Citizen Participation through E-Forum: a Case of Wastewater Issues

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Abstract. To promote democracy, governments have encouraged citizens to voice their opinions on a number of issues. In this paper, the Government-to-Citizen (G2C) aspect of electronic governement, focuses on Citizen Relationship Management (CzRM). The highest stage of evolution in CzRM is participative democracy. One channel to promote participative democracy is through e-forums, which can enable a government to become "citizen-centric" to reflect the concept of good governance. In Thailand, e-forums have never been used as a formal consultative channel with citizens. The government has yet to organize a formal e-forum to consult citizens as it has done in off-line public hearings. In this research, a prototype of government e-forum was developed and evaluated. The application of the e-forum is to conduct an online hearing on wastewater issues.

Introduction

E-government can be defined as the application of information and communication technology (ICT) to bring about efficiency, effectiveness, transparency, and accountability of informational and transactional exchanges within government, between governments and government agencies at federal, municipal, and local levels, citizens and businesses; and to empower citizens through access and use of information [Boukis et al., 2003]. Citizen Relationship Management (CzRM) is concerned about how government can become "citizen-centric" in providing effective services to citizens through the use of IT tools. CzRM is embedded in the phases at different level of technology and need

sophistication. The highest technology and need sophistication stage is participative democracy. E-participation can deepen public involvement in the political process by increasing the frequency and enriching the content of dialogue between citizens and government.

E-participation can be conducted through an e-forum that involves citizens in discussion with officials and/or representatives. It may focus on a particular issue or be more general. In Thailand, e-forums for the purpose of engaging citizens in decision and policy making process have never been organized. However, citizens can post their message on websites. E-forums for the purpose of posting messages and expressing oneself are held at several websites, such as www.thaigov.net/webboard/, www.khonthai.com/webboard, www.ecitizen.go.th/ webboard, www.thaitambon.com, www.parliament.go.th, www.eldi.or.th, www.bma.go.th, www.thaijustice.com. E-participation, conducted through e-forums is still at its infancy, because much development is needed so that citizens can use the Internet to participate in the decision- and policy-making of the government. There are various kinds of features involved to promote e-s for the purpose of engaging citizens in decision- and policy-making processes in foreign countries. These features can be adapted to suit the Thai environment to promote e-forums. An application for the e-forum is to conduct a citizen hearing on wastewater issues. At present, an e-forum on wastewater issues has never been conducted, and only off-line public s are conducted, which are time consuming, require a lot of manpower, and involve high cost. Through an e-forum as an additional channel, more input from citizens can be collected to help the government establish policies relating to wastewater.

Background on Citizen Relationship Management

While e-government is concerned with the use of IT for efficient functioning of government department, Citizen Relationship Management (CzRM) is concerned about becoming "citizen-centric" in providing effective services to citizens [Xavier, 2002]. The private sector Customer Relationship Management (CRM) focuses on building relationship with clients to gain brand loyalty, sales, and profit, whereas CzRM focuses on providing services to constituents who must do business with the government. Eventhough citizens cannot "shop" with another government, they can vote [Miles, 2002]. Thus, CzRM can help government satisfy citizens' needs and wants, as well as gain popularity.

The Evolution of CzRM

Most government websites start off as providing basic information only, in which automation was used for cost minimization, effective governance, and efficient administration. The increase in demand for quality services as well as the

advance in technology will force governments to be more citizen-centric. In the citizen-centric stage, the governments typically use multiple channels to deliver their services and to develop networking capabilities with different departments to provide seamless services to their citizens. The next level involves sophisticated data-mining tools to analyze and proactively anticipate the needs of citizens, customized to individual needs. Citizens will also participate in the setting of public policies and regulations. The evolution of CzRM is depicted in Figure 1.
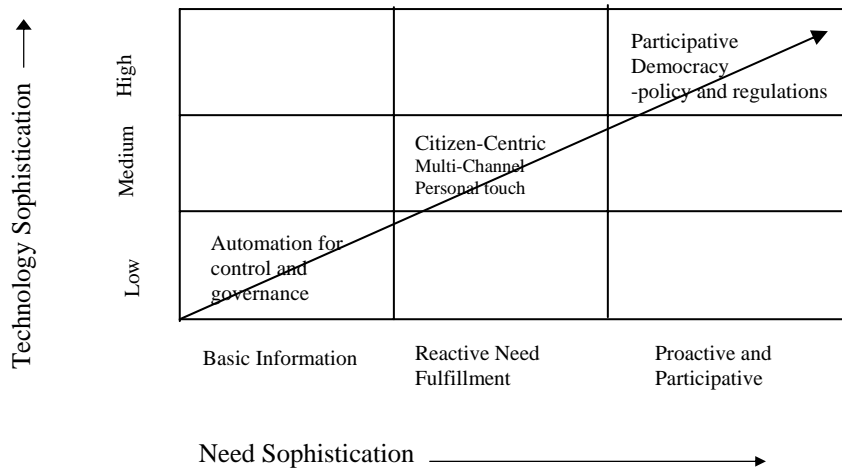

Figure 1: Evolution of CzRM (Xavier, 2002)

Participation in Decision-Making

Participative democracy has the highest technology and need sophistication in the CzRM evolution chart in Figure 1. E-democracy involves the use of ICT in support of citizen-centered democratic processes [Bend et al., 2002]. Citizens may choose from one of the following seven levels in e-participation [Mcdonough, 1999]:

- Access the information held by the government.
- On-line interaction with the government on service programs available to the public.
- On-line discussion of the issues with other citizens.
- On-line discussion of the issues with subject matter experts.
- On-line discussion of the issues with government officials.
- Contribution of ideas relative to the issues undertaken by the government.
- Voting on the issues.

