Developmental Model for the Transition from Government to e-Government in the Philippines

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Introduction

Technology is an effective medium that frames human life experiences as it is sewn into the everyday life of humans. From convenient communication to the creation of complex research, technology plays a part in the ins and outs of human existence. This technological age then affects even the political side of every nation, whether it is on a small parameter or of a larger scale, as such, technology becomes an agent of efficient governance and organization (Sario, 2012).

Effective government services are few and far between, especially in a third-world country such as the Philippines. Governments are strictly tied to and influenced by culture and tradition, hence their hesitation in fully transitioning to an online setup. As previously mentioned, the Philippines is a third-world country in which many citizens do not have full access to advanced technology like smartphones and WiFi. This concern urges the government to stay loyal to traditional services. However, such a method of governance is causing a lack of progress in government efficiency and restricts the government's growth especially when put face-to-face with other countries' excelling governments. The current concern is the restrictive nature of traditionalism in the Philippine government and the implementation of e-governments.

Electric Government or what is now more commonly referred to as e-government is a type of government that relies on Information and Communication Technologies (ICTs) in order to function efficiently (Organization of American States, 2022). A government like this requires interaction using electronic devices as it is accessed by citizens online.

The failures of Philippine e-governments may be attributed to the Philippines' close ties to culture and tradition. Despite its rich culture influenced by Eastern and Western countries who have settled temporarily in the country (Britannica, 2022), the Philippines finds it more difficult to face changes as compared to its influencers. Japan, a colonizer of the Philippines for three years, was temporarily occupied by Americans during the end of World War II when Japan chose to surrender under America's nuclear bombing and the Soviet Union's declaration of war (United States Holocaust Memorial Museum, 2022). In 1945, the year the Americans reclaimed the Philippines from Japan, Japan surrendered. However, soon after, it started to move on and adopt more modern and democratic methods of national development.

Like the Philippines, Japan values religion. Shinto and Buddhism followers are active in visiting shrines and conducting religious ceremonies (U.S. Department of State, 2021). The difference, however, is that Japan made use of American and European model systems to modernize its nation post-war but specifically made sure that its religion stayed enriched and practiced (Japan Gov, 2018). The Philippines, on the other hand, has a history of mixing religion with politics (e.g., bloc voting by Iglesia Ni Cristo and Pilipino Movement for Transformational Leadership), which implies that the culture of those religions influences the political individuals elected, thus also influencing government policies and way of governing (Buenaobra, 2016).

Furthermore, the Philippine government excuses its e-government failures on the fact that many Filipinos do not have the devices to access it, e.g., indigenous peoples who live in remote areas. The Philippine government prefers the traditional way of governing and providing services because providing online access to Filipinos is not one of

its top priorities. Rather, the government focuses on sectors such as education, infrastructure, health, social protection, and agriculture (Cupin, 2022). It has also been concluded that the Philippine government does not tap the resources in the sociological and anthropological fields, which are both well-versed in understanding the community, its struggles, and how it wishes to be served by its government (Fox, 2022). With the government having a sense of contentment with the established loyalty between the citizens and itself, it sees no value in truly establishing a complex e-government system.

This problem is certainly in need of a solution where those who have healthy access to technology and those who do not can both receive quality services from the government. Such a change is a large step toward progress as a nation and can create a better setup for Filipinos to interact with their government. It is paramount that the government allocates resources to change its old school system into a new one that entertains the advancement of human knowledge in terms of technology usage and utilizes all possible resources to provide access to technology for those who currently do not have it.

In the online space, there are relationships among businesses, citizens, and governments. Namely, business to business (B2B), business to citizen (B2C), government to business (G2B), and government to citizen (G2C). Based on studies, between businesses and governments, governments are less inclined to step up their presence online. They are more traditional in nature, and thus, find difficulty in proposing and implementing changes in how they function (Davison, 2005). Due to this lack of online presence, there is competition between governments and businesses in terms of citizen loyalty. Because businesses are more active and present online where many citizens reside their attention to. For example, instead of using the services of the Philippine Post Office in sending international mail or packages, citizens make use of other methods. With websites such as Amazon, one can send packages to other people anywhere in the world only needing the shipping address of the recipient. A person in the Philippines can send a care package to someone in the United States by entering the recipient's details, paying via the available payment options, and providing other simple requirements which the e-commerce site asks for. In addition, tracking the package can easily be done online with little to no delays. Emails or text messages are also sent which notify the buyer and/or the recipient of the package's current condition (e.g. if the seller has sent it, which sorting station it is in, whether it has been delivered, etc.). Due to the Philippines Post Office's lack of an efficient online presence, its services are needed less and less, and citizen loyalty starts to dwindle.

The COVID-19 pandemic not only affected physical businesses but also impacted government functioning. This problem has forced the government to create a strong online presence in order to communicate and serve the public (United Nations, 2020). It is a must for governments to stay connected to the public despite the positive resilience shown by the community towards COVID-19, yet the Philippine government is unable to provide quality through their premature attempts at e-governance, thus needing a transitional model to serve as a foundation for better governance. In short, the solution lies in the use of transitional models from the government to the e-government setup.

Rationale

The researcher chose to tackle the topic of e-government due to its relevance in this day and age. Like many other aspects of life, the government also needs to adapt to the current state of the world. Both citizens and consumers are actively interacting online and find it less and less necessary to interact with the government due to its inability to fully utilize the available resources that can become convenient avenues for the citizens it serves. However, the government is still an essential part of the citizens' and businesses' daily functions, so it is necessary to keep their relationships intact. The researcher sees value in exploring the models and frameworks that may aid in the government's transition to e-government. Preferably, a model that allows the government to retain its principles while also dabbling in a more modern method of governance is needed. At the same time, it must also be taken

into consideration that citizens with no access to smart devices cannot avail of convenient services without the help of the government first and foremost.

Current State of Research in the Field

There is very limited information available regarding how a government should transition to e-government with maximum efficiency. The current paper presents novelty as it not only focuses on how a traditional government context can turn into e-government successfully, but it also includes the idea of the digital divide and how the government should address the issue to strengthen the connection between citizens and the government, as well as citizens and businesses. Furthermore, the paper actively points out the current systems and processes of the government. Finally, the principles which serve as the foundation of e-government, as well as the mechanisms created to implement efficient public service delivery, are presented. The paper pioneers the field of research in terms of specific transitional models from traditional government and how its services are provided to e-government and how the digital divide can be solved to strengthen the online form of public service delivery. As such, the government requires guidance on continuing forward knowing that digital convenience devours the need for traditional forms of government service.

Problem in the Field

As expressed previously, there are currently many problems in the political space, especially in the wake of digital evolution. The citizens of the Philippines affected by the COVID-19 pandemic have needs that necessitated the requirement for a more convenient avenue for basic government interaction. In line with this, the “needs” can be addressed through a proper e-government mode of governance as it allows for a less physically taxing and safer interaction with the citizens. Furthermore, being fully aware of the past attempts at e-government implementation, it is worth noting that there is a problem behind why these attempts were not able to bear fruit. Having access to the many models and templates available from different countries, crafted by professionals in the field, it is truly a mystery as of now why the Philippine government is unable to adopt such well-thought-out mechanisms.

