E-GOVERNMENT FOR DEVELOPMENT:
A Descriptive and Exploratory Assessment of E-Government in the Philippines

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ABSTRACT

This study explores e-government as a potential tool in the attainment of the Millennium Development Goals of the Philippines given the current sociopolitical and economic climate. Using the UN-ASPA Stages of E-Government Model, the study described the level of e-readiness (i.e., web presence) of national government agencies in the country. At the same time, the study inquired on e-participation or the various experiences of the webmasters and IT leaders of national government agencies in attaining web presence, the issues in maintaining such, and the prospects of sustained investment on e-government infrastructures.

This study integrates the theoretical concepts of several models, particularly those of Rogers and Shoemaker's Model of Innovation Diffusion (1973), Davis and Bagozzi's Technology Acceptance Model (1981), Expectancy Values Approach to Media Gratification (1985), and the UN-ASPA Stages of E-Government Model (2001).

Utilizing both the quantitative and qualitative approach to inquiry, this study found out that the greatest number of national government agencies is either in the enhanced or interactive web presence stage. This implies that even with the current resource limitations in the country, there is an optimist outlook among the national government agencies in attaining the full realization of the country's vision for Filipinos to benefit from e-information, e-services, and e-consultation in the future.

INTRODUCTION

The authors of this descriptive-exploratory study attempts to assess the state of e-government initiatives in the Philippines as potential tool that can aid nation-building amidst the changing social, political, and economic givens in the country.

In particular, using the indicators employed in the recent United Nations reports (*UN-ASPA*, *UN Global E-government Survey 2003* and *Global E-government Readiness Report 2004 Towards Access for Opportunity 2004*), the quantitative-qualitative study aims to provide a more in-depth perspective on the e-readiness and e-participation of national government agencies in the Philippines.

The current study is inspired by the conceptual paradigms introduced by the United Nation's General Assembly when it adopted a Millennium Declaration in 2000 which emerged as the benchmark national goals of the organization's Member States. This overarching vision of the UN specifically aims to attain the following by 2015 (UN Millennium Declaration Goals 1990-2015): 1) eradicate extreme poverty and hunger; 2)

achieve universal primary education; 3) promote gender equality and empower women; 4) reduce child mortality; 5) improve maternal health; 6) combat HIV/AIDS, malaria and other diseases; 7) ensure environment sustainability; and 8) establish global partnership for development. The Member States recognize that the achievement of these goals requires a concerted effort that involves the integration of the political, social, cultural and economic mechanisms in each nation.

Apart from the eight-goal declaration included in the UN Millennium Declaration, the Member States added a provision that emphasized the importance of the new communication and information technologies in supplementing the realization of the corresponding goals set by each Member State. According to the UN 2004 Report,

> *"...in the fast globalizing world economy of today, governments [around the world] are recognizing the importance of ICT in development. An increasing number of e-government initiatives are being employed to improve the delivery of public services to the people, and to tap the potential synergy from the interaction between new technologies, an educated population and an enabling environment for the attainment of knowledge-based economies. "* (p.13)

One of the promising application areas of ICTs is e-government.   In the same UN 2004 report, it is mentioned that the ICT-driven development is emerging as the "*new development paradigm of the global economy*" (p.18). Notwithstanding the costs and concerns relative to the access to these technologies, the benefits of investing in ICTs in the internal and external transactions of the countries would eventually be favorable to the societies' keeping up with the changing dynamics in global trade, investment, information, and services flows around the world.

The same UN 2004 report, however, stated that

> "*the broad trends of e-government development around the world in 2004 reaffirm that political ideology, economic and social systems; level of development; resource availability, human and technological infrastructure; institutional framework and cultural patterns all have a bearing on how, and how well, both e-government and ICT-for-development initiatives are utilized*"
> (p.133).

Thus, the UN reports emphasize that in contemporary times, the countries must go beyond addressing concerns on the Digital Divide-which currently simply dwell more on the issues of infrastructure--but more on the "access divide"- which talks more on the comprehensive perspective in considering other factors, i.e., the penetration of technology tools/devices, government leadership supportive of technology, education directly supportive of technology, culture of technology and the global language of technology (UN 2004).

In line with the UN's vision of uplifting the various aspects of livelihood and subsistence in the global atmosphere, the Philippines has similarly outlined the corresponding nationwide development goals that will serve as the guideposts of the development

efforts of the various sectors in the country. The Medium-Term Philippine Development Plan 2004-2010 (NEDA Report, 2004) sets priority in developing the five (5) main ICT service areas that are significant in the country's economic development which are: 1) contact centers; 2) animation and software development; 3)medical transcription; 4) business process outsourcing; and 5) engineering and design services.

In general, the MTPDP 2004-2010 aims to reduce the cost of connectivity, develop the ICT human resource, and to pursue the regulatory and legislative reforms in support of the ICT goals of the country.   In specific, the government aims to create the Department of Information and Communications Technology (currently the Commission on Information and Communication Technology or CICT) that will spearhead the policy-making and implementation of such policies to enhance and develop the ICT industry in the country. Also, the existing National Computer Center (NCC) works arm-in-arm with the CICT in working on the latter's initiatives.

The Philippine government aims to continue to allocate the e-government fund in supporting and facilitating the ICT projects of the country. The main priority of the e-government fund is to align the ICT efforts of the national government agencies (NGAs) to the 10-point agenda of the Arroyo administration. Some of these priorities are 1) jobs generation; 2) access to quality education; and 3) establishing a nationwide digital infrastructure (Casiraya, 2005).

The National Computer Center (NCC) is the "*leading arm of the administration's ICT thrust by forging strategic alliances with the private sector, coordinating ICT activities, developing human capital, promoting ICT utilization in all sectors of the society, and advocating Philippine ICT services worldwide*" (www.ncc.gov.ph).   As an initial Memorandum of Understanding between the Presidential Economic Staff and the Department of National Defense Computer Center in 1968, NCC was officially established under the Executive Order 322 as the chief ICT player in the country in 1971. Hence on, the legitimacy of NCC as an institution has been strengthened by the numerous presidential decrees and executive orders issued by the succeeding presidential administrations. One of these was the passage of the E-Commerce Act (RA 8792) which mandated NCC "*to play a major role in policy planning and implementing the E-commerce policies and interconnection among and between the government agencies and the private sector*".   Under this EO, NCC was expected to work closely with the Department of Transportation and Communication and the National Telecommunications Commission in setting up the RPWeb.

At present, the CICT-NCC is spearheading the creation of the E-Government Portal Project, a one-stop shop portal which will facilitate easier online navigation and transactions involving various governmental agencies, the private sector, and the non-government organizations from the end-user's end. The portal aims to link the various online services of the key NGAs in the country, thereby offering more direct and streamlined transactions. This portal primarily differs from *www.gov.ph* in a sense that the former is more citizen-centric, as compared to the latter which appears as the official website of Malacañang.

One of the requirements of the establishment of the E-Government Portal project is attaining web presence among the concerned offices. At this stage, the CICT-NCC is currently providing the policy framework and technical guidance to the offices in creating and/or improving their own websites.

In line with this, the authors of the current study believe that tracking the level of adoption, usage, and/or diffusion of ICTs in the Philippine society (i.e., web presence of the NGAs, in this case) will aid the nation in better understanding the challenges and opportunities of the application of such technologies to nation-building in general. It is within this premise that the discourse of this study operates on.

