been identified for the templates necessary for each kind of document for information extraction.

The IE system was trained using 50 documents involving different types such as notice of hearing, agenda, order, subpoena, scenario, hearing invitation and hearing highlight. All of which were provided by the Senate's BRC. The system was evaluated using another 50 documents from the Senate's BRC as compared to a manually-derived gold standard for those 50 documents. The testing obtained an accuracy of 95.42%

2.2 DMS/CMS: *eKaso* (or eCase)

Though originally not part of the study, *eKaso* was conceptualized to address the problems of data handling, updates, retrieval and processing of the complaint cases filed at the Senate's BRC. The study implemented a web-based centralized solution for the handling of these cases, as well as its quick retrieval at various locations. A timeline to visualize the progress of the cases at hand are displayed. *eKaso* addresses the top-down or push of information from the BRC to the concerned citizens.

2.3 Forum: *talkingPoints*

To allow active participation among various stakeholders, the study designed *talkingPoints*, a forum-based opinion-solicitation tool using Web 2.0. Here, participants may contribute their opinions on a proposition posted by the moderator. Using NLP techniques, these opinions are

identified and then organized according to their sentiment (i.e, positive opinions, negative opinions, and neutral opinions). Engagement in this component follows the bottom-up consultation of citizens by a government agency.

The NLP process involves the classification of the users' inputs between opinions and non-opinions. Opinions are further classified by polarity (positive, negative or neutral) and by topic, and presented the results of the process graphically. On the other hand, non-opinions such as quoted texts, are not included in the subsequent phases of classification and clustering. Knowledge-bases used include SentiWordNet [4] using the synsets of adjectives and adverbs in the contexts. Currently, the opinion detection and classification, as well as data clustering, only process English commentaries. Attempts have not been made to include multilingualism in its analyses (e.g. code-switching between local languages like Tagalog or Filipino and English).

To test the talkingPoints module, 1002 commentaries tackling 22 topics were taken from a local newspaper's website, the Philippine Star [5] and served as data for evaluation. The output of the system was compared to a manually-classified (through a linguist) commentaries to whether these are opinions or not. The system showed an accuracy of 53.83%. The knowledge-base to support the opinion clustering has to be populated and contextualized, and the integration of linguistics rules and knowledge has to be explored so that a greater accuracy can be obtained. Semantics such as double negatives have not been properly detected by the system, and affects its classification. For instance, the statement "I hope Noynoy does not fail us" outputs a high negative score, rather than a positive score because of the double negation.

Management of the forums and netizens (or e-citizens) as well as the processes adopted for promoting, regulating and cultivating skills of netizenship are very related and in fact, determined the configuration and business processes of the 2 forums (talkingPoints and eKommunidad), which also considers inclusivity and exclusivity [6]. The following research questions arose during the conceptualization of the business processes and forums configurations:

- Who should be the moderator of the forums that will manage the discussions?
- In advocating eParticipation for all, the forums should be open to all citizens. How are the identities of the participants verified? What if some groups have certain agenda to manipulate or dominate a discussion forum? If identities are verified, would concerned citizens openly contribute their own opinions about highly controversial issues of national significance?
- What kind of democratic theory are we advocating and reinforcing? How will participants be invited into the forum? Who chooses the "appropriate" participant?

There are other open questions that need to be addressed in the study: What mechanisms should be in place to motivate people to join such forums? How will people know that such a forum exists? What mechanisms should be in place for e-citizens to establish trust such that their opinions would really impact and influence policy-making?

2.4 Forum: *eKomunidad* (or eCommunity)

Being a virtual community, the identified queries and concerns in talkingPoints led to the integration of another forum called *eKomunidad* (meaning, eCommunity). *eKomunidad* can be seen as a virtual community of non-government organizations, concerned citizen groups, media, and others, that can influence policy-making. The virtual community will be created and maintained by the community itself [7]. Membership to the community is verified and approved by the community itself, and should also be self-managed. Creation of forums and their respective topics are also undertaken by the community. Participants in the forums will only include the community members. Marginalized people groups such as the youth, physically-handicapped and women would have their clear voice in the *eKomunidad*, since they will be represented by their recognized organizations.

3.0 Recommendations

Adhering to the descriptive-applied research tenets, the authors used the e-Transformation concept and rapid applications design approach to highlight the major findings and initial recommendations. **Table 1** provides a summary of the system feature and the possible implications of implementing an e-Participation system in the Philippine Senate.