The challenge now is to be able to come up with a model that is simple enough for the government to implement successfully while being effective enough to tend to the needs of the citizens.

Synthesis of the Art

Philippine Government's Stance on Traditional and Modern Governance

The term traditional comes hand in hand with culture as both concepts intertwine with the idea of time. Something is traditional when it has been believed in and practiced by a specific group of people for an extended period of time, expanding years (Britannica, n.d.). The Philippines had endured many wars and colonizations, but it was not until July 4, 1946, that it had its real taste of independence. As per the 1935 Constitution previously drafted, the political system required the election of a President, a bicameral congress, and a judiciary body (Institute for Democracy and Electoral Assistance, n.d.). As ill-fated as it was, later on, the Philippine Government transitioned into a dictatorship, tightening the concept of democracy, during the Martial Law of 1972 as per the decision of former President Ferdinand E. Marcos.

The Philippine Government has endured multiple wars and colonizations and has somehow landed itself on a relatively unconventional democratic way of governance, in that people are responsible for electing public officials and public officials are responsible for taking care and servicing the citizens. Traditionally, as any government started with, interactions between the government and citizens were mainly done through face-to-face contact (e.g.

going to government offices during a particular window of time, waiting in line, or using personal connections to talk to higher political authority, and hardcopy use of paperwork). This bodes true for the Philippines until now as it is what the nation has always known to do. To the government, this way of governance is still viable. However, with the rise of digital media and the physical restrictions of the recent pandemic, the use of smart devices has become somewhat of a necessity for most people. This is where more modern governance is required, wherein the government and the citizens must navigate their services and demands, respectively, through an online setup. So far, the Philippine Government has done very little effort to push an online government agenda to cater to the convenience and demands of the people, as it is still established that traditional governments work fine. The problem with this may be encapsulated in the idea of close-mindedness and refusal of growth.

In the current context, the traditional way of governance is conducted in a personal, face-to-face manner. Government offices start at 8 am and end at 5 pm, the only window where government employees cater to citizens (Cavite City Government, 2022). Appointments are often made and there are lunch breaks in between. This routine has worked like magic throughout decades of government rule, and yet the demands are piling up. This contrasts with the service capabilities of an online government, which addresses concerns with more flexibility. Even during break hours or after-office hours, some online government services can be availed as a bot receives and answers basic queries and compiles answerable questions which can be quickly addressed once government employees clock in the following day. Converting to e-government eradicates the physical waiting line where citizens would spend hours upon hours in harsh Philippine weather just for a chance to be served.

There are, however, big advantages in offering a traditional approach as it provides a more direct way of interaction where misunderstandings are far less bred. As well, there is fewer technological error involved in having face-to-face interactions, apart from the occasional malfunctions of government computers.

Pros	Cons
Face-to-face interaction eliminates the risk of misunderstandings or self-interpretation	It is inconvenient to interact with, especially for those with packed schedules (e.g. full-time work, daily classes, stay-at-home parent, etc.)
Does not depend solely on technology to function	Inevitable physical waiting line
A more personal connection between the government and the citizens	Human Error: Unavoidable human mistakes and the effect of differing personalities.
(For employees) Employees have mandatory break times as per the Labor Code of the Philippines, Article 85 (Replicon, 2022). This shaves off work time and service hours as employees take time to prepare before continuing their work days.	(For citizens) Employees have mandatory break times as per the Labor Code of the Philippines, Article 85 (Replicon, 2022). This shaves off work time and service hours as employees take time to prepare before continuing their work days.

Table 1. Pros and Cons of a Traditional Government

The traditional government has its good points. It creates a more personal connection between the citizens and the government thru government employees. Having this personal interaction also eliminates the risks of misunderstandings as each individual has the opportunity to clarify things with the employee they are interacting with. Traditional governments, being the personal type of governance that it is, also rely less on technology, and thus are not gravely affected by system errors since they can be practiced manually as well. For government employees, having a traditional way of governing allows them to have strict break hours as has been mandated in the Labor Code. Unfortunately, this becomes a disadvantage for the people waiting to be served as it adds to their

waiting time. In the same vein, they are required to stand or sit in line to wait their turn to be served. This promotes a more organized way of going through public concerns, but can also be harmful in terms of enduring the harsh Philippine weather. As well, it is not an ideal situation for people who work a full-time job, for students who have a tight class schedule, and for stay-at-home guardians who cannot leave minors unattended. Finally, though system errors do not affect this as much, human errors do. Employees can misspell names or numbers that are deemed important in official documents and citizens can forget certain documents they need to provide. This is a basic example of the sort of chaos that may ensue due to a human's nature to make mistakes.

Pros	Cons
More convenient in terms of communication	Inaccessible for people who have no smart devices or WiFi
Can provide customer support at all hours of the day using advanced technology	Requires tech-centric knowledge/not friendly towards older individuals or people who are not exposed to advanced technology
Eradicates physical queueing and lessens waste created from printing documents and the like	Interaction is too impersonal; Does not offer the flexibility of negotiation or in-person clarifications
Allows government employees to be more comfortable in managing their time	Vulnerable to technological errors (System shutdowns, website hacking,

Table 2. Pros and Cons of an Online Government

Having an Online Government also have its pros and cons. For one, there is more convenience in the interaction between citizens and government employees as neither party would have to exert much effort to communicate. Another positive thing to come out of online governments is the automated responses that can accommodate basic queries and saves time for government employees. This can also be programmed to work 24/7. There are no physical waiting lines to endure and it allows government employees to work with more flexibility. However, its downsides include being inaccessible to specific people and requiring basic technical knowledge that not everyone has. It is also more difficult to make clarifications as tone can be misinterpreted and questions may be misunderstood. Finally, once the system shuts down, it will become difficult to create a connection between the two parties until the system is fixed.

Upon the analysis of traditional government and online government, we can conclude that any single approach may not be suitable in this day and age for a country that is still developing. Thus, we must find a middle ground where the positives of both approaches can co-exist while removing most, if not all, of the negatives of each approach. This is where the e-government setup comes in. E-governments focus on creating a more convenient interaction system that traditional governments lack while bridging the digital divide caused by online governments.

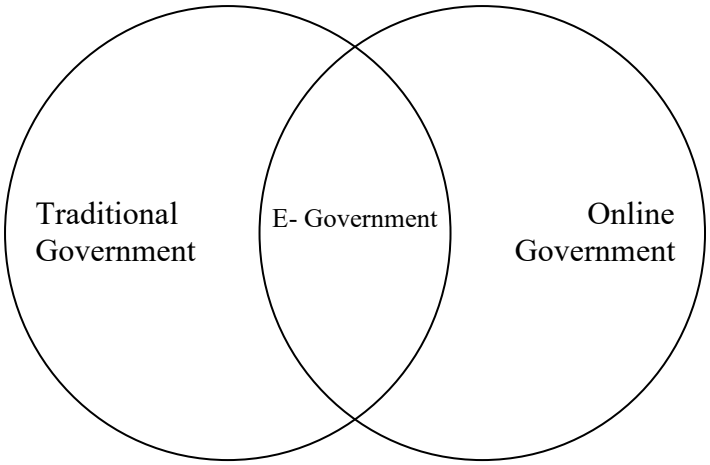


Diagram 1. The Relationship Among Traditional Government, Online Government, and E-Government

The dichotomy of "traditional" and "modern," especially in culturally-driven places such as the Philippines, can pose difficulties in establishing a well-functioning online government system (Smolicz, 2022). In many countries, the use of ICTs creates success stories for several e-governments, yet the efforts made of integrating ICTs with the Philippine government have been less than successful. The Philippine government falls short in its potential to utilize ICTs for e-government services. In a survey for determining countries' e-government efficiency and overall accessibility, Taiwan topped the ranks with a percentage score of 65%, whereas the Philippines scored 6% (Lallana et al., 2002). The drastic difference shows how far off the Philippine e-government's current capabilities are.