RESEARCH QUESTIONS

The current study has two primary objectives. On the one hand, the quantitative objective of the study is to describe the level of e-readiness (i.e., web presence) of the government agencies in the Philippines by using the UN ASPA Stages of E-Government Model.

On the other hand, the qualitative section of the study aims to explore the various experiences of the webmasters and IT leaders of the national government agencies (NGAs) in attaining web presence, the issues in maintaining such, and the prospects of sustained investment on e-government infrastructures.

Below are the specific research questions that the authors will attempt to discuss in the study:

I. General Question

Given the current sociopolitical and economic climate in the country, will e-government contribute to the attainment of the country's Millennium Development Goals?

II. Specific Questions

A. Quantitative

Using the First Quarter 2005 Report on the State of Web Presence of National Government Agencies of the CICT-NCC, what is the current level of e-readiness of the national government agencies (NGAs) in the Philippines?

B. Qualitative

    a. How does attaining online presence among NGAs support their respective vision, mission, and goal statements?

    b. What are the NGAs' internal resources and/or assets that sustain their online presence (i.e., via official websites)?

    c. What are the external factors that shape the rate and level of adoption of e-governance mechanisms in the NGAs?

    d. What are the internal and external factors that impede certain NGAs from the maximization of the potentials of e-governance in their organizational operations?

    e. What are the advantages to the NGAs in achieving online presence? If any, how are these made manifest among them? (*Insights on positive effects on the NGAs internal and external administrative tasks, the sharing of information between and among the NGAs, the delivery of their basic services, and consultation and decision-making potentials: e-information, e-services, e-consultation*)

    f. What are the experiences of the NGAs in the establishment, maintenance, and improvement of their websites?

STUDY FRAMEWORK

This study integrates several models particularly Rogers and Shoemaker's Model of Innovation Diffusion, Davis and Bagozzi's Technology Acceptance Model, Expectancy Values Approach to Media Gratification, UN-ASPA Stages of E-government as well as the UN's concept of e-readiness and e-participation.

Rogers and Shoemaker's model highlights the essential steps in an innovation diffusion process. The first step involves **knowledge** wherein "*an individual or a group is exposed to an awareness of the existence of the innovation and gains some understanding of how it functions.*" The second step is **persuasion** where "*the individual or the group forms a favorable or unfavorable attitude towards the innovation.*" This step is followed by **decision** where "*the individual or group engages in activities which lead to a choice to adopt or reject the innovation.*" The fourth step deals with **confirmation** as "*the individual or group seeks reinforcement for the decisions made.*" (McQuail & Windahl 1993 p. 74)

In the context of the present study, the first step, which is the **Knowledge Stage**, involves the government agency's knowledge of its vision, mission, and goals (VMG). It also involves acknowledgement of the online medium and the possibility of adopting online media to realize its VMG. Hence, when the government agency enters the persuasion stage, it has concrete knowledge and understanding of its VMG as well as possible ways and means to realize them. (Refer to Figure 1)

The second step, or the **Persuasion Stage**,   incorporates the Technology Acceptance Model and the Expectancy Values Approach to Media Gratification. Davis and Bagozzi

recognized that "*a number of factors influence the organization's decision about how and when to use the online medium*". *(w*ww.infothis.com/find/Technology_acceptance_model*)* According to them, there are two main factors influencing technology acceptance - perceived usefulness and perceived ease of use of the medium. Davis defined **perceived usefulness** as "*the degree to which an individual or the organization believes that using a particular system would enhance his or her job performance*" while **perceived ease of use** is "*the degree to which an individual or an organization believes that using a particular system would be free from effort.*" *(w*ww.infothis.com/find/Technology_acceptance_model*)* Bagozzi noted that there are "*many constraints in the real world such as limited ability, time constraints, environmental limits, and many others that will limit the freedom to act.*" *(w*ww.infothis.com/find/Technology_acceptance_model*)* As such, this theory deals with **perceived benefits and costs** of adopting the medium. The Expectancy Values Approach, on the other hand, states that "*media use offers rewards which can be expected on the basis of past experience with the medium.*" (McQuail & Windahl 1993 p. 136)

In the **Persuasion Stage**, the government organization considers its **internal resources** as well as the **external factors** that may facilitate or hinder the adoption of the online medium for e-governance. The internal resources include the human and technological infrastructure of the organization as well as its own financial capacity while the external resources involve the "*willingness of the country to embrace e-governance, its political ideology and commitment, economic and social systems, level of development, financial and other resources, and the country's regulatory and administrative framework.*" (UN 2004 p. 17) All these factors, in varying degree, influence the government agency's perception of the usefulness and ease of use of the online medium. In other words, the internal and external factors are accounted for in assessing the possible benefits that the agency may reap when it starts, maintains, and/or improve its website as well as the related costs that it may incur. These perceptions are also influenced by past or related experiences with the use of online media.

The third step, or the **Decision Stage**, calls for a resolution whether to **stay offline** or to **go online**. The decision to stay offline is accompanied by a caveat-decision of whether to remain permanently offline or to postpone going online until further evaluation of how best to realize the government organization's VMG is reached given the current resources and possible capital outlays.

The decision to go online, on the other hand, situates the government agency on a certain stage of technology adoption. Here, the agency decides on the degree of technology adoption that it is both willing and able to get into. The UN-ASPA proposes five stages of online presence that may characterize a government organization's website. These are (1) Emerging Web Presence, (2) Enhanced Web Presence, (3) Interactive Web Presence, (4) Transactional Web Presence, and (5) Fully Integrated Web Presence.

In Stage I or the **Emerging Web Presence**, the government agency has an official website or an official homepage. UN classifies the information found in the first stage as limited, basic, and static. In this stage, contact information is provided as well as some

Frequently Asked Questions (FAQs). In Stage II or the **Enhanced Web Presence**, users can access specific information that is updated regularly. Online services are also enhanced to include databases and sources of current and archived information where users of the site can search for a document and download data. In Stage III or the **Interactive Web Presence**, users can search specialized databases and there are facilities for online downloading and/or submission of forms. Security sites and passwords begin to emerge in this stage. In Stage IV or the **Transactional Web Presence**, users of the site are able to conduct and/or complete secure online transactions, such as paying fines, taxes, and fees through credit, bank, or debit card. In Stage V or the **Fully Integrated Web Presence**, the government provides all services and links through a single central portal. In this stage there is an integrated network of public agencies for the provision of information, knowledge, and services. (UN-ASPA 2001)

Similar to the decision to stay offline, the decision to go online is also accompanied by a caveat-decision of whether to maintain the current stage of online presence, to improve it, or even to terminate the adoption of the online medium completely.

In deciding whether to stay offline or to go online, the government agency can move back to the persuasion stage without advancing to the confirmation stage. In addition, the agency may opt to start on a higher stage of online presence without necessarily going through the younger stages of web presence. Conversely, the agency may choose to start on a younger stage, but may later on leap to higher stage. Hence, the study recognizes the fluidity of the decision process.