Local community websites provide invaluable sources of information and a channel for people to express their opinions on local needs and priorities. Further links can be made to the local council and national government, in which global issues like sustainable development can be discussed at the grassroot level or from the bottom-up approach. The Internet can facilitate the communication

among Members of Parliament, citizens, legislators, and executives, so that policies drawn reflect the needs of the people. It is now possible for large-scale participation in policy-making. The Internet enables communities of common interest and location to exchange ideas and share interests on issues affecting their livelihood.

E-democracy also enables political parties and pressure group to provide information through the Internet. Technology acts as a catalyst to bring forth a more democratic world by facilitating communication and making information available regardless of space and time. Public services can be provided to citizens on an individual basis, and opinions and needs can be collected, acknowledged, and responded to. Facilitators can help filter and structure submission to the website enabling comparison and also help summarize the discussion and responses to participants.

The following four requirements are needed for a meaningful and quality e-consultation and e-participation: numbers, accessibility, interactivity, and effect [Acland, 2003]:

- Numbers, in this context, does not necessarily mean involving large number of people. It means involving a properly represented cross-section of the population. Quality in e-participation can also be attained by involving named individuals and allowing sufficient time period for participation, surveys, and responses to take place.

- People should have easy access to the technology, which will provide equal opportunity for them to participate. It also means integrating different technologies for those who want to participate through letters, fax, or phones. It also means providing access opportunity for people with different abilities and language by breaking down barriers. People should be able to access background information, view the comments of others, and decide on their own.

- Interactivity pertains to participants getting feedback within 1-2 weeks of a process ending. The database needs to be sophisticated to allow the organizing, referencing, and analysis of large volumes of data in responding to participants. Moreover, participants should be allowed to set agendas, make reponses, and defend their stance.

- Quality will also be determined by the perceived effect. Any form of participation must be clearly defined with specific purposes. People can track government thinking and decision-making through a consultation process, which will bring about real transparency and accountability. The process needs to be evaluated in terms of who participated, why they participated, how they felt, the effectiveness of their participation, and the outcome, to keep a record and to make improvements.

Government E-Forum in Thailand

In Thailand, Prime Minister Thaksin Shinawatra is known for his support and vision in using ICT in the government. There are several government websites where citizens can post their comments, ideas, and problems. The government websites can be categorized into three levels: national, provincial, and local.

The following are examples of e-forums held at the national government websites:

At www.thaigov.net/webboard/, the e-forum is divided into three sections:
- General public section
- Member-only zone, with the following sub-sections:
    - Comments on government services
    - Public relations and announcement
    - Comments on ThaiGov.net
- Special corner (clubs and associations)

The general public section is the only section where registration is not required. The purpose of this section is to contact administrators, announce additional legal terms and conditions, inform problems and doubts in usage. However, the posting were not sub-categorized, thus there are a variety of topics ranging from advertising, comments on abortion, to government organization asking questions. In member-only zone, under the comments on government services sub-section, members can voice their opinion on government services in all agencies, areas for improvements or give examples of government agencies that have performed well. In the public relations and announcement sub-section, members can announce activities, seminars, employment news, change of address, telephone, or website. In the Comments on ThaiGov.net sub-section, members can comments on ThaiGov.net to improve its services to satisfy citizens even more. In the Special Corner, only privileged members belonging to that particular association can gain access.

At www.khonthai.com/webboard, there are two forums, one is for discussion on political parties, and the other is a general discussion on one's topic of interest. The political party discussion forum has a total of over 420 postings; however, citizens post on any issue from advertising to arms control to education. It would be more effective if forums were classified under topics, not by date posted. There should be a moderator to censor some of irrelevant postings. Citizens may post without giving any personal information. There is no search engine.

At www.ecitizen.go.th/webboard, the purpose is mainly to allow citizens to air their views on government business and services. Most of the postings are unanswered, and the postings are categorized alphabetically. It would be more effective to categorize by topics. There are over 200 postings, and citizens do not have to register or give any personal information when posting. There is a search engine to help locate topics.

At www.parliament.go.th, the purpose of the forum is to exchange ideas about politics and democracy. No membership is needed, and postings are ordered by most recently posted. There is no search engine, and it is not categorized.

www.eldi.or.th/forumMain.jsp, or the Thai Law Reform Commission website, provides a forum for citizens to post questions, opinions and views related to legislation. No membership is needed, and topics are ordered by date posted. There is no search engine.

www.thaijustice.com has the purpose of building an understanding between citizens and the law. Postings are ordered by date posted and a search engine helps to locate postings under a specific topic. No membership is needed. It is a very active site with many responses.