E-Government Status Before and During COVID-19

E-governments are not too new. It existed even before the pandemic hit, but it has become more in demand as restrictions were placed on the capacity of people that can be present in enclosed areas, such as government offices. Before COVID-19, the need for digital communication between citizens and the government was not required. However, during COVID-19, it was almost non-negotiable as it is the safest way to communicate announcements and deliver public concerns. Thus, e-governments in general skyrocketed in every country.
So far, throughout the entire public health crisis, the Philippine government has handled the COVID-19 response very poorly. It is without a doubt that they were able to provide the bare minimum, but failed to create a better plan to handle specific situations (Curato, 2021).

The following are the basic local government responses to COVID-19:

1. Specifying quarantine measures;
2. Restricting public businesses and only allowing specific businesses to open at a reasonable capacity (e.g. pharmacies, groceries, hospitals);
3. Limiting the people who are allowed to go out publicly via an age bracket system; and
4. Allowing the LGUs to control the strictness of these guidelines based on the intensity of COVID-19 impact in their locality (S. Talabis et al., 2021).

It is proven that trust in the government, whether national or local, during a crisis such as this raises resilience in a nation (OECD, 2020). It allows the government to apply better crisis management in terms of COVID cases and death rates (Apeti, 2022). However, with the poor initial approach to COVID-19, Filipinos' trust index has lowered (Neil, 2021). During the COVID-19 peak, Filipinos were more trusting of the NGO sector (EON Group, 2022). Because of this, there were very few improvements on that front.

An example of this is the impact of vaccine inequity within the country. It is no surprise that first-world countries prioritize themselves in this matter, so far as to hoard vaccines from poorer countries to provide even up to four booster shots to their citizens. This caused a delay in vaccination for hard-hit countries like the Philippines. The cycle of elitist vaccine inequity is also present within the country itself, wherein individuals from the capital region receive more vaccines than in predominantly Muslim regions (Su & Thayaalan, 2022).

The following are current issues that are not yet fully addressed or resolved by the Philippine Government according to the World Report of Human Rights Watch (2021):

1. "Drug War" Killings and the International Criminal Court (ICC)
2. The killing of Activists, Rights Defenders
3. Covid-19
4. Freedom of Media
5. Children's Rights
6. Key International Actors

Issue on Digital Divide and Demands for Convenience

The Philippines is a developing country, but a third-world country nonetheless. This means that despite its efforts of creating and providing opportunities to the public, selected remote areas are still untapped, uneducated in terms of digital media, and are not provided with the necessary tools to catch up to the digital age. This poses a challenge in the implementation of e-government as not everyone can access online information from the government. That being said, a government that aims to be holistically effective gives great effort in providing the necessary tools to encourage every citizen to trust the government. This includes creating a budget that will help solve the digital divide and allow every individual to express their concerns and be served by the government fairly and equally.

The government, so far, has done a good job with the education of English fluency (Coface, 2019). In almost every part of the Philippines, one can easily find individuals who are able to understand the universal English language and converse with you on at least a basic level. Furthermore, the Philippine government was able to enhance the BPO industry which greatly contributes to the Philippine economy. The BPO field has great profit potential that can be a good opportunity for Filipinos to find work and learn the trades of the international world (iSupport Worldwide, 2021).

On the other hand, the Philippine government is ruled by elite democracy, often favoring the "1%" of the population. Due to cultural factors, religious beliefs, colonial legacies, socioeconomic conditions, and institutional factors, democracy is now run by those who stay loyal to their need for power. It becomes rare in the political industry to find a genuine candidate willing to advocate with authenticity and no hidden agenda (Timberman, 2019). With this, active citizen participation also becomes an issue. With government titles being a winner-takes-all elections trophy, those in positions of power do not aim for citizen participation outside elections, and even during elections, many individuals are ill-persuaded to vote for specific individuals (Rocamora, 2005).

With this said, only those with enough educational background have the opportunity to make subliminal change politically, and they are mostly the ones with the ability to adjust to an e-government setup. In contrast, those with little to no formal education have less interest in political discussions and have little to no experience with technology.

Objectives of the Study

With countless reasons in mind, the researcher has three main objectives:

1. To determine what the status of the Philippine e-government would be;
2. To identify the challenges that may be faced when transitioning to an e-government setup; and
3. To develop effective measures which will result in better public service to the Filipino people.

Pinning answers to these objectives can thoroughly help people understand the many blooming possibilities available for the government in this modern day, as well as spark interest in further developing e-governments in the future.

Theoretical Underpinnings

The two main theories to be discussed in this paper are the Peninsula Theory and the Motivation Theory. The Peninsula Theory expresses the need for government evolution through the use of e-government tools. However, this theory focuses on applying these tools while retaining cultural and traditional entities as inspiration for governance (Ghayur, 2006). On the other hand, the Motivation Theory tries to understand the reasoning behind people's decision to adopt or reject e-governments. This is closely tied to their behavior and current context (Moinar, et al., 2015).