The decision made by the government organization is also open to confirmation brought about by experiences with staying offline or going online. This **Confirmation Stage**, which is the fourth step in the Diffusion of Innovation model, may directly influence the decision of an organization to go online, or it still may pass through the Persuasion Stage before it affects actual decision.

The United Nations defines **e-readiness** as "*the capacity and willingness of the government to use e-government for ICT-led development*" (UN 2004 p. 13). In the context of the present study, e-readiness refers to the given resources of the national government and its agencies as well as the investments they are willing to make in order to engage in e-government. E-readiness also refers to the decision to go online and the actual online presence of the organization. As such, the **E-readiness Sphere** in the model covers the stages of persuasion and decision.

On the other hand, UN defines **e-participation** as "*the quality, usefulness, and relevancy of the information and services, and the willingness of the government to engage its publics in policy-making through the use of e-government programs*" (UN 2004 p. 18). E-participation, in this research, covers the stages of decision, where the organization has actual online presence, and of confirmation, where the organization, through its online presence, interacts with its various publics. Hence, **E-participation Sphere** in this study covers the stages of decision and confirmation.

The Decision Stage is the overlap between the E-readiness Sphere and the E-participation Sphere. This area manifests the interaction of e-readiness and e-participation as the level of e-participation depends on the extent of e-readiness of the organization, and at the same time, the extent of e-readiness of the organization is influenced by e-participation experiences. This overlap, or the actual online presence of the organization, links the government and its publics through electronic governance.
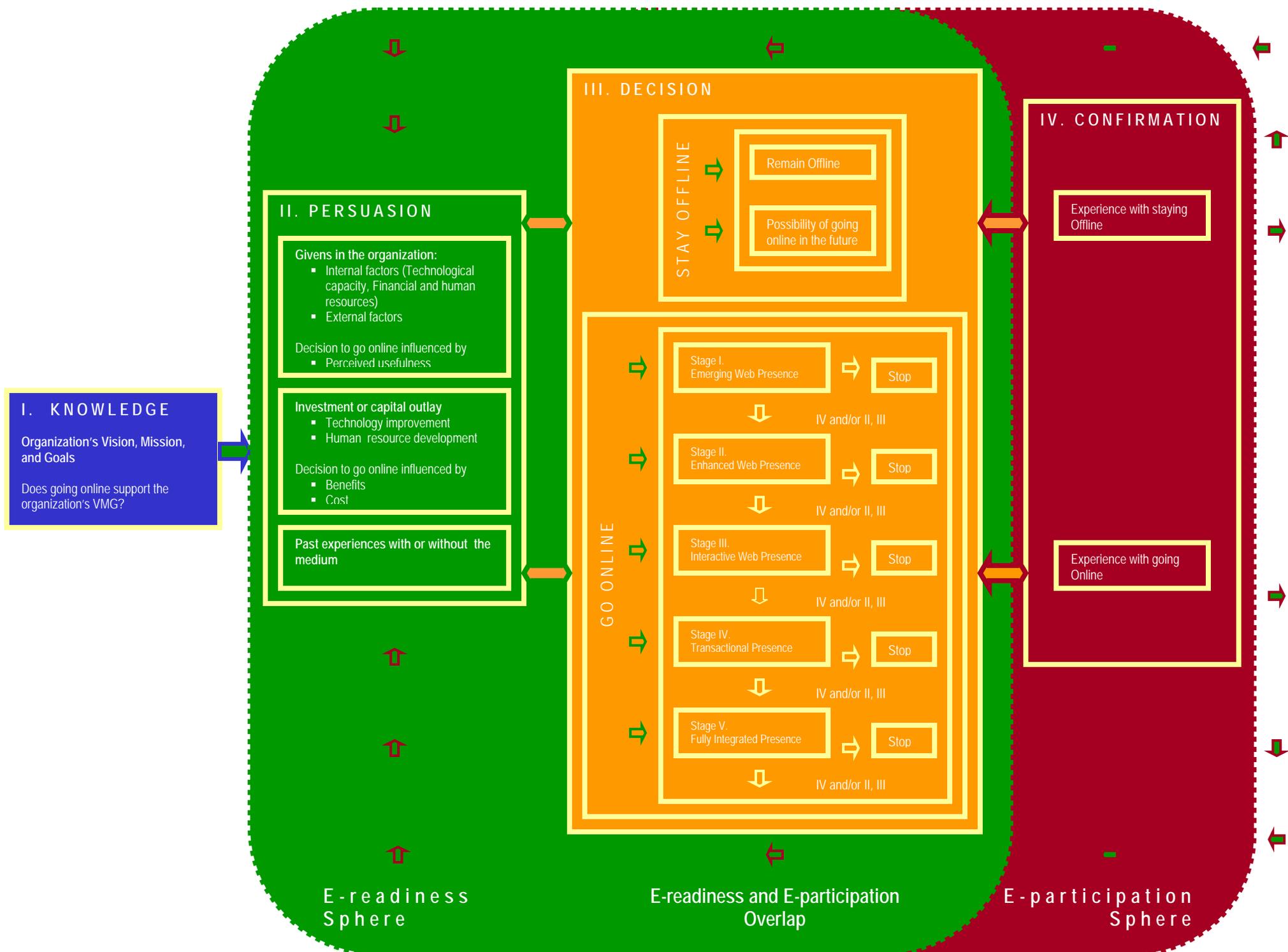
I. KNOWLEDGE

Organization's Vision, Mission, and Goals

Does going online support the organization's VMG?

II. PERSUASION

Givens in the organization:
- Internal factors (Technological capacity, Financial and human resources)
- External factors

Decision to go online influenced by
- Perceived usefulness

Investment or capital outlay
- Technology improvement
- Human resource development

Decision to go online influenced by
- Benefits
- Cost

Past experiences with or without the medium

III. DECISION

STAY OFFLINE

Remain Offline

Possibility of going online in the future

GO ONLINE

| Stage I. Emerging Web Presence | Stop |
| IV and/or II, III |

| Stage II. Enhanced Web Presence | Stop |
| IV and/or II, III |

| Stage III. Interactive Web Presence | Stop |
| IV and/or II, III |

| Stage IV. Transactional Presence | Stop |
| IV and/or II, III |

| Stage V. Fully Integrated Presence | Stop |
| IV and/or II, III |

IV. CONFIRMATION

Experience with staying Offline

Experience with going Online

E-readiness Sphere

E-readiness and E-participation Overlap

E-participation Sphere

Fig 1. Integrated Model of E-government

METHODOLOGY

I. Research design and methods

This descriptive and exploratory study on e-government in the Philippines takes full advantage of the benefit of using both the quantitative and qualitative approach to inquiry.

From the quantitative dimension, the First Quarter 2005 Report on the State of Web Presence of National Government Agencies released by the Commission on Information and Communication Technology-National Computer Center (CICT-NCC) is presented. For the qualitative angle, focus interviews of the ICT team of selected government agencies were conducted in order to explore their state of e-governance. As a follow-up to the First Quarter Report of CICT-NCC, the Director of Plans Review and Monitoring Office of CICT-NCC as well as the Project Head of the E-government Compliance Monitoring Study were interviewed.