Some examples of government websites at the provincial level are as follows:

www.bma.go.th, or the Bangkok Metropolitan Administration website, allows citizens to post on any topic relating to Bangkok and the government. There is no search engine, and topics are ordered by date posted. No membership is needed.

www.phuket.go.th is a provincial website that offers two e-forums. One forum is titled as Phuket Governmental Computer Club and the other is Phuketandaman webboard. The purpose of the Phuket Governmental Computer Club forum is to discuss issues relating to computer and Information Technology such as zoning for Internet cafés, negative effects of computer games, etc. No membership is needed, but username and e-mail address are required.   On Phuketandaman webboard, citizens can post topics relating to the sustainable development of the province.   From observation, citizens post very useful comments but they go unanswered. Citizens are allowed to post harsh comments which a moderator should be able to edit. Only username and e-mail address are required. There is no search engine.

www.chonburi.go.th is another provincial website that offers an e-forum. From our observation, it is a pity to see that the e-forum has turned into an advertising board. This is because the purpose of the e-forum is not clearly stated except that it is a forum for citizens to exchange ideas and viewpoints. This forum definitely needs a moderator to screen some of the postings. It would be useful to have categories to post into. Questions to the e-forum are never answered and citizens will lose interest in the long run. No membership is required, and there is no search engine.

Some examples of government websites at the local level are as follows:

At www.thaitambon.com, the main purpose is to reach people at the tambon (district) level, especially concerning commercial activities and the well-being of the tambon. It is categorized according to the following topics: General Information, Recommendations and Comments; Products Wanted; Products for Sale; Tourism; Public Announcements; Tambon Administration; One Tambon, One Product; Internet News; Complaints; Products; E-commerce; Village Funds; and Progress/Developments.   However, in each category it needs sub-forums.

No membership or personal information is needed when posting. There is a search engine, but it is not functioning properly.

At www.chiangmaicity.org, or the Municipality of Chiangmai, there is a survey form under Public Hearing, and an e-forum in which citizens can post on any topic. Therefore, the e-forum has too many slimming advertisements, and it needs a moderator to screen the postings. The main problem is that the purpose of the e-forum is not clearly stated, so there are too many topics. They should be categorized. No registration nor any personal information is required.

Development of an E-Forum on Wastewater Issue

Survey on E-Forum Features

In order to determine the features of the prototype e-forum, a survey of 100 subjects was conducted. They are students from four universities who have basic knowledge of ICT and Internet. Based on the survey, 72% of the respondents have visited an e-forum and 60% of those who have visited an e-forum have participated by posting or voting in the e-forum. The major reason for their participation are to hear the viewpoints of others, and to start a discussion. The third reason is that participation can be done in a calm and anonymous atmosphere. The major reason they like e-forums is that the topics are interesting to them, and that they can set the topic for discussion. Other reasons are that they do not have to join as members and that postings are anonymous. The main point they do not like about e-forums is that they have to sign up as members to participate. Of those who have visited an e-forum, 40% of them only observed the e-forum. The main reason is that they only wanted to read what others have to say. For those who have never participated in e-forum, topics they feel strongly about will motivate them to participate. The second and third motivating forces are that the e-forum has easy-to-use features with good design, and that participants do not have to join as members, respectively.

Interestingly, there are more respondents who agree that one should register as a member to participate in a government e-forum. However, only about 38% are willing to sign up as a member. The main reason they are not willing to sign up is that they are not interested. The second reason is that they do not think the government will listen to what they say. Sixty percent of those who are not willing to sign up will be encouraged to do so if their information is kept confidential and not shown to the public. The second feature that would encourage them to register is that there is an issuance of good citizen recognition certificates for those who have contributed meaningfully to the e-forum. Over 50% of the respondents are willing to reveal their full name and e-mail address. There were slightly more respondents who disagree that there should be a limit to the number of postings per topic per day. About 50% say there should be no limit

to the number of postings.

Also, an interview was conducted with the officers of the Wastewater Management Authority (WMA) to assess the feasibility of conducting an e-forum. From the interview, it can be concluded that an e-forum is an economical mode of communication and can be used as an additional channel where citizens can express their viewpoints. Most agreed that e-forums can help in decision-making and policy of WMA, because viewpoints can be collected to predict trends. It can be used as an additional channel to the existing channel, but cannot be used to replace it, because most locals still do not have access to the Internet. At present, due to lack of funds, there is no plan to conduct an off-line public hearing. The main purpose for conducting an off-line public hearing is to promote understanding with the public, to listen to viewpoints, opinions and ideas of citizens, in order to reduce resistance to a project by involving the public in the decision-making stage. It is also conducted to assess the feasibility of launching a wastewater fee collection tariff, and the willingness and ability to pay.

The major problems faced in past public hearings were a lack of participation and cooperation, and getting answers and questions that were not focused on the issues but related to past failed projects of the government. There is also resistance from the public and problems of strong emotion from opinion leaders who won't listen to moderators.

Recommended topics for e-forums include willingness and ability to pay for wastewater fee, wastewater tariff, awareness of wastewater problems and solutions, opinion on WMA to operating all plants in Thailand, location of waste treatment plant and public opinion on environmental impact caused by wastewater treatment plants. Other interesting topics include penalties for non-payment of wastewater treatment service tariff, project acceptance level of citizens, and the citizen's satisfaction level on the wastewater treatment service provided by WMA.