Conceptual Framework

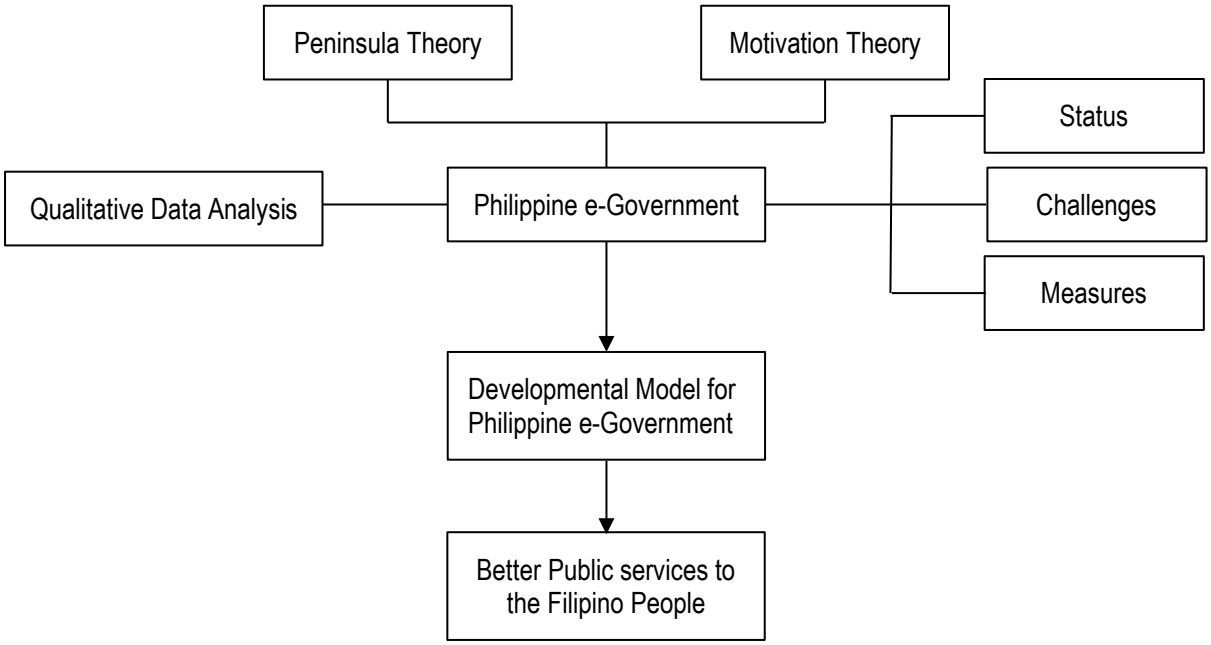


Diagram 1. Conceptual Framework of Philippine E-Government

The Philippine e-government is distinctly explained through two major theories: 1. The peninsula theory; and 2. The motivation theory. Through these theories, we can determine the ideal ways of implementing e-government as well as expand on why e-governments are either adopted or rejected by certain individuals. As well, a qualitative data analysis (QDA) will be utilized to define the status of the Philippine e-government, explore the challenges it poses, and identify the measures which must be taken to create better public service for the Filipino people. In the same vein, the QDA will compile and categorize the developmental models which will allow for the Philippine e-government to become successful in the future.

Methods

Due to the nature of the data analysis to be used for this study, the design type falls under qualitative research design. The main methods of data analysis are 1. Document Analysis, and 2. Secondary Data Analysis. The former is a technique of data gathering wherein documents are compiled, analyzed, and interpreted through reasoning (Responsible Conduct of Research, n.d.). The latter requires already-compiled data on the specific subject to be reviewed and analyzed (Alchemer, 2021). Cross-referencing the data gathered from these two techniques will allow the researcher to further understand and illustrate the available information as well as allow him to develop an effective model for future use.

The general route of analysis will be done through Qualitative Data Analysis (QDA) which categorizes the data with an in-depth review of its contents (Question Pro, n.d.). First, the researcher will analyze the concept of e-government, including its status, the challenges that come with it, and the measures that must be taken to realize it in the current Philippine political and social context. Second, two major theories that drive the relevance of e-governments will be studied. Lastly, data will be gathered on the existing models that have been proven to work in other countries, while trying to tweak certain concepts to fit them into a Filipino-friendly context. In addition, this will allow the researcher to identify the better public services that may be offered to the Filipino people.

Research Ethics

Integrity
The current research paper was created with principled means. It aims to ensure that there will be a positive effect on the Philippines' developing governance and how it will affect the masses.

Objectivity
Due to the influx of struggles brought on by the recent pandemic and the landslide of the economy, this paper aims to provide clarity on possible solutions. This paper is also backed up by valid and credible sources, from published research papers to renowned blog articles, all provided with references.

Academic Honesty
In no way is this paper plagiarized. All efforts made were made by the researcher with proper credit to sources.

Document Analysis

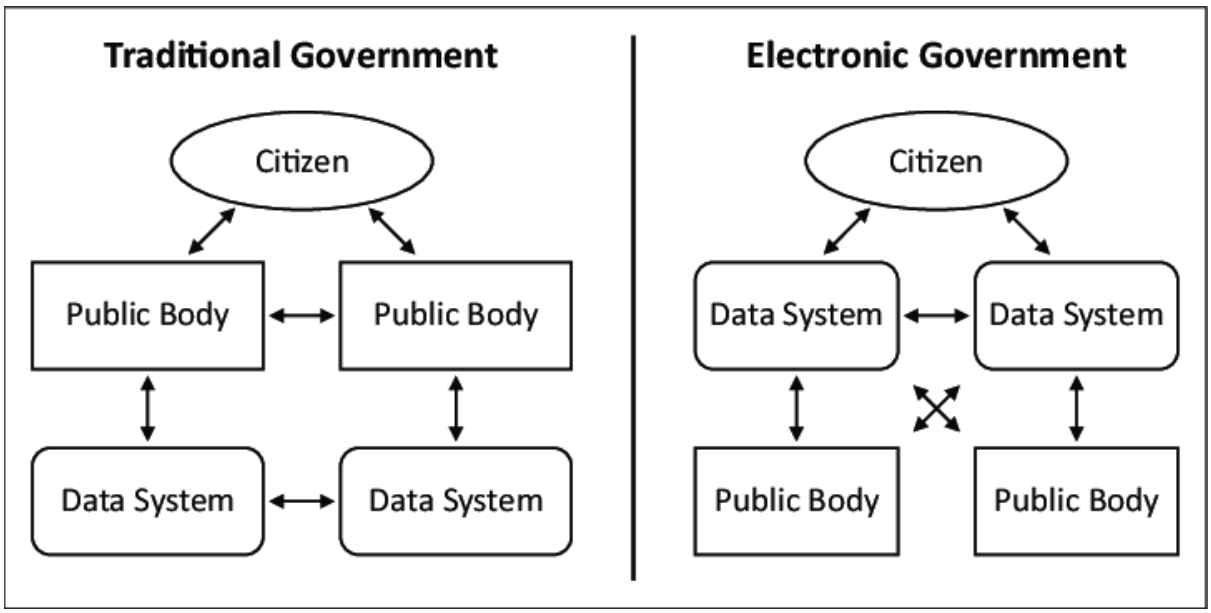
The Dichotomy of Traditional and E-Government

The pressing issue of the many previous failed attempts in creating Philippine e-government is reflective of the dichotomy of traditional government and e-government functions. As the Philippines lands itself on one side of the spectrum, it finds difficulty in finding its way to the midpoint where it is able to respect and be proactive in its core traditions while actively participating and adjusting to the world's technological advancements.

According to Magno (2018), the Philippines has long since made attempts to adopt e-government throughout recent years but failed inevitably due to one key factor: the absence of a top-level agency to oversee the development and eventual success of this change. At most, many services were made possible to avail of online. The problem with this, however, is that due to the lack of manpower to focus on the technological side of fulfilling these services, the quality of service has been considered overwhelmingly poor.

The foundation of traditional governance is public trust and participation as it is built upon the communal knowledge of locals (Participedia, 2020). On the other hand, e-governance is built upon the idea of convenience and citizen satisfaction. It was reported that from 2019 to 2021, citizens' trust stayed steady at 76% (Cupin, 2021) towards the government, however, it is concerning that there is no rise in trust, especially in the midst of a pandemic where the public had become more vulnerable than ever. In times of public duress, having communication that is more streamlined becomes valuable. Yet, the lack of government departments that have online services available can negatively affect the Philippine Trust Index (PTI).