II. Sampling and criteria for selection

All national government agencies were studied by the Plans Review and Monitoring Office of CICT-NCC for the E-government Compliance Monitoring Survey.   Hence, a total of 375 agencies were evaluated. These agencies are the following: Office of the President and the offices under it, Office of the Press Secretary and its organizations, National Economic and Development Authority and its attached agencies, all department offices and their sub-offices, constitutional commissions, judicial branch, legislative offices, as well as Government Owned and Controlled Corporations (GOCCs).

Seven government offices were purposively selected to represent the various stages in the UN-ASPA Stages of E-government. The heads of information systems group of these agencies, as well as the webmasters and/or members of the ICT team of these offices were interviewed. Stage I is represented by the National Housing Authority (NHA); Stage II by the Department of Foreign Affairs-Office of the Secretary (DFA-OS) and the Commission on Higher Education (CHED); Stage III by the Department of Social Welfare and Development-Office of the Secretary (DSWD-OS), House of Representatives (HOR), and Philippine Economic Zone Authority (PEZA); and Stage IV by the National Statistics Office (NSO).

III. Variables and measures

In examining e-government in the country, the authors needed to find out the state of web presence of government organizations. Such data is monitored by the CICT-NCC, and as such, were used by the authors in this study.

Based on the UN-ASPA Stages of E-government, CICT-NCC evaluated the web presence of the national government agencies using the following characteristics and/or features:

Table 1. UN-ASPA Stages of E-Government

STAGE	CHARACTERISTICS/FEATURES
Stage I **Emerging Web Presence**	Presence of telephone numbers, postal address, e-mail address, services offered, FAQs, mandate, organizational structure, Republic Acts, issuances, memos, policies, programs, and projects
Stage II **Enhanced Web Presence**	Indication that the available information or data is updated in the past 1 ½ months; forms are available in either html, word, zip, or pdf file; presence of search function, site map, message board, feedback from, contact us, guestbook, text facility, newsletters or publications, news, press releases, announcements, bid announcement, purchase information, departmental portal, links within the department, regional offices, and field offices
Stage III **Interactive Web Presence**	Presence of the following: downloadable forms in pdf; specialized databases or statistics; online submission of forms; interactive elements such as chatroom, forum, discussion board; user log-in and password either for internal use or public; national government portal, links to other agencies outside the department, links to LGUs or other international links
Stage IV **Transactional Web Presence**	Public user log-in and password not exclusive for internal use, secure link, online payment, confirmation of request either through e-mail or acknowledge receipt, display of security and privacy policy, government portal with links to specific services
Stage V **Fully integrated Web Presence**	All information and services may be accessed through a single portal; features cohesive interface covering all attached and concerned agencies; frontline services are fully transactional online

Source: E-government Compliance Monitoring Instrument by the Plans Review and Monitoring Office of CICT-NCC

On the other hand, the following concepts were indicated by:

Table 2. Stages in the Diffusion of Innovation

Knowledge	Nature of the organization and how going online support the organization's VMG
Persuasion	State of technology, financial and human resources as well as the factors and conditions outside the organization that support or hinder the establishment, maintenance, and/or improvement of the website
Decision	Plans of maintaining and/or improving the website
Confirmation	Experience of the organization in starting, maintaining, and improving its website

IV. Research instruments and data gathering

Two sets of instruments were used in this study: 1) the Criteria on Evaluation of the National Government Agencies' Web Presence used by CICT-NCC for the E-government Compliance Monitoring Study which is based on UN-ASPA Stages of E-government, and 2) interview guide for the focus interviews.

Since the evaluation report of the national government agencies' web presence covered the first quarter of 2005, the online features of the websites reviewed only captured this period. The focus interviews, on the other hand, were conducted during the month of May 2005.

V. Data analysis

The data from the CICT-NCC monitoring study as well as the data gathered from the focus interviews were summarized and grouped under appropriate headings/categories following the study's main objectives.

RESULTS AND DISCUSSION

I. Quantitative findings: State of web presence of national government agencies

The Commission on Information and Communication Technology-National Computer Center (CICT-NCC) conducted an evaluation of the state of web presence of national government agencies in the Philippines in the first quarter of 2005. The evaluation revealed that the greatest number of these government agencies is either in the Enhanced Web Presence Stage (Stage II) or in the Interactive Web Presence Stage (Stage III). While only a small number of government agencies are classified under the Emerging Web Presence Stage (Stage I), an even smaller percentage exhibited Transactional Web Presence (Stage IV) characteristics or features. (Refer to Table 3)

Government agencies in Stage II (41.9%) own websites that managed to regularly post updated information, uploaded documents that may be downloaded or ordered online, provided search and e-mail features, as well as features for posting comments and feedback (CICT-NCC 2005).

The Commission on Higher Education (CHED) falls under this stage. The CHED website features *TRACER* or the Tracing Actual Career Experience Report which is a facility for enrolment, graduate, and faculty quick count. The site also has a Short Messaging System (SMS) facility called *Text CHEDCENTRAL* where the public can send their comments or feedback (CICT-NCC 2004).

Following closely are agencies classified under Stage III accounting for about a third of all the national government agencies (30.4%). Websites under this stage contain specialized databases and/or statistics and forms that can be downloaded and/or submitted online. Users may also take advantage of the interactive features of these websites such as chat rooms, forums, or discussion boards. These websites may also have secure links and may even require users to log and to key-in their passwords prior to accessing certain information (CICT-NCC 2005).

The National Council for the Welfare of Disabled Persons (NCWDP) under the Department of Social Welfare and Development (DSWD) is an example of a government agency that exhibits Stage III characteristics. The NCWDP site features a specialized database called *PWD Profiler System*. This searchable database displays profile of persons with disability by location (region, province, city/municipality, barangay). In addition, the site also features online application and submission of *Transport Discount ID Card* for persons with disabilities (CICT-NCC 2004).

Furthermore, the website of the House of Representatives (HOR) features *Online Query on House Bills and Resolutions* where users can check the status of the Bills. The HOR site features *Online Polls* where visitors of the site can vote for the approval of specific House Bills currently under plenary debates (CICT-NCC 2004). Philippine Economic Zone Authority (PEZA) website is also classified under Stage III. The PEZA site enables authorized users to submit their monthly performance report online through the *Monthly Performance Online Reporting* facility (CICT-NCC 2004).

Only 15.7% of the national government agencies have websites classified under Stage I. These 59 websites merely provide static information such as the mandate and structure of the organizations, basic contact details, and FAQs. The National Housing Authority (NHA) is classified under Stage I (CICT-NCC 2005).

Then again, only the smallest percentage of national government agencies is able to reach Stage IV (2.1%). These eight agencies under Stage IV allow their users to conduct secure transactions online. The National Statistics Office (NSO) website falls under this stage. Its *e-Census* facility allows the public to apply or request for civil registry documents such as birth, marriage, and death certificates online as well as to verify the status of their requests. The site also enables users to pay for the requests made online either through the PORT Payment Gateway, via credit card, Union Bank, Kabayan Central Networks Inc., or its corresponding foreign banks (CICT-NCC 2005).

On the extremes, 9.9% of the population of government agencies has failed to attain web presence as of the first quarter of 2005 and no government agency exhibited Stage V characteristics or the Fully Integrated Web Presence (CICT-NCC 2005).

In order to achieve a fully integrated web presence, the CICT is spearheading the development of the E-government Portal through the E-government Project. This project envisions offering all government services and links through a single central portal where there is no defined demarcation between various agencies and departments.