The main problem is how to motivate people to participate. If membership registration is used, one can expect very few participants as evident in some government e-forums. Those that are active sites do not require registration but only username and e-mail address, which users are not required to reveal. Therefore, based on this survey, registration should not be required, and the participant does not have to submit his/her name or e-mail address in the prototype e-forum. However, if registration is required in an e-forum, a participant should be given the option of whether he/she wants to reveal his/her full name and e-mail address to the public. Also, the moderator should be able to send warnings and remove participants who have violated the rules. Since registration is not required in the prototype e-forum, it is difficult for the moderator to send warnings or remove a participant. So the moderator will delete postings that are offensive, indecent, abusive, hateful, harassing, libelous,

unlawful, or not related to the topic under discussion. If the participant's email is available, a warning will be sent to him/her. The moderator will also publicly announce in the prototype e-forum that the posting has been deleted and provided reasons. There will be no limit to the number of postings per day. The moderator will also summarize the discussion. Participants can report any derogatory postings to the moderator. A search engine will help locate topics and postings will be labeled to reflect the writer's point of view.

System Functions

The e-forum features are selected from the results of the survey. These features help to design the system functions. There are two key players: the participants and the moderator. Figure 2 depicts the functions that can be performed by the participant and the moderator in the prototype e-forum.
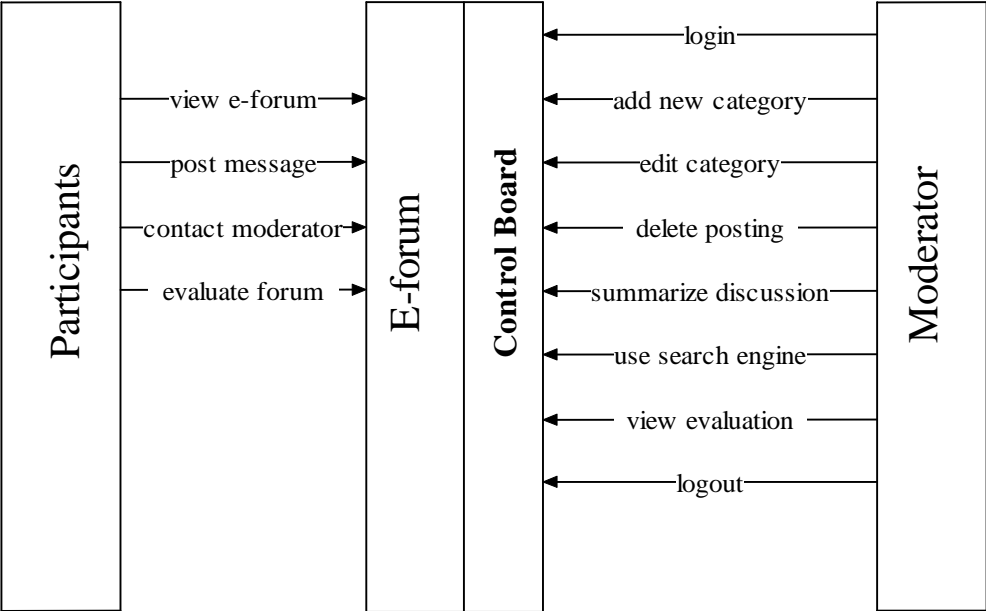
Figure 2: System Functions of E-forum Prototype

Function Hierarchy Diagram for Control Board

Moderator can perform the following main functions (see Figure 3):
- Login/logout
  The moderator can access the control board via login using username and password. The moderator can also log out of the system.
- Add new e-forum category
  The moderator can add a new category and enter background information and summary.
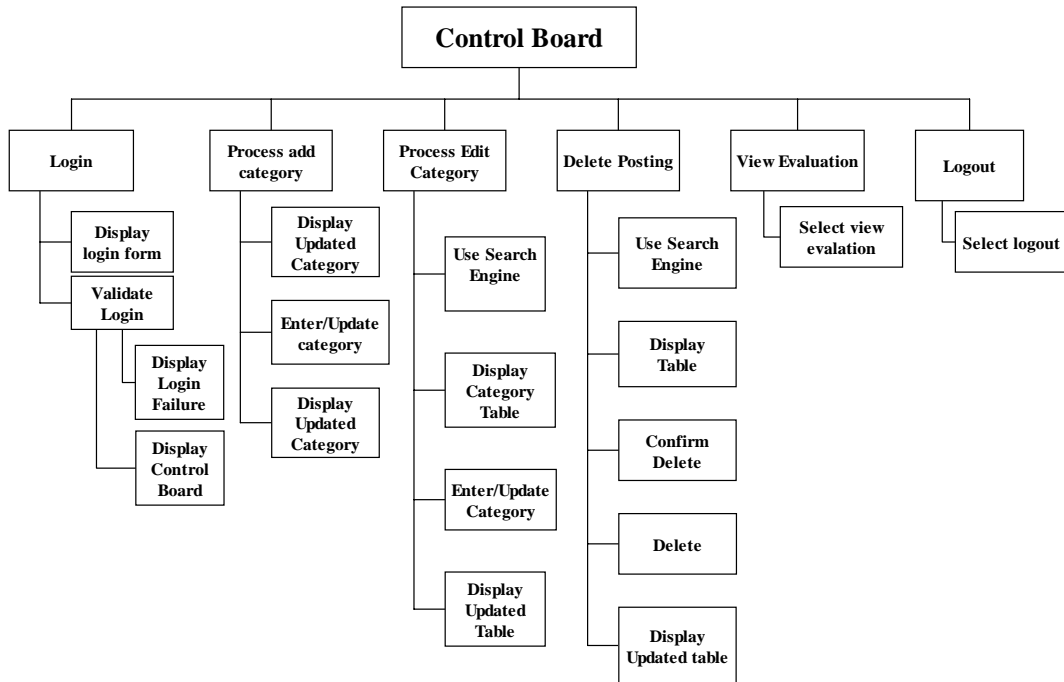
Figure 3: Function Hierarchy Diagram of Control Board

- Edit category

  The moderator can edit a category using the search engine. Category name, background, and summary can be edited.