As illustrated by Chukwuemeka et al. (2018) in their research, the way the citizens, the data systems, and the government interact are different between traditional governance and e-governance.



In a traditional setting, a citizen (as an individual) communicates with the public body or the government, and the government inputs this into the data system where it travels to other involved public bodies before the public body gets back to the citizen. On the other hand, in e-governments, the citizen communicates through online data which is received by the corresponding public body and is able to bounce around to other departments, if needed. The public body will then respond through the data system to the citizen.

E-governments are convenient only when they are not facing system errors. Their disadvantages include information reliability, cyber hacking, hidden agenda, and equality in public access (E-SPIN, 2023). Because e-governance relies on the use of technology, anything that can harm technology can harm the services and therefore create discord between the government and the citizens. Some information online cannot be easily trusted, even

in government domains. Despite the existence of technological support, government servers are prone to online threats. Hacking and data breaches are serious matters to consider before converting to an online setup.

It is difficult for the marginalized to access online services as well because it requires the use of a smart device that can connect to the internet. On the government's end, providing said devices and internet connection is costly, which is why they still lean more towards the traditional way of governing.

Hidden agendas are also a risk. With interactions being mainly made online, many mediators are present. There are also many authorities existing. Any one of these can commit information theft for their own benefit. This could interrupt many economic, social, and political factors. Such pressing issues need preventive action before the implementation of a new online government system.

However, discussing the common disadvantages of e-governments does not mediate any problems that currently exist in the traditional government space. Problems such as inconvenience, inevitable waiting times, long lines, and human error all still exist. Not to mention the already gruesome scandals of corruption in almost every government department.

Common Problems Found in Transition Phases Between Traditional and E-Government

There are a number of advantages and disadvantages for both traditional and e-government setups, but rarely any talk about the in-between period - the transition phase. Because it is a large change, there is bound to be a problem or two or several that need to be addressed to ensure that the conversion is a success. According to Salesforce (2016), there are technical barriers that must be resolved before calling the transition into e-government a success. Said barriers are driven by incompatible infrastructures and a lack of universal technical standards. This means that for a transition phase to succeed, a government must have equal technology prepared to distribute to all departments and it must have a universal set of rules that these departments must adhere to. As well, a task force is essential in ensuring that these rules are implemented and that the correct, skilled workers are hired for the upstart.

India was recently categorized as a lower-middle-income country earning a gross national income per capita of $1,086 and $4,255 (Economic Times India, 2022). Here, a large factor in why e-government attempts kept failing was because of the low literacy levels. With the lack of literacy and extreme poverty, a large number of citizens are unable to access devices and the internet. Such a problem in this phase is categorized as Environmental and Social Challenges, Economical Challenges, and Technical Challenges (Jain, 2020).

The Philippines seems to be in the same boat as it is also a lower-middle-income country with a gross national income per capita of approximately $3,430 in 2020 (United Nations Industrial Development Organization, 2020). However, unlike India, the Philippines has a higher literacy rate of 97.95% in 2019 (Rufa Cagoco-Guiam, 2022). A

similar problem has not been evaded though as the Philippines: learning poverty. As of July 2022, 90.9 percent is the learning poverty rate in the Philippines (Philippine News Agency, 2022). Even though the literacy rates are high, having an equally high learning poverty level inhibits the success of an e-government system down the road. Though learning poverty is centered around children's education, the inability of today's children to fully comprehend basic education will affect literacy rates in the future making it difficult to implement complex technological changes. The transition phase does not happen overnight. In fact, it takes several years and many attempts before it can be fully realized and raised to its true potential. It will fail again if the learning poverty is not resolved.

There is also the separate issue of low IT literacy where literacy is focused on Information Technology specifically. According to the Philippine Institute for Development Studies (2019), "Only around 40 percent have at least one of the six information and communications technology (ICT) skills monitored for the Sustainable Development Goals." This entails that even during the transition phase, having to educate the public on basic IT skills is essential. Otherwise, many would refuse to cooperate or participate, leaving the funding for the transition a waste.

Along with low IT literacy and IT infrastructure issues are problems with security and privacy (Alshehri & Drew, 2011). Having to electronically store information is an essential factor in the success of e-governance in theory, but it is done at a cost. Having a storage of sensitive data invites threats that were not as lucrative as before. With the rise of cyber hacking, scam messaging, and corruption, any method to attain information over the internet can destroy the e-government even if it has not yet reached completion.

Another problem to note is Filipino diversity. Even though Filipinos pride themselves on the richness of their culture, not all regions share the same language. Despite having Filipino or Tagalog as a standardized language for many national interactions, there are many regions that speak a different tongue with over 120 languages spoken in the Philippines to date (Translators Without Borders, 2022). Some cannot speak, understand, or write in English or Tagalog, which would make circulating information via the Internet difficult. Unless the government finds a way to translate each announcement into all possible Philippine dialects, it would be difficult to communicate important matters to other Filipinos. Currently, people who only know their own dialect have local news sources on television to inform them of any relevant information. However, if this information and important government services are available only online, there will be unnecessary struggles in trying to understand it. The government vowed to serve its people which it cannot do if the people do not understand how they can receive these services.

Finally, one of the biggest possible hurdles to face is the cost. Money flow is what helps realize an idea. Without proper budgeting and funding, no government project can come to fruition. The fact of the matter is that transitioning into e-government and sustaining this type of governance is expensive (Moon, 2002). It is twice as difficult to do knowing full well the history of political corruption faced by the Philippines.

There is a serious dilemma faced in the funding of e-government because of how much financial expansion it takes to maintain computers and other hardware (Carvin et al., 2004). Investing in new technology, software included, is also financially straining (Li, 2003). Training and education also contribute to the costs. Not to mention the potential financial barrier of solving the digital divide before moving on to the actual mechanics involved in implementing e-government.

Citizen Satisfaction and Its Effect on Potential E-Government Success

The success of online services is shown through customer satisfaction. In the journey to better e-governance, the now-available services need to be synergized and well-received. This works only when 1. There is a responsible agent to ensure that these services are well-delivered and that complaints are addressed; 2. There is a formal way to receive satisfaction ratings and reviews that can be properly reviewed which leads to the creation of standards that will far exceed what the government expects the citizens would want or need; and 3. There is a body to bridge the gap between online services and offline workers. The said body should have the necessary skills and proper access to efficient internet services and devices.

Services, especially during the pandemic, were coerced to exist in online portals as it was the fastest and safest way to interact. Due to the fact that the citizens needed government intervention more than ever before, online services were challenged and judged very strictly. Customer satisfaction ratings between 2018 and 2020 have declined massively, going from 86.93% in 2018 to 70.14 in 2020 (Development Academy of the Philippines, 2022). As humans, Filipino citizens' lives change constantly and the government needs to be able to keep up with the demands swiftly.