Based from the possible implications mentioned in **Table 1**, the authors recognize the need to adopt an e-Transformation perspective due to the limitations of a purely technology-centric view. For one, the initial findings show that e-Participation is not only composed of an application (e.g. information system), but must be treated as an organizational-social phenomenon that is composed of many factors, mechanisms, agents, and dimensions. Adopting an organizational-social phenomenon view brings forward the idea of treating e-Participation in the Philippine Senate as an “ecosystem” of factors that can be enumerated as the following:

- a) **need to formulate structures and policies-** the researchers believe structural adjustments and policy foundation provides a solid base for e-Participation in the Philippine Senate. Without these organizational factors, e-Participation applications and systems will only remain as pilot projects;
- b) **need for e-Leadership-** sponsorship remains a crucial factor in ensuring sustainability of e-Participation in the Senate. The ICT and good governance agenda (or plan) should be viewed as mutually inclusive. This calls for treating knowledge-information as important resources for good governance and ICT as an enabler;
- c) **inclusion strategy for vital stakeholders-** participation of civil society groups and even the private sector are important for credibility and relevance of e-Participation; we also noted the need to have a strategic communication plan that will encourage stakeholders to use the e-Participation application/system; and
- d) **capacity building and other concerns-** training of stakeholders and users is a must for e-Participation in the Senate. Other issues such as privacy and identity concerns that must also be addressed.

In using rapid applications design, the authors recognized the need for model contextualization for eParticipation in the Philippine Senate. Basing from e-Participation

models proposed by [11] and [6], the study identified possible sub-questions and realized the need for contextualization to the Philippine experience.

Table 1: Summary of Possible Implications for e-Participation in the Philippine Senate

E-Participation System Functions	Features	e-Transformation Issues	Information System Issues
eKaso	Provides the ability to file complaints on-line	* Possible changes in or creation of policy regarding document (complaint) verification, legal and priority issues * Privacy issues	* Security and Document Authenticity: use of image files bearing stamped documents versus use of digital signatures? * Electronic availability of linguistic resources to address multilingualism for language
myDMS	This functionality provides the ability to search and download case documents	* Who gets access to legal/case documents? * What are security requirements and priority issues?	* Levels of access rights and privileges for document retrieval and control * Storage requirements * Deployment Models: virtual machines or virtual application versus use of installer packages
Talking points	On-line forum for interested citizens;	* Privacy issues * Who manages the venue?	* Electronic availability of linguistic resources to address multilingualism
e-Komunidad	On-line community for civil society organizations (CSOs)	* Are the CSOs willing to engage? * What is the value-added appeal of such an venue? * Assurance of action: What can CSOs expect from an e-community? * Privacy issues? * Who manages the venue?	* What medium to use that encourages and maximizes participation: cellular networks and mobile/cellphone devices versus internet and web technology?

These realizations raised the following sub-questions:

- Should top-down consultation (wherein the government initiates participation) or the bottom-up approach (where the citizens influence policy-making) be followed?

- Should technology be the motivating factor in participation or should it be the users who would dictate which technology is appropriate for participation?
- How would multi-lingualism in a country with 171 local languages being used [8] and adopted or assimilated languages such as English and Spanish be considered?

On the information and technology aspect, there appears to be a need to go beyond current 2.0 models of eParticipation. Thus, the authors are also exploring the applicability of the Web 3.0 model coupled with the possible use of mobile technologies. New, innovative, and appropriate tools have to be explored to address the needs of eParticipation towards a consolidation of an inclusive Information Society [9]. The project recommends the extension for application to mobile devices, since at the grassroots, there is limited access to the internet, but extensive mobile access [10].

As an on-going project, the authors view this project a continuous engagement for the institution. The involvement in this project puts forth the question on the changing role of academic institutions in e-Development in general and e-Participation in particular: Is the academe merely a research partner? Is it both a research partner and an incubator? Can the academe be part of the overall e-Transformation equation?

With these concerns and questions, the authors recognize that these are part of the continuing ICT revolution and hopeful that these challenges can open new horizons in research and development.

4.0 Summary

In summary, this project reports the issues relating to the development of an e-Participation framework contextualized to the Philippines. The study reiterates the inadequacy of adopting a techno-centric perspective, and adheres to the idea that e-Participation must be viewed as a social-organizational phenomenon. This view is consistent with the idea of e-Transformation: look at the transformational effect of ICT in the various aspects of the organization and the individual. The issues on both e-Transformation and Rapid Applications Development (RAD) approach (as outlined in Table 1) provide insights to the gaps that need to be addressed. The study puts forward possible implications of adopting e-Participation beyond the application. The study also acknowledges the need for contextualization of e-participation models to be able to address the local requirements of the stakeholders.

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