- Delete posting

  The moderator can delete a posting. The moderator will select from among the four type of postings, which are category, question, idea, and argument. The search engine can be used to help locate the posting. A confirmation is needed to make a deletion from the database.

- View evaluation

  Evaluations made by the participants can be viewed by the moderator. The evaluation will calculate total votes and percentage of votes.

Function Hierarchy Diagram of E-forum

Participants can perform the following main functions (see Figure 4):

- View rules

  Rules and regulations including purpose and objective, are stated on this page.

- View and post a message

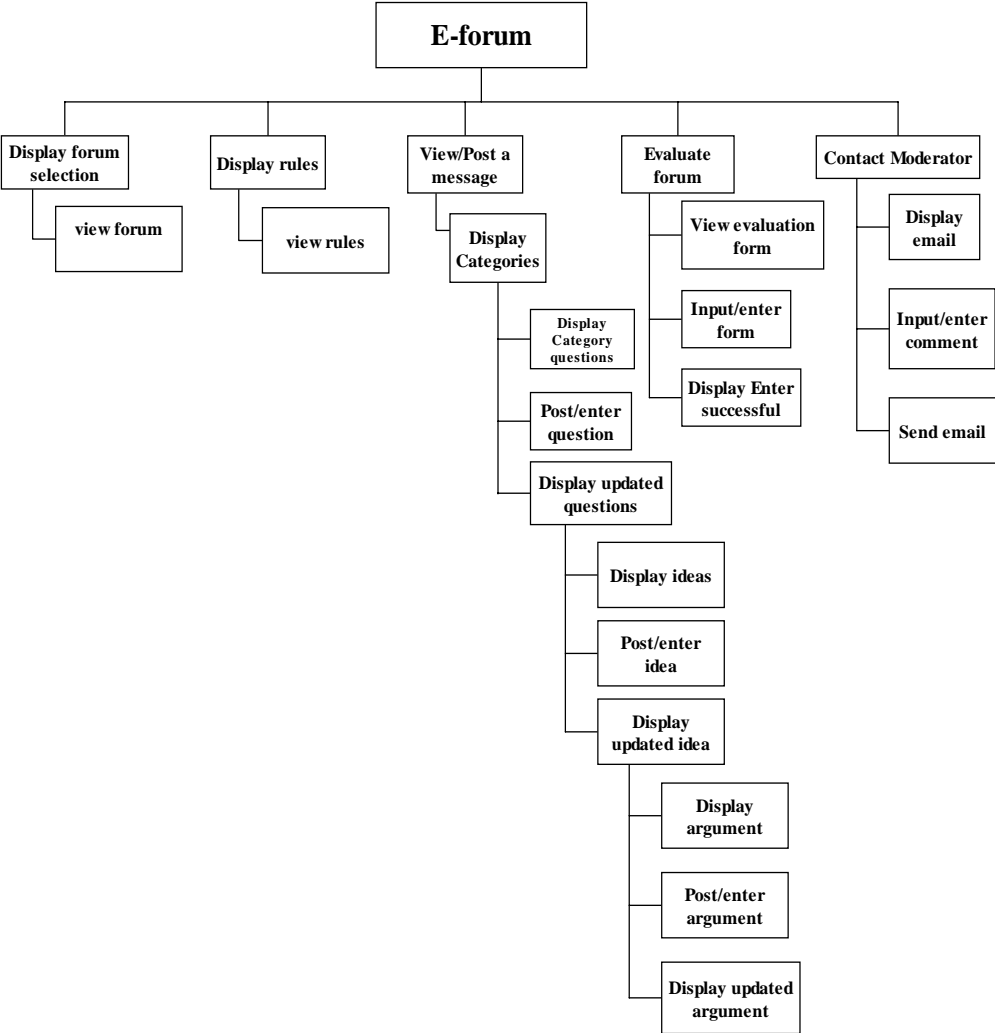**Function Hierarchy Diagram of E-forum**

Figure 4: Function Hierarchy Diagram of E-forum

Message posting is categorized according to type. Participants can make three types of posting which are question, idea, and argument. A question is denoted by a light blue box; an idea is denoted by a yellow box; a pro argument is denoted by a green box; and a con argument is denoted by a red box. The participant will type the message in the text box. Name and e-mail address are not required to make a posting.

- Contact moderator
  If a posting is a threat to the safety or security of other participants, or if it contains derogatory remarks or uses excessive profanity, the user can report the posting to the moderator.