From having problems with modes of payments online to sim card registration, there are many services that lack the quality of service Filipinos look for. Since many government services are available online, it requires proper training which also requires extra funding. Projects such as the National Employment Recovery Strategy 2021–2022 (NERS) were launched in an attempt to aid in creating more employment opportunities and allow businesses to bounce back (Asian Development Bank, 2023). This was a great move in terms of labor law and business welfare as it had its own task force and proper funding (Official Gazette, 2021). However, there were no special and well-executed projects in putting this same idea into proper training for existing government employees in an effort to smoothen the online services that were essential, especially during the time of the pandemic. Every department was on its own, allowing them to have autonomy on the matter, but not all had found this training essential and thus crossed it off the priority list.

Another problem that the citizens found enraging was the constant system error that occurred especially when it was related to finances. It became possible to pay for government services online. Some of these include paying PhilHealth registration fees, Pag-IBIG loan payments, Overseas Employment Certification (OEC), and even paying taxes (Ichimura, 2019). Having online portals to make paying more convenient is a step towards development, but

having repeated website errors or a lack of payment options takes a toll on citizen satisfaction. And although the Bureau of Internal Revenue has created an online eComplaint form to serve as a bridge between the citizens and itself to improve services (Bureau of Internal Revenue, 2023), the execution to reach these expectations have been underwhelming.

Findings in Relation to the Objectives

As previously stated, the researcher has three main objectives: to determine what the status of the Philippine e-government would be; to identify the challenges that may be faced when transitioning to an e-government setup; and to develop effective measures which will result in better public service to the Filipino people.

The Philippines' future e-government status will only be successful if three major things are taken into account, among other relevant things under it, which are: 1. A proper task force to plan and implement proper e-government; 2. An ongoing problem-solving on the financial, cultural, and educational front; and 3. Listening to real-time criticism from the public who are the direct receivers of the services meant to be provided online.

The researchers have identified multiple challenges that may be faced during the transition period from traditional government to e-government. These challenges include technical barriers, literacy rates and learning poverty, security and privacy problems, cultural diversity, and financial barriers. These are all accompanied by the reluctance to change as reflected by the loyalty to a traditionalist perspective by both the government and a select generation of the Filipino public.

So what then are the measures to be taken in order to aid the government in succeeding in the transition phase? First, the government must have a budget plan that includes a task force, skill training, IT education, hardware maintenance, and other programs to help the development of online services in the long run. Second, the government needs to form synergy within itself, meaning to say, it must create a strict set of rules and a comprehensible guide that all departments can follow. Third, the government needs to take criticism from the public very seriously. There should be a standard for the services provided and how they are provided, and the only way to ensure that this standard is created well is to understand what the citizens need and what they want because customer satisfaction matters in keeping a service working. In short, the government is a business and a business cannot survive if its customers are unhappy. Lastly, the government needs to decide whether they want to move forward in the digital age or not. Having the dilemma is expensive as resources are poured into projects that do not go to fruition because of the reluctance to change. If the government is not firm and unified in deciding to digitize its governance, then much of the money spent on trying and failing to convert to one is a loss. As a developing country, the Philippines cannot take an unnecessary economic loss as it will sink it further into financial trouble.

Discussion and Analysis

To determine the current status of e-government in the Philippines, its evolution must be properly laid out. This includes ICT's initial involvement in government efforts, the emergence of e-government itself, and the wins and losses of the national government in implementing this new technology at a respectable scale. There will also be further discussions regarding the main elements needed for well-structured e-government; this being - ease of access, quality service, and client satisfaction.

The E-Government for Women's Empowerment in Asia and the Pacific (2016) provided a detailed and easily digestible timeline of ICT utilization for government purposes, complete with visions and action agenda for each significant duration. As per their summary, the vision and action to leverage ICTs for government use started from 1986 to 1992. From 1992 to 1998, the Philippine government focused on utilizing ICTs for telecommunication and education purposes, aiming to make the Philippines an industrialized country and Asia's Knowledge Centre. Afterward, from 1998 to 2001, the goal was to improve the quality of living through ICT. To fulfill this, the government aimed to promote ICT diffusion in different aspects (government, community development, and education), promote BPOs as labor power for IT services, and pass the E-Commerce Act. Between the years 2001 and 2010 became the most productive for IT use as this was also when the e-government funds were institutionalized. Furthermore, digital inclusion and literacy were promoted to support the growth of IT on a national scale. Finally, from 2010 to 2016, the vision was of a digitally empowered and integrated government that provides responsive and transparent online citizen-centered services with an emphasis on effective delivery for all public services.

Previous E-government Attempts in the Philippines

E-government attempts were cemented through executive orders and republic acts. The most notable ones throughout the years shall be discussed.

Under the Estrada Administration, E.O. No. 265 was approved. Executive Order No. 265, approved on July 12, 2000, also known as the Government Information System Plan (GISP) or "The Philippine Government Online" became a catalyst that set the framework for electric governance in the Philippines (Philippine Institute for Development Studies, 2013). The goal of this order is set to be fully implemented over the next 4 to 5 years. Its framework focuses on citizen-centric e-government that empowers LGUs to provide digital connectivity, deploy digital apps and digestible content for the public, and develop human capital (Ona et al., 2012). Along with this were certain objectives for the local government to achieve: to generate revenue, to promote local entrepreneurship, to provide efficient services, and to promote transparency and accountability.

The Electronic Commerce Act, also known as the Republic Act No. 8792, was enacted in the year 2000. Through this republic act, the state recognizes the vital role of ICTs and thus acknowledges the need to further develop and strengthen the GISP (Official Gazette, 2000).

During the Arroyo administration, ICT growth also became a priority. This led to focusing on Business Process Outsourcing (BPOs) and e-commerce sectors. Upon the proposition of the Information Technology and E-commerce Council (ITECC), the E-government Fund (EGF) was created. This is meant to be an alternative funding source for "mission-critical, high-impact, and cross-agency ICT projects of the government" (eLegal Dasini & Dasini Law Office Publication, 2015). However, in 2010, the ITECC was abolished and all ICT-related matters were transferred to the jurisdiction of the Commission on Information and Communications Technology (CICT). They then published the E-government Fund Guidelines through Memorandum Order No. 001-2010 (LawPhil, 2019). This guideline serves as a reference for government agencies when creating proposals or evaluating projects.

Entering the reign of the [2nd] Aquino administration came Executive Order No. 47, s. 2011 which was meant to reorganize, rename, and transfer the CICT to the Department of Science and Technology (DOST). The CICT was renamed the Information and Communications Technology Office (ICTO) under the DOST, and its main role was to formulate the GISP and administer the EGF (Official Gazette, 2011).

Four key strategic areas were prioritized: e-government, e-business, cybersecurity, and e-society (Villanueva, 2018). E-government refers to the use of ICTs by government agencies to transform relations with businesses, citizens, other government branches, and government employees in delivering services (Lallana et al., 2002). E-business conducts online businesses focusing on customer businesses, internal businesses, and management businesses (Pratt et al., 2022). The scope of e-business is larger than e-commerce as e-commerce focuses more on online purchasing transactions. It encapsulates different models: the Business-to-consumer (B2C) model, Business-to-business (B2B) model, Consumer-to-business (C2B) model, and Consumer-to-consumer (C2C) model. E-business is heavily interdependent with cybersecurity as the electronic business cannot occur without important countermeasures provided by cybersecurity. Cybersecurity's goal is to create a secure cyberspace for Filipinos to transact, whether it is for business, public service, or personal. However, despite cybersecurity being a significant key factor in creating a promising e-government structure, it is by far the least protected aspect. This is supported by the fact that the Philippines is ranked second among the countries with the most cyberattacks worldwide in 2022 (Neil, 2023). According to the Kaspersky Security Network, the Philippines moved two places upward in the ranking which is based on the number of cyber threats detected and blocked by Kaspersky products (Ronda, 2023). Finally, e-society or Information Society refers to the study of how digital technologies impact the behaviors and processes of individuals, communities, and organizations (IGI Global, 2021).