Table 3. State of web presence of national government agencies

National Government Agency	UN-ASPA Stages of E-Government								Without Web Presence		Total
	I		II		III		IV				
	f	%	f	%	f	%	f	%	f	%	
Office of the President (OP) including the offices under OP	7	17.1	19	46.3	4	9.8	-	-	11	26.8	41
Office of the Press Secretary (OPS) and offices under OPS	4	44.4	3	33.3	1	11.1	-	-	1	11.1	9
National Economic and Development Authority (NEDA) and its attached agencies	-	-	3	50.0	2	33.3	1	16.7	-	-	6
Department of Agrarian Reform (DAR) and sub-offices	-	-	-	-	-	-	-	-	6	100.0	6
Department of Agriculture (DA) and offices under DA	5	23.8	11	52.4	5	23.8	-	-	-	-	21
Department of Budget and Management (DBM) and offices under DBM	-	-	-	-	18	100.0	-	-	-	-	18
Department of Education (DepEd) and offices under DepEd	2	16.7	10	83.3	-	-	-	-	-	-	12
Department of Energy (DOE) and sub-offices	-	-	2	28.6	5	71.4	-	-	-	-	7
Department of Environment and Natural Resources (DENR) and sub-offices	1	12.5	4	50.0	3	37.5	-	-	-	-	8
Department of Finance (DOF) and sub-offices	2	18.2	1	9.1	3	27.3	2	18.2	3	27.3	11
Department of Foreign Affairs (DFA) and offices under DFA	-	-	8	88.9	1	11.1	-	-	-	-	9
Department of Health (DOH) and sub-offices	9	40.9	10	45.5	2	9.1	1	4.5	-	-	22
Department of Interior and Local Government (DILG) and offices under DILG	-	-	3	33.3	6	66.7	-	-	-	-	9
Department of Justice (DOJ) and sub-offices	5	45.5	3	27.3	2	18.2	-	-	1	9.1	11
Department of Labor and Employment (DOLE) and offices under DOLE	-	-	9	64.3	5	35.7	-	-	-	-	14
Department of National Defense (DND) and sub-offices	2	14.3	10	71.4	1	7.1	-	-	1	7.1	14
Department of Public Works and Highways (DPWH) and offices under DPWH	-	-	6	100.0	-	-	-	-	-	-	6
Department of Science and Technology (DOST) and offices under DOST	1	4.8	10	47.6	9	42.9	-	-	1	4.8	21
Department of Social Welfare and Development (DSWD) and sub-offices	-	-	3	75.0	1	25.0	-	-	-	-	4

Agency	n	%	n	%	n	%	n	%	n	%	Total
Department of Tourism (DOT) and sub-offices	-	-	3	50.0	3	50.0	-	-	-	-	6
Department of Trade and Industry (DTI) and sub-offices	1	4.5	2	9.1	19	86.4	-	-	-	-	22
Department of Transportation and Communication (DOTC) and sub-offices	2	18.2	2	18.2	4	36.4	-	-	3	27.3	11
Constitutional Commissions	-	-	3	42.9	4	57.1	-	-	-	-	7
Judicial Branch	1	25.0	1	25.0	1	25.0	-	-	1	25.0	4
Legislative Offices	-	-	1	50.0	1	50.0	-	-	-	-	2
Government Owned and Controlled Corporations (GOCCs)	17	23.0	30	40.5	14	18.9	4	5.4	9	12.2	74
TOTAL	59	15.7	157	41.9	114	30.4	8	2.1	37	9.9	375

Note: No government agency was classified under Stage V.
Source: CICT-NCC First Quarter 2005 Report on the Stages of Web Presence of National government Agencies

II. Qualitative findings: Efforts and experiences in going online

In providing a descriptive and exploratory discussion of the e-government scenario in the Philippines, the authors saw it fit to principally use Rogers and Shoemaker's Model of Diffusion of Innovation. The following discussion provides a comprehensive perspective on the existing e-government efforts and experiences of the national government agencies (NGAs) in the country by looking into the four (4) levels of innovation diffusion: 1) knowledge, 2) persuasion, 3) decision, and 4) confirmation.

A. Knowledge

The findings of this study emphasize that attaining web presence and the usage of other ICT applications across the NGAs in the Philippines primarily aim to provide a more efficient, cost-effective, and transparent delivery of basic services to the Filipino public. Similar with the vision of other countries, the findings of this study show that e-government in the Philippines is considered as a potential tool in introducing changes in the current system followed by the government, private sector, and the public in their daily operations.

Based on the national agenda of the previous and present administrations, the individual agencies in the country spearheaded their initial ICT projects based on their respective organizational vision, mission, and goals (VMG). All the interviewees of this study reiterated that their respective organizations believe that the decision to go online is VMG-motivated. For instance, the House of Representatives (HOR) started their IT operations in 1998 and its online presence supports the overall VMG of the organization, that is, *"to inform the public about the legislative-related concerns in running the country"*.

Moreover, the varying nature and functions of the operations of the NGAs is a driving factor for the latter to maximize their online presence. The nature of the operations of the organizations dictates the priority-setting of the NGAs relative to their ICT investments.

In addition to these, one of the division directors of the National Computer Center (NCC) mentioned that "*apart from the nature of such organizations, the other factor that affects the rate of ICT investments across NGAs is the need for a better and quicker delivery of services*". To her, there are some organizations that prioritize providing infrastructures for online transactions over other items because doing so contributes to a more streamlined process of application. However, there are organizations that do not see the need to go online mainly because their operations require personal and/or over-the-counter application processes.

The Assistant Director of the IT Division of the Department of Foreign Affairs-Office of the Secretary (DFA-OS), stated that the type of information and/or transactions provided in the websites of NGAs largely depend on who their stakeholders are. For instance, the services of DFA cater mainly to the large population of Overseas Filipino Workers (OFWs) around the world. As major dollar earners, the OFWs have been regarded as the modern-day heroes of the country by the amount of revenue they contribute to the country's Gross National Product. Given such importance in the Philippine economy, the DFA is continuously looking for various ways of reaching a greater number of OFWs deployed across the globe.

However, DFA uses its website "*merely for basic information-dissemination purposes.*" The Assistant Director mentioned that their website is not completely aligned to supporting the so-called Three Pillars of their organization (i.e., foreign policy-making, assistance to nationals, and economic diplomacy). He added that their website functions like an "*online business card*" wherein only the most basic information is reflected. Nonetheless, the present function of the DFA website should not be underestimated because the need to publicize information, such as the stance of the Philippine government on contemporary issues, is significant to those Filipinos abroad.

The National Statistics Office (NSO) is one of the lead agencies in the Philippines that can largely benefit from web presence and ICT applications. In the country, the NSO issues the birth certificate, the most fundamental document needed by all Filipinos in all their personal and professional transactions. It is also responsible for the national census reports that are publicized periodically.

Given the scope of the functions of the NSO, they have established two official websites that address the various objectives of the organization. In 1997, NSO created the *www.census.gov.ph* site which primarily serves as the official NSO website handled by its Information Resource Department. This site contains various information about the organization, as well as the online versions of the statistical reports that they publish. On the other hand, in order to address the continuous demand for civil registry documents, NSO responded by creating another website, *www.e-census.gov.ph*. The main objective

of this website is to provide online civil registry applications with the assurance of handling the private information of the applicants under secure and legitimate systems.