- Evaluate e-forum

  Participants can evaluate the e-forum and submit their opinions to the moderator via the Internet.
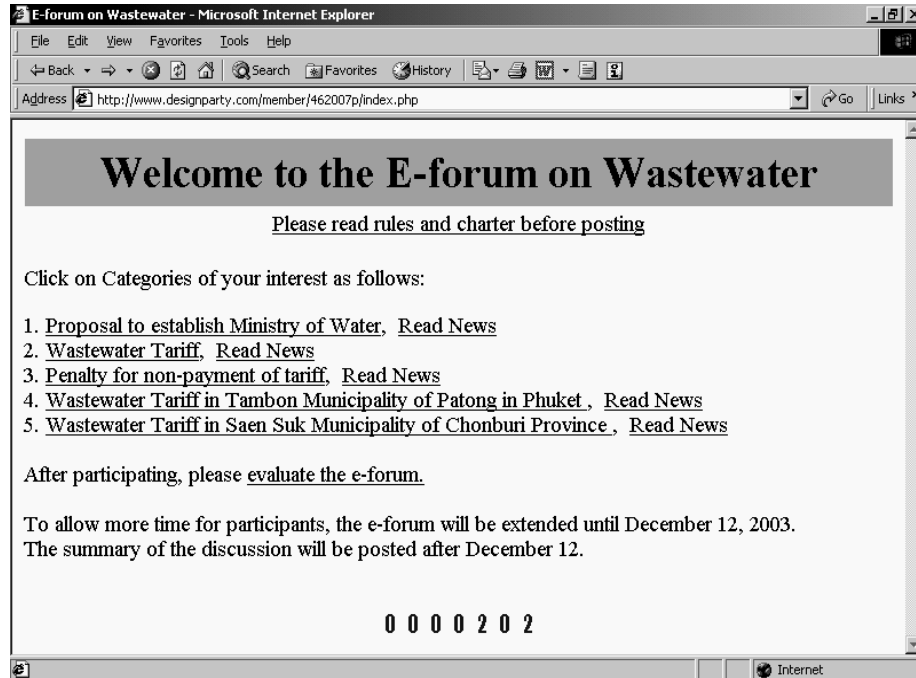

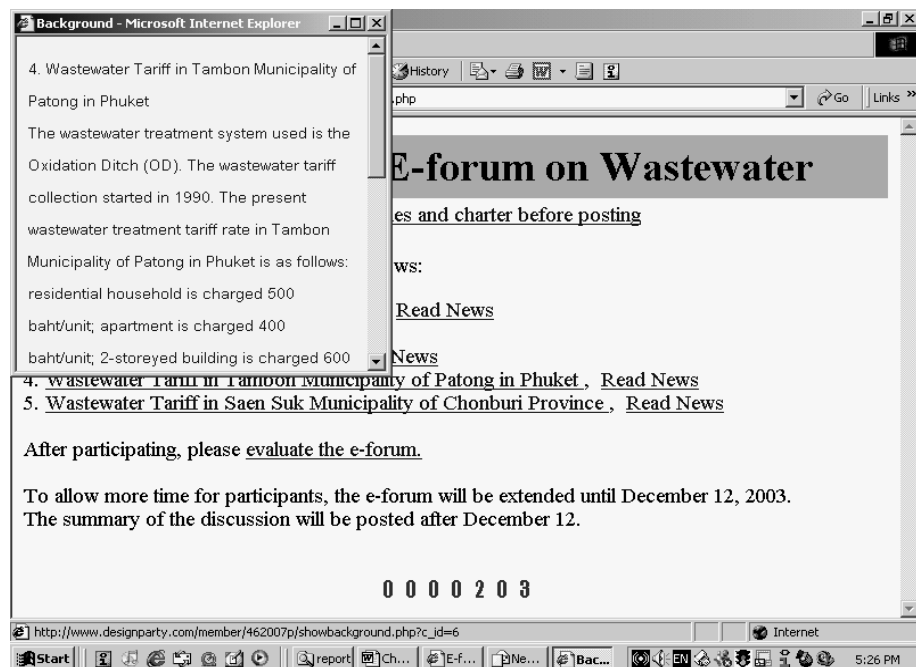Figure 5: Home Page of the E-forum Prototype

Figure6: Popup of Read News

Figure 7: Question page using category id.

E-Forum Prototype

The prototype of the proposed e-forum is implemented to show the main functions. Some sample screens are shown above. Figure 5 shows the home page of the e-forum. Participants can read rules and click on the categories of their interest. The counter shows how many times this page has been accessed.

Participants can click on "Read News" on the home page to get an understanding of the topic category. "Read News" will appear as a popup screen.

If participant clicks on a category in the Homepage, the category questions will appear as in Figure 7. Participant can go back to read the background, and ask further questions. Participant can also click on the question, to go to idea page.

Prototype Evaluation

The content of the e-forum or the application used to assess the e-forum is on wastewater issues. There are two topics for participants to select in which background information is obtained from newspapers and officially recognized sources. After the e-forum was conducted, a summary was prepared and posted on the website. For the evaluation of the e-forum prototype, 30 participants filled out the on-line evaluation form after they had participated in the e-forum. Participants were graduate students who had extensive experience using Internet.