The Current State of the Philippine E-Government

In recent years, as per the study by Bajar (2020), it was revealed that the Philippine e-governments prefer relative autonomy in managing their websites, thus the lack of centralization in reviewing mechanisms. This makes their respective platforms more vulnerable to politicization. It was even during the administration of Benigno Aquino that ICTs served a purpose in mitigating corruption, and yet there was a failure in this as administrators continued to exploit opportunities to benefit their political agenda (Villanueva, 2018).

As of 2023, the House of Representatives has passed the E-Governance Act for faster services to the Filipino public through House Bill No. 7327 entitled "An Act Institutionalizing the Transition of the Government to E-Governance in the digital age, creating for the Philippine Infostructure Management Corp. and appropriating funds therefor" (Press and Public Affairs Bureau, 2022). The bill's purpose, according to its principal author, Ferdinand Martin G. Romualdez, was to make transactions more convenient for people in terms of availing government services via digital platforms, ideally making the delivery of services more effective, efficient, and transparent (Cruz, 2023).

According to Capistrano (2020), using the cases of three frontline government services (GSIS, SSS, and BIR), despite having repeated and varied ways of committing to e-government, the Philippines has yet to encapsulate a more effective e-government structure. Despite this, an obvious success of the previous e-government attempts is the creation of the E-commerce Act of the Philippines as it is a law that recognizes the use of electronic transactions and e-signatures, enacting penalties for piracy of protected materials and hacking through telecommunication channels, and prescribing grounds for liability of service providers (WIPO Lex, 2023). This one success is a bridge to creating a better structure for e-governments as it is a protective measure that allows for safer use of websites to avail government services online.

E-governments in South-East Asia

South-East Asian countries have an extremely high internet penetration rate which would normally mean having cohesive digital-government frameworks and agreements. However, due to political differences, many ASEAN countries fall behind in the aspect of bridging the digital divide at a national and local level (Tony Blair Institute for Global Change, 2022).

The E-Government Development Index (EGDI) is a ranking system that determines whether "a country is using information technologies to promote access and inclusion of its people" (UN E-Government Knowledgebase, 2022). It focuses on three dimensions of e-government: provision of online services, telecommunication connectivity, and human capacity. Between 2016 and 2020, two SEA countries - Malaysia and Thailand - were considered to have a very high EGDI (UN E-Government Knowledgebase, 2020). As of 2022, Thailand is ranked 55 (UN E-Government Knowledgebase, 2022) among all countries and Malaysia is ranked 53 (UN E-Government Knowledgebase, 2022). On the other hand, the Philippines is currently ranked 89 (UN E-Government Knowledgebase, 2022). Though the Philippines has reached the World Average, Region Average, and Sub-region Average for EGDI, it is still lacking in terms of E-Participation on both the regional and sub-regional levels.

The Three Elements of E-Government

To properly develop a working model, the state of the three elements of e-government must be assessed. The said elements are Ease of Access, Quality Service, and Client Satisfaction, and to assess these elements, we must look into what their status is in the current e-government model, what problems are present, and what solutions must be allocated to develop better e-government.

First, these elements must be defined:

Ease of Access - In a physical sense, ease of access refers to a location having particular characteristics that allow people with a temporary or permanent disability to enter, circulate, and leave the said area (Law Insider, 2015). However, in a more technological sense, ease of access refers to how easily users can make use of a product or service (Interaction Design Foundation, 2023). In this paper, we refer to Ease of Access similarly to the latter, in that: government services must be made accessible and usable for both government employees and the Filipino public.

Quality Service - Quality service is dependent on the users' (Filipino public's) point of view. This refers to how well online public services are executed by government websites that also meet the public's requirements (Li & Shang, 2020).

Client Satisfaction - Clent Satisfaction, also known as User Satisfaction, is a measurable and surveyable factor (Myint, 2022) that greatly affects the potential success or failure of e-governments (Alawneh et al., 2013). That being said, client satisfaction for this paper refers to how well-received these online government services are. Such satisfaction includes technology acceptance, information delivery (Horan et al., 2006), privacy & security, trust, and level of awareness and usage of online services (Thi et al., 2021).

The Challenges of Developing Countries

Developing countries such as the Philippines operate with a small budget, and only a tiny percent of this budget can be given to realize e-government efforts. The problem here is that as a developing country, the Philippines does not have the luxury to be reluctant in what to spend its resources on. With the many failed attempts at e-government building and management, the lack of commitment to make it work wastes resources and causes distrust between the government and the general public. It's impossible not to have failures even at a national scale, however, failures at such a large scale have consequences that equate to that same scale and may even domino effect into a larger one. Thus, one of the main challenges of developing countries in adopting e-governments will always be how committed the government is to make it work and how efficiently use their resources for it.

According to Samsor (2020), there are 5 obstacles often seen in e-government implementation in developing countries. These are stakeholder involvement, coordination, information sharing, ICT literacy, and e-government awareness. Stakeholder involvement goes beyond citizen involvement as there are also other stakeholders included in e-governments. Such stakeholders include service users, small-medium-sized enterprises, and other government agencies (Rowley, 2011). The agency responsible for realizing the Philippine e-government should focus on stakeholder typology and not just citizen-centric approaches as there are other groups affected by a change in government structure. Coordination is interlinked with e-government as it requires the use of a mix of instruments to centralize e-government development. Coordination allows for integrated service delivery through both physical and virtual aspects (Spacek, 2014). According to Yan et. al. (2010), information sharing is vital in cross-organizational collaboration. This includes collaborations between government agencies in creating an efficient work dynamic to provide the proper services to be delivered to the public. By far, one of the most paramount aspects in ensuring successful e-government is ICT literacy. E-government relies on technology and it can only be fully utilized and accessed digitally. Though it provides incredible physical outputs, many transactions & communication happen online. With that said, both the doer and the receiver must have knowledge of using such technology. This would mean that government workers are required to be trained, and there must be open and available programs to help the general public learn information technology. In addition to IT education, the availability of internet access also plays a huge role in enhancing e-government service utilization (Awiti & Reuben, 2020). In terms of e-government awareness, comprehension of the idea is still in need of improvement. As such, studies suggest creating awareness programs to help citizens understand the usability of these online services (Esakkirani & Chitra, 2020).

The Issue of the Digital Divide and Citizens' Acceptance

One of the bigger issues found in e-governments is the digital divide. The digital divide is considered the social issue of having different levels of access to information found through ICTs (United Nations, 2018). Because people of different social statuses have different levels of access to technology, some individuals have better access to information than others. With this, there is an obvious correlation seen between poverty and the digital divide.