Aside from the external component of public service, the creation of websites and the usage of other ICT applications are geared towards the improvement of the internal administration of NGAs. The websites, presence of LANs, group webmails, and other automation software programs serve as tools for a more efficient and cost-effective coordination and integration of the operations of the smaller divisions within the agencies.

B. Persuasion

The interplay between internal and external factors influences the NGA's rate of adoption and sustained usage of ICT projects. The internal factors affecting the decision to go online include the agency's financial, technological, and manpower resources. Alongside these resources, online presence of the NGAs is also anchored on the different priorities set by their management. Even with favorable external factors, such as the mandate of the Philippine national government to attain web presence and integrate online applications in their services, if internal factors are weak, NGAs will have difficulty in establishing, maintaining, and improving their online presence.

Assessment of the Internal Resources

Budgetary concerns are major determinants in the decision of a government agency to extend its services to the online environment. The E-government Fund provided by the national government is targeted at supporting only some and not all of the ICT-related projects of NGAs in the country. Also, according to the Assistant Director of DFA-OS, "*in order to qualify for an E-government funding from the government, the budget must be allocated for an inter-agency endeavor*". He added that,

> "*You are not qualified to get the funding if you are not going to initiate an ICT-project that will involve another NGA. Although this is a noble goal, it, nonetheless, excludes the other ICT needs of a particular agency. In our case, for instance, our most basic need in order to even start with any of the ICT initiatives planned by the DFA is increasing the number of personal computers in the organization. But because this does not include an inter-agency scope, this cannot be funded by the E-government Fund. Where do we get the starting fund for the computers then? From DFA's own operating budget. But there are other constant payables, such as the procurement of paper and consumables, building maintenance, plus people's salaries...*"

Therefore, the NGAs have re-organized their priorities in terms of accommodating the ICT applications in the organizations. The interviewees of this research concluded that it is not surprising why there are many instances when ICT applications tend to receive lower priority than the other more immediate needs in the organizations. The IT

Manager interviewed from the National Housing Authority (NHA) further supported this by claiming that budget allocation for IT depends on the distinct personalities and managerial styles of the heads of the organizations. To quote him,

> *"What are your existing priorities at present? Answering this question will make you think hard about the proper budget allocation, especially if you are mainly relying on your corporate receipts, like us here in NHA. It all depends on the whims of the head of the organization's management. If he is an engineer, he might have a different interpretation of the VMG of the organization, if he is an IT champion, then you have a different scenario there altogether."*

Consequently, the budgetary allocations either equip or clip the NGAs from establishing, maintaining, and improving their online presence. The financial priorities set by an organization will be made manifest in the technological resources as well as the human resources that are sustained by an organization.   In terms of the former, the CHED Webmasters believe that as far as the CHED IT infrastructures are concerned, the organization is ready to maximize the full potential of the technology. The question lies as to whether their budget can sustain it over time, long after the initial phases have been implemented.

NGAs are also concerned with the proper IT background and experience of its human resource. The network administrators and personnel assigned to operate the websites should have the skills to handle the equipment as well as the software programs.   As explained by the Assistant Director of DFA-OS,

> *"...human resource is a big problem. There are only 5 people supporting over 1,000 employees here. Five [5] IT people, and what is more troubling is that these people are not really IT experts. They are technicians who are satisfied with a monthly salary of P6,000. So, I think that is a major problem because if you really want to implement projects, you have to get competent people to do it. But confined with the austerity measures, there are no items available for entry level-permanent positions. How can you expect to get a well competent web administrator, e-mail administrator, or a systems developer, when what you are offering them can't really attract bright talent? "*

Moreover, the HOR Webmaster points out the necessity of having skilled personnel monitoring the system. According to her "*because websites are maintained on a 24/7 operation, you need constant manpower to monitor them due to the vulnerability of the system.*"

Assessment of the External Factors

Aside from the three-pronged areas of concern mentioned above, the NGAs are likewise faced with external issues that, again, shape the degree of motivation for the agencies to trust the online environment for their transactions.

In attaining the E-government Portal Project of the country, the informants of the study generally mentioned that one of the factors that may hinder the swift adoption of the online technology is the issue on the cooperation and/or agreement between and among the participating key agencies.   In an interview, an NCC Director admitted that "*amidst the proposed integration of the online services of various agencies, the tendency of the key agencies to develop turf issues among themselves can hinder the progress of the project*". The smooth transition of the information from one NGA to the next requires a clear and distinct set of operation and regulatory rules that are imperative to avoid the delay of delivery of the basic services.

Related to the turf issues, the security of private information that is posted online emerges as another area of consideration. The webmasters agree that the public needs complete assurance that their confidential personal information is accessed only by authorized entities.

According to the Webmasters of the Department of Social Welfare and Development (DSWD) and the DFA, the Internet, by its very nature, is vulnerable to hacking. Thus, the NGAs believe that they should be equipped in providing proper back-up and remedial systems for hacking scenarios.

Lastly, the credibility of the online transactions also influences the motivation of the NGAs to attain and sustain online presence. The DFA informant explained that the feedback mechanisms that are currently encouraged by their website (e.g., TxtDFA, E-mail Us, etc.) should require a more dependable system that can prevent the upsurge of false and/or fake complaints and requests made by the members of the public. To the informant, "*there has to be something more than just an alias or an anonymous name of the sender for us to process the request or grievance.*"

The dynamics emanating from cost-benefit analyses regarding the advantages brought by ICT investments vs. the risk this entails embodies the decision of going online or staying offline.

C. Decision

As previously discussed, the web presence of the greatest number of national government agencies are classified under Stages II and III.   This means that most government agencies are merely disseminating information online. The information offered by these agencies ranges from static content, such as the VMG and contact information of the NGAs, to updated materials, such as news, press releases, announcements, policies, and specialized databases.

There are also agencies that offer services online. Most of these agencies have a variety of frontline services that they managed to convert electronically.

Online consultation with the agency's various publics is still limited. Reaching the government agencies is usually done through traditional channels such as personal visits, phone calls, and via fax messages. As such, nearly all government sites post these contact information although a good number included e-mail addresses. There are also some agencies that offer SMS facility for comments and feedback. Only a small number of sites have e-forum and issues-based discussion boards.

The decision to open up a website for information, services, and/or consultation is influenced by an assortment of factors. The previous section in this study dealt with the discussion on these factors which include the nature of the organization; its vision, mission, and goals; its technological capacity; the financial and human resources available; and a host of other external factors.

Due to the challenges encountered in converting information and services electronically for online access, most government agencies implement their e-government projects by phases. Most of these agencies start by digitizing their information before offering online services. Ultimately, these agencies envision offering a diverse line of transactions online and oftentimes involve integrating the database and services of various government agencies.

E-information

Government agencies continually post information in their websites. According to the Assistant Director of the DFA-OS, "*If you want your citizens to have the impression that you are doing something, you have to publicize what you are doing for the country.*"

As the website develops, the available content becomes more sophisticated. This is possible because advanced websites have the capacity to accommodate updated information and specialized databases. Website developers, more than aspiring to provide attractive portals, also strive to provide informative sites. As stated by the Webmaster of the HOR, "*What's the use of a website that is so flashy but only offers limited content?*"

This sentiment is shared by the Webmaster of CHED. It was said that the development of a website is easy and could be outsourced. However, the agency should be able to have significant content to put in that website.