Contents of the Forum

The topic categories under discussion in the e-forum are: 1) Proposal to Establish the Water Ministry, and 2) Wastewater Tariff. The topics chosen are current issues in the news relating to wastewater issues. The topics are interesting and debatable, and are currently being discussed by the government. The background on each topic is translated from newspapers and obtained from officially recognized sources. The aim of the background information is to give the participants a general understanding of the topic under discussion, in which participants can post further questions or ideas. At the end of the session, the summary of the discussion is posted on the website.
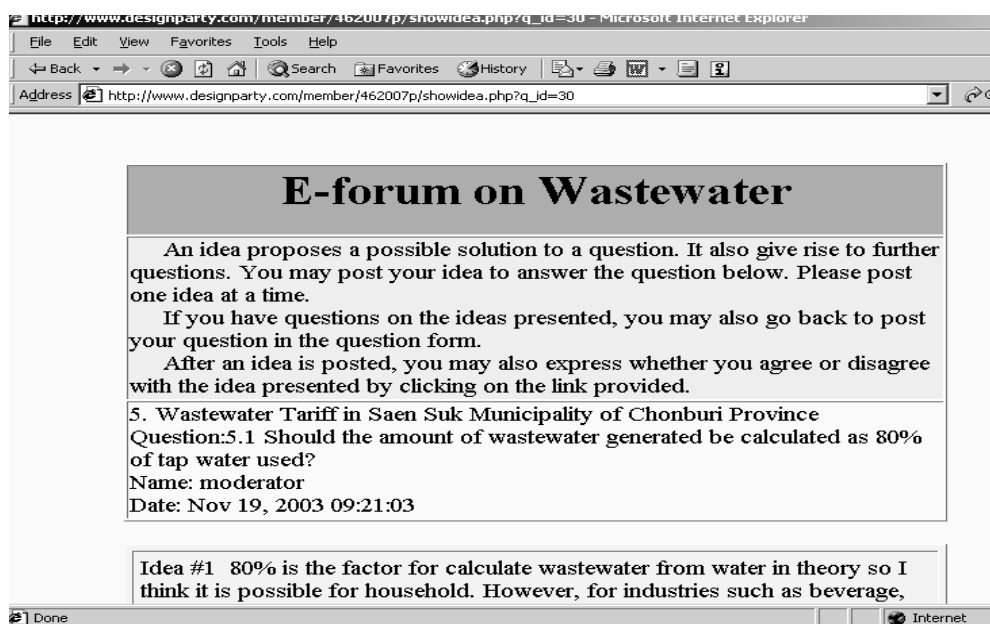

Figure 8: Idea Page

Proposal to Establish the Water Ministry

The background information on this topic is as follows:

„Mr. Samart Chokkanapitark, Director General of the Royal Irrigation Department, proposes that the government should establish the Ministry of Water to create unity by merging departments from the Ministry of Natural Resources and Environment (MNRE) and the Ministry of Agriculture and Cooperatives. At present, the problems of drought, floodings, and wastewater are handled by different ministries. If the Ministry of Water were established, the Royal Irrigation Department will act as the administrative body, and the Department of Water Resources, the Department of Groundwater Resources, and the Wastewater Management Authority will be merged together. A current issue is how the irrigation project to lay the pipelines system for the country has come to a stall for three months, because two ministries have conducted the same surveys, but obtained conflicting results. Thus, by establishing the

Ministry of Water, unity will be created, which can save time and funds." (translated from Krungthep Turakit, 13 Sept. 2003)

After conducting the e-forum, the summary is as follows:

The idea of establishing the Ministry of Water came about because the government can allot the budget for water management in a more coordinated manner. It will prevent different agencies under different ministries seeking funds for water management in overlapping projects. With the establishment of the Ministry of Water, the vision and objectives will move in the same direction, and the fixing of problems can be carried out with better efficiency and with more coordination. Depending on the merging departments and vested authority, the new integrated agency might be the Ministry of Water or Water Affairs, under the MNRE.

More ideas in the forum support the strategic reorganization of existing agencies that handle water management. Many support the improvement of effectiveness in existing organizations. However, water management needs to be dealt with in an organized manner to benefit the economy. It should involve experts to focus on the problems. The organizations' vision and objectives should move in the same direction. A suggestion was made to out departments related to water management under the Ministry of Natural Resources and Environment. An other suggestion was to set up a Water Board with strong expertise in water to handle the issues effectively, practically, and faster. They should work efficiently with fast mitigation, long-term plans and sustainable outcome.

The main problem is the overlap of authorities. If the Ministry of Water handles water resources and control the use of water, this can complicate the government system and form another redundant agency. It will also involve huge budget, mant new staff, and might not answer the country's needs, and there will be another Cabinet seat for political parties to fight over. To really solve the water management problems, it will be necessary to coordinate all parties involved with water management in the country, to discuss the issues in charting the vision, objectives, and long-term sustainable plan. It also requires concerted efforts from citizens and government staff to be environmentally conscious, considerate, dedicated, and responsible. Thus, the forum seems to support the reorganizing of existing agencies with duties relating to water management under the MNRE, but not establishing a new ministry. In addition, a Water Board should be set up to coordinate with agencies in other ministries whose duties are too complicated to move under the MNRE.