Citizens in middle-income countries and low-income countries are less likely to accept a costly change in government structure. Adopting e-governments implies changes in education and mentality which are difficult for traditionalist countries like the Philippines. As such, the e-government itself should include e-government tools that are not dependent on levels of education. One way to do this is to make citizen-oriented governmental websites with easily digestible content and an uncomplicated interface.

Measures

To combat these growing problems, there must be measures taken at different levels.

On the Level of Policy:
There must be concrete, cohesive, and comprehensive policies made to ensure that the e-government structure does not collapse easily the same way it did in previous attempts. Although policies were made before to help solidify the e-governments that came before, such as the E-Commerce Act of 2000 and Data Privacy Act of 2012, there has yet to be any legislative framework to regulate the delivery of e-services (E-Government for Women's Empowerment in Asia and the Pacific, 2016).

On the Level of Implementation:
ICT serves as the backbone of e-government. This includes security, usability, data, content management, etc. (Apleni & Smuts, 2020). Because technology is not concrete and because the internet is abstract and hard to control, e-governments should be implemented with strict guidelines. The internet is a hard-to-control environment and e-governments have important data that need protection. With these points in mind, there needs to be a specific task force to ensure that the implementation of the e-government is smooth, consistent, and efficient. The same task force must also be able to have trained professionals to set up technological measures to ensure the security of data.

On the Level of Stakeholders' Participation
As previously mentioned, there is a need for stakeholder typology in order to consistently deliver quality service for all stakeholders, not just the citizens. A way to do this is to explore the stakeholder theory which defines how stakeholders' interests affect the success or failure of a project as large as building e-governments (Rose et al., 2018).

It is important to remember that stakeholder participation is a structured approach. It enables stakeholders to interact all throughout the policy cycle (OECD iLibrary, 2016). Since there are internal stakeholders (within the government) and external stakeholders (economic or contractual external stakeholders), public policy stakeholders, and community stakeholders, it is imperative that their needs are considered in developing e-governments (Dooms, 2019).

On the Level of Service Deployment:
The term 'service deployment' in this context refers to the ability of the organization to connect with other stakeholders, boost stakeholder participation, improve service delivery, and allow for better information dissemination (Patra et al., 2017). As such, there should be seminars to train employees to make use of ICTs for better service quality and efficiency. Committing to building the Philippine e-government includes investing in reliable manpower. As such, it is necessary to hire professionals in the field as well as tap researchers experienced in the field of social acceptance, technology, and politics.

Developmental Model

In the current political scheme, the government has learned from many of its previous attempts at creating e-governments. However, there are more considerations to be made before the current state of the Philippine e-government can be deemed successful. As part of the assessment, we must focus on the status of the three elements including their problems and ideal solutions. We must also consider the three major phases: Pre-Transition Phase, Transition Phase, and the Completion Phase. These three major phases are a part of the Developmental Model which the researcher will assemble as a guide for potential e-government success.

Included in the Developmental Model are the following:

- The Phases of E-Government
- The Principles of E-Government
- The Mechanisms of E-Government

The Pre-Transition Phase is the current e-government status before a transitional model is applied to improve its e-government state. The Transition Phase refers to the active period when the transitional model is applied wherein the necessary changes are made. The Completion Phase then refers to the end product of applying a transitional model creating a completed and improved e-government.

	Status	Problem	Solution
Ease of Access	Government services are not easily accessible online.	● There is little centralization of online information and poor online portal maintenance ● There are no consistent and powerful internet providers that allow easier public access to all government websites. ● The digital divide creates difficulty in the acquisition of online services for those living in rural areas and those who are under the poverty line.	● There is a need to institutionalize and centralize information. Creating a uniform source that is easily accessible by all iPrindividuals makes transactions smoother and more reliable. ● The government must allot a part of its EGF to provide basic devices that can be used by the general public to access these online services such as reviving the use of computers in public libraries or creating a service center or task force focused on bridging the gap on the digital divide.
Quality Service	The quality of service is highly dependent on skill, ICT literacy, and hardware quality.	● There is a lack of investment in manpower. There is a need for more diverse professionals in the field to develop the overall quality of e-government. ● Not enough education is directed toward ICT for those who provide the service. ● The technology utilized for service delivery frequently breaks	● There is a need to hire more professionals in the IT field as well as researchers to improve the e-government. ● Special programs, seminars, or bi-annual training must be conducted to ensure that employees are competent enough to provide quality service through technological means. ● There is a need to

		down.	invest in better-quality technology. This will allow for faster transactions with lower rates of error.
Client Satisfaction	There is a low client satisfaction rate based on government surveys.	● The organization focuses too much on solely providing the bare minimum: a website. However, these government portals are often poorly made and hard to navigate. ● The systems that run the online portal often make mistakes causing more problems instead of being a more convenient way to make transactions.	● Though decentralization of power supports local autonomy, e-governments must also have a centralized information system so as to allow users to better navigate the necessary information and services provided by the government.

Table 1. The Pre-Transition Phase Status

The table above presents the three factors existing in the Philippine Government, the current status for each factor, what problems they have, and the potential solutions which can be provided through e-government transition.

The problems within the three elements of e-government that exists within the pre-transition phase are solved during the transition phase. The transition phase is when the developmental model is applied. By the completion phase, all problems would be smoothened out and polished.

The Principles and Mechanisms of the Developmental Model

Allow access and inclusivity: Ensuring that government services and information are accessible to all citizens, including those with disabilities, regardless of location, language, or socioeconomic status. This may involve providing online services that are user-friendly, multilingual, and available across various devices and platforms.

Shows transparency: Promoting transparency in government processes, decision-making, and information sharing. This may involve making government data and information publicly available, providing opportunities for public participation, and fostering a culture of openness and accountability in government operations.

Provides efficiency and effectiveness: Optimizing government processes and service delivery through the use of ICTs to streamline workflows, reduce bureaucracy, and enhance operational efficiency. This may involve automating routine tasks, integrating systems, and adopting best practices for effective service delivery.

Prioritizing Citizens: Placing citizens at the center of e-government initiatives and focusing on their needs and preferences. This may involve designing user-friendly interfaces, personalizing services, and providing channels for feedback and engagement to ensure that government services are tailored to citizens' requirements.

Ensuring security and privacy: Ensuring the security and confidentiality of government data, transactions, and communications, and protecting citizens' privacy. This may involve implementing robust cybersecurity measures, data encryption, and compliance with privacy laws and regulations to safeguard sensitive information.

Promoting interoperability: Promoting interoperability among government systems and adopting common standards to enable the seamless exchange of data and services across different agencies and levels of government. This may involve developing shared platforms, APIs, and data standards to facilitate integration and interoperability.

Encouraging collaboration and partnerships: Encouraging collaboration and partnerships among government agencies, private sector entities, civil society organizations, and citizens to co-create solutions, leverage expertise, and foster innovation in e-government initiatives. This may involve public-private partnerships, stakeholder engagement, and participatory approaches to policy-making and service design.

These principles are intended to guide the development and implementation of e-government initiatives to ensure that they