Moreover, the website should not only cater to its external public but should also be useful in communicating with its internal users. The Webmaster of the HOR adds, "*The website should offer a wide range of information not only for the public but also for the users within the organization.*" This is especially useful in communicating with the agencies' regional offices. The Information Head of PEZA states that "*We have to make our website informative so that those in our economic zones do not have to go all the way to Manila just to get data.*"

In order to offer informative sites, government agencies have to digitize their database for electronic access. For instance, NSO prides itself for generating 70% of the data in the Philippine Statistical System. However, not all data are encoded in the website. Since NSO started its website in 1997, most of the data online are from 1997 onwards. According to the Director of the Information Research Department of NSO, only about 20% of NSO data are available online.

The vision of the E-government Portal Project to offer complete one-stop online services through a single portal depends not only on digitized information but also on shared database. For instance, applying for a passport requires coordination from two major offices, the NSO for the birth certificate, and the DFA for the issuance of the passport. These two offices must be able to have electronic access to a common database. In addition, this database should be secure in order to preserve the sanctity of the data.

E-service

Services offered by websites of government agencies range from downloadable forms that could be submitted either offline or online to full-blown online transactions that allow users to pay through the website. However, not all government agencies are suited for complete online transactions. For instance, applying as a PEZA-registered firm involves several phases. As stated by the Head of the Management Information Systems Department of PEZA, "*it would really take more than one visit.*" Once payment has been made and application has been approved by the Board, the signing of the document requires the presence of the head of the firm. However, there are phases in the application that could be accomplished virtually such as downloading pertinent forms and hence, visits to PEZA are somewhat minimized.

As services offered become more sophisticated, privacy should be safeguarded and security of transactions ensured. The two websites instituted by the NSO is an open attempt to address the security requirements of accessing their databases. Its *www.census.gov.ph* site, on the one hand, is primarily for disseminating information, like statistics and reports, and as such, does not demand a highly secured link. On the other hand, its *www.e-census.gov.ph* site offers more security since it enables users to conduct complete transactions online including the online payment of application fees.

In addition to secured databases, the integration of services of various agencies also demands clear delineation of functions. For instance, the CHED plans to implement the Electronic Verification Certification System for efficient checking and issuance of certificates of graduation. However, there are problems with regard to the proper signatories of the said certificate especially in inter-region issuances.

E-consultation

Most government websites have not yet maximized the Internet as a medium to consult with its various publics. There are agencies like CHED that employ the SMS facility for feedback and comments, although this merely accommodates the receipt of the incoming messages.   As such, replying to these messages involves other channels of communication instead of sending the feedback to the public via SMS as well.

The Assistant Director of the DFA-Office of the Secretary has reservations as regards the credibility of complaints sent through the DFA's SMS facility. According to him,

> *"If you are a family of an OFW having a problem and if you really want the government to take you seriously, you have to be here and you have to file something. There is a case form that you have to fill out and you have to sign it. Every case that we attend to costs money and we can't respond to someone hiding behind an alias."*

Other agencies communicate with their publics through traditional media while others utilize the online media. The HOR, for instance, has facility for e-mailing the webmaster, the committee, or the HOR member. It also has a guestbook link where site visitors can drop their comments and feedback.   The Website of the Department of Labor and Employment, on the other hand, offers issues-based discussion forum for its visitors.

Agencies like DSWD provide measures to ensure quick and substantive response to feedback and comments posted by its users. Addressing feedback and comments within a certain time period signifies that the government agency takes public service seriously.

E. Confirmation

The decision to maintain and improve online presence also depends on the confirmation received by the government agencies through the experiences of its employees and through the organizations' interaction with their various publics. Most of the agencies tapped in this study recognized the significance of having a website and indicated their plans to improve their online presence.

Establishing online presence

Most of the NGAs started their IT initiatives upon an across-the-board and multi-sectoral mandate from the national government in the late 1990s. Even with this mandate, the limited resources available posed several challenges to government agencies of a developing country. The Webmaster of the HOR recounts, *"Unlike other offices that have racks and racks of high-technology servers, when we started going online, we only had two computers functioning as servers. Even our software programs are open-sourced."*

As such, it is imperative for the NGAs to maximize the available resources. According to the Head of the Information Division of NHA, *"Given the fiscal situation of the national government, budget will always be limited. So we should stop complaining."* This pro-active behavior is apparent in the agencies tapped in this research. For instance, the HOR's Webmaster commends her team for reaching Stage III of web presence. According to her, *"Our primary strength is our human resource. I have a team of resourceful and dedicated individuals who developed a good website even with limited financial and technological capacity."*

During the initial phases of IT establishment and implementation, some of the NGAs resorted to assigning the IT-related tasks to their existing manpower who were willing and able to handle the assignment. There were also other agencies that allotted budget in hiring new items for IT personnel to work on the tasks.

As time progressed, when the organizations allocated more budgetary priorities to ICT investments in their operations, the IT functions were eventually handled by a separate division, the employee base of which is dependent on the nature and size of the entire agency itself. Other agencies that needed more advanced website features and other IT applications recognized the need to outsource the development and maintenance of these projects.

Experiencing online presence

The clear benefit of establishing online presence is having the ability to access the services of the government agencies regardless of time and space. As previously mentioned, the website caters to a wide public including its internal audience. However, employees of the organization do not always access their agency's website due to several factors such as 1) limited technology, 2) disinterest in using the new medium, and 3) disinterest in their own site.

In the case of the HOR, not all offices have Internet connectivity and as such, web access is restricted. Similarly, some employees are not as enthusiastic in learning how to use the new technology, and are more comfortable in using the traditional systems. This is observed among a number of senior employees of DFA. Because of this, information posted online is still accompanied by printed communication simultaneously routed to various offices. Conversely, some employees are at ease with the new technology but are keener in visiting other sites such as *www.friendster.com.* In order to encourage the appreciation of their website to their employees, the DSWD made it a policy to make their website as everyone's start-up homepage.

With regard to the external audience, the website serves as an additional venue for the public to access information and services. As enunciated by the IT specialist of DSWD, *"Our clients do not have to come here. They just have to visit our website."* This is especially true for the HOR as well. Ever since the HOR uploaded the status of the House Bills, and updated its audience about the progress of such status through its

website, the inquiries and personal visits about this matter decreased, as well as the requests for the thick hard copies of the texts of the Bills.

Nevertheless, the new medium may only serve as an alternative for users. PEZA, for instance, requires its registered firms to submit a monthly performance report and as such, it offered an online reporting facility for its IT firms. However, these IT firms do not consistently use this online medium to submit their reports. There are certain months when they submit online, and other months when they submit through the conventional channels. Hence, this online reporting feature only expands the options available for the PEZA-registered IT firms, and does not eliminate the traditional medium of submission.