Wastewater Tariff

The background information on this topic is as follows:

„The Bangkok Metropolitan Administration (BMA) is planning to collect wastewater tariff in March 2004 in 13 districts that have access to wastewater treatment plants. The wastewater tariff for a residence is 2 baht per cubic meter, of which BMA will subsidize 1 baht/cubic

meter in the first year, and reducing the subsidy every six months by 25 satang. Thus, at the end of the thrid year, each residence will pay a total of 2 baht/cubic meter. Hotels and department stores will pay at the rate of 4 baht/cubic meter, and industries will pay at 8 baht/cubic meter. The 13 districts are Phra Nakhorn, Pomprap Sattruphai, Samphan Thawong, Bang Rak, Yannawa, Sathon, Bang Kholaem, Thung Kru, Rat Burana, Nong Khaem, Phasi Charoen, Bangkae, and parts of Chom Thong. It is expected that the Metropolitan Waterworks Authority will handle the billing of both tap water and wastewater" (translated from Daily News, 26 Sept. 2003).

After conducting the e-forum, the summary is as follows:

Most participants agree that citizens should pay for the tariff. Others think that it should be a shared cost between citizens and government, so that the tariff is affordable. And some think that government has collected enough taxes already, and wastewater treatment should be a basic infrastructure.

If citizens are asked to pay a tariff, the government should first establish a proper, fair, and reasonable tariff system and there should exist a standard system to treat wastewater. Information on plans, policy, treatment technology, efficiency, and effectiveness of the treatment system should be clear and transparent. The tariff scale should be fair and reasonable, according to the technology selected, and able to sustain the operation cost of the treatment system, so the tariff rate should be revised from time to time. Factories releasing wastewater into the environment must be required to have proper pre-treatment facilities on-site, and should be dealt heavy penalties for infringements.

Payers should be categorized according to type of users (large entrepreneurs and factories, private commercialized users, public organizations), amount of water consumed, and pollution load produced. Rather than income factor, an incentive-based rate should be considered. There should be an incentive rate for households consuming less water than the set minimum to be exempted from the tariff. This would also help conserve water. If an incentive rate were used, the tariff should be collected monthly.

Evaluation of E-forum Prototype

In the e-forum, participants can fill out an evaluation form and submit it online. Thirty evaluation responses were analyzed.

Evaluation Results

Concerning the overall view on ease of use, it can be said that the system was fairly easy to use. However, improvements in the design should be made, such as the placing of 'Previous', 'Refresh', and 'Home' links, which should be placed near the top with the use of icons, which would be more attractive. The navigation design to connect the related information was satisfactory overall; however some did not like further links of idea to argument sections, because they preferred to

see everything on one page. A search engine will help in finding information in the site.

With regard to learning, the system can be said to be fairly easy to learn. Regarding system feature design, a majority of the respondents agreed that organization of information in this e-forum contributed to effective communication. In system feature design of any e-forum, importance must be given to design layout, use of only cool tone colors, font size, and consistency of design.

Overall, a majority of respondents agreed that website postings is an effective way to conduct a discussion and understand the views of others. Most were comfortable with expressing their ideas. One strikingly high result was that most respondents agreed that the government should conduct an e-forum. Overall, the system proved to be satisfactory.

Conclusion

Citizen Relationship Management (CzRM) is concerned with how the government can become citizen-centric in providing services to its citizen through the use of IT tools. According to the evolution of CzRM, participative democracy involves the highest technology and so must be sophisticated. E-participation can be conducted through an e-forum, which is a text-based, on-line asynchronous communication system through the Internet.

The features of the e-forum website contribute to the success in conducting the e-forum. An important feature of the e-forum is whether to have registration for membership. According to the survey, some people are unwilling to sign up to participate in e-forums, but people will be most motivated to participate in the e-forums if their information is kept secret. Therefore to make participants feel most comfortable and encouraged to express their ideas, the forum should not include a registration form. A search engine is needed in the e-forum, and postings should be labeled or color-coded to show the viewpoints of the writer. The number of participants should be shown for each topic to attract viewers. The system feature design is also important. Importance must be given to user interface, design layout, use of cool tone colors, font size, and consistency in design.

After participating in the e-forum, a majority of the participants were satisfied with the e-forum prototype. It was easy to navigate, and respondents agreed that the organization of information in the e-forum prototype contributed to effective communication. A high quality of discussion was achieved from the e-forum prototype. A moderator, who plays a key role, is needed to monitor the e-forum. The moderator's role is to post/edit issues and summaries, and to delete unsuitable postings. The moderator should delete unsuitable and irrelevant

postings and give reasons why such postings were deleted. The moderator should also provide a summary of the forum discussion and post it on the website.

The government is one of the key elements that can make e-forums successful. The government needs to support the use of e-forum and integrate the ideas obtained from citizens in the policy-making process. The government should have a centralized e-forum website, in which various agencies can conduct their forums. The government should design the e-forum to have a time frame to allow sufficient time for the citizens to participate. A schedule should also be available to show the dates when the forums are being held. Important information should also be provided and involve stakeholders, decision makers, and NGOs. The government should adhere to good practice guidelines, so that e-forums will have suitable publicity, responsiveness, rules, inclusion, moderators, privacy, partnership, and training.

CzRM can be conducted through e-forums to promote participative democracy. An e-forum is considered an effective way to start and conduct a discussion. People are often comfortable with expressing their ideas in an e-forum which helps people to understand the topic being discussed and the views of others. The government should promote the use of e-forums as another channel of communication. CzRM through e-forums is a channel for government to foster good governance and to nurture the spirit of e-democracy.

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