Maintaining the website also poses challenges to the organizations. One major challenge is the lack of IT plantilla in the organizations. The MIS Director of CHED expressed this dilemma,

> *"We don't have those IT items so what we have are designated IT specialists. These are supervisors who were trained how to administer the LAN, how to process the collected data, and how to come up with a regional statistical bulletin for information dissemination. Aside from all these, these supervisors have a lot of other non-IT related things to accomplish."*

Another challenge is converting existing and forthcoming information electronically. Since NSO handles voluminous amount of census data, their efforts are directed at digitizing and uploading the information. Hence, they lack the time to improve the lay-out of their site and to increase the speed of its server.

With regard to the sharing of database, it is necessary for the government agencies to standardize the content and format of their data. This is a problem for the NHA managements since they still use DOS-based program for their data, whereas some of their linkages subscribe to more sophisticated programs.

Improving online presence

Even with the resource constraints and some unpleasant experiences in establishing and maintaining online presence, all the government agencies tapped in this research have plans to improve their web presence. These improvements encompass information, services, and features offered in the website as well as the lay-out, ease of navigation, and the like. All these improvements are geared towards better delivery of services to the public.

For instance, NSO plans to improve its www.*census.gov.ph* site by offering a facility where users can choose the data they need and customize the generation of statistics and tables.

PEZA, on the other hand, will offer online registration for their clients. In doing so, PEZA plans to link with all the agencies involved in the application. This way, a

significant part of the application process may be accomplished online. With this improvement in service, clients do not have to visit all the agencies involved to settle all the requirements. Moreover, clients do not have to frequent the zones. Improvements such as this e-registration envisioned by PEZA require the integration of information and services between and among government agencies.

In improving their websites, agencies also consider the comments sent by their users. According to the MIS Head of PEZA, *"We read those comments and since we're just starting to automate and to improve our website, we consider all of them. We aim to please at this point."* The website of DSWD, for instance, after receiving a feedback from the public on the possibility of offering a job opening section in their website, now has uploaded such information for public consumption.

There are government agencies that also envision encouraging greater online participation with their publics for future consultative ends. The HOR, for one, aims to upload links that will cater for online discussion boards in the next few months.

III. E-readiness and e-participation: A synthesis

E-readiness, which covers the stages of persuasion and decision, refers to the available resources of the government agencies and the investments they are willing to undertake in order to engage in e-government. E-participation, on the other hand, covers the stages of decision, where the organization has actual online presence, and of confirmation, where the organization, through its online presence, interacts with its various publics.

It is very much evident that given the nature, vision, mission, and goals of the organizations, their technological capacity, the financial and human resources available, and other external factors, all the agencies in this study are moving towards achieving powerful websites. Their restricted capacity to be e-ready brought about by limited resources is matched by strong willingness to maintain and upgrade online presence. As such, these agencies maximized whatever resources are available in order to come up with satisfactory websites.

The willingness of the agencies as well as their efforts to achieve web presence is rooted on the desire to provide efficient delivery of information and services to its internal and external publics. However, since government agencies are not yet completely e-ready, they cannot fully maximize the power of ICT to provide better public service. As such, e-participation of the agencies' various publics is still limited.

SUMMARY AND CONCLUSION

This descriptive and exploratory study found out that the Philippine government has initiated several motions that signify its belief and trust on ICTs as forceful agents in promoting efficient, credible, transparent, and effective delivery of basic services to the

Filipino people. The initial experiences of the national government agencies in the creation, maintenance, and improvement of their websites indicate that, in spite of the current limitations on resources in the country, there emanates an optimist outlook among them in attaining the full realization of the country's vision for Filipinos to benefit from e-information, e-services, and e-consultation in the future.

Based on the different interpretations of the significance of ICT investments in the organizations, this study emphasizes that the varying levels of web presence attained by the NGAs' websites are reflective of their sense of priority, willingness, and their ability to instill changes in their traditional operations. Notwithstanding that the websites in the country are currently used for information-dissemination purposes where the sites can be considered as merely online business cards, the CICT-NCC has identified key NGAs that have shown progressive web presence that entails promising contribution to the realization of the E-government Portal Project of the country. These exceptional websites have attained the interactive stage by integrating several features that encourage more feedback and basic online transactions with the public.

Given that the agencies have generally attained an Enhanced Web Presence (the second stage in the UN ASPA Model) even within only a few years of the Philippine government's advocacy on ICT investments, the authors predict that so long as the political leaders of the country remain steadfast with the vision of continued and improved online presence, the Philippines can maximize more the potentials of the technology. Such potentials will serve as an extension of the still-relevant traditional systems, as a venue to change only the outdated ones, and not as a complete displacement of all existing operations as feared by those who resist the technology.

By using the Model of Innovation Diffusion and other theoretical perspectives, the authors attempted to provide a comprehensive perspective on the state of e-government in the Philippines. To reiterate, the ICT-based projects of the NGAs in the country are inspired by their respective VMGs, and that going online (or staying offline) is dictated upon by a plethora of considerations bordering on technical, financial, and human resource aspects. The varying budgetary allocations in the NGAs result to different scenarios in these NGAs as far as ICT-related priorities are concerned.

If the Philippine government's faith in ICT translates into serious and aggressive efforts to address the socio-political and economic constraints, it is not impossible for e-government to contribute to the attainment of the country's Millennium Development Goals.

IMPLICATIONS AND RECOMMENDATIONS

The authors recognize the rudimentary perspective on e-government in the Philippines provided in this study. Thus, at this point, suggesting sound recommendations for actual e-government initiatives in the country may sound premature mainly due to the scope of the objectives of the study.

Instead, the authors wish to emphasize the theoretical, methodological, and practical implications and recommendations of this endeavor.

Employing Rogers and Shoemaker's Model of Innovation Diffusion, Davis and Bagozzi's Technology Acceptance Model, and the Expectancy Values Approach to Media Gratification provided the study with a strong anchor in analyzing the state of e-government initiatives in the country. By using the four-point model of Rogers and Shoemaker's, the authors believe that future studies on similar topic can use the same framework in coming up with a comprehensive Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis on e-government in the Philippines. A more in-depth take on the knowledge, persuasion, decision, and confirmation aspects may result to a more critical analysis of the technology development and its impact to the Philippine society.

The theoretical perspectives and conceptual implications of the study may be used by neighboring Asian countries in assessing not only the levels of adoption of the online structures in their respective societies, but also in accumulating beneficial insights from the concerned sectors in ICT-related endeavors. The same model can be utilized in assessing the e-participation aspect in e-government, one of the angles that is not fully expounded on by this current project.

Given the nature of this research topic, the authors highly recommend the combined usage of the quantitative and qualitative research methodologies that the authors used. Conducting the focus interviews after analyzing the quantitative data from the CICT-NCC provided more opportunities for the authors to verify such data. In the same manner, site visits to the respective websites truly helped in achieving more meaningful interview sessions with the key informants.

Finally, the findings of this study can be used as a basis for the analysis of the specific areas of consideration relevant to ICT development in the country vis-à-vis the Medium-Term Philippine Development Plan. Such analysis may be used as an additional reference in determining future plans of actions in maximizing the current ICT initiatives of the government.

The authors suggest to future researchers interested in contributing to this area of study to broaden the scope of the project by looking into how other sectors in the society, such as the private sector, the non-governmental organizations, the local government units, and the Filipino public, respond to the changes brought by the dynamic environment of the information communication technologies in the Philippines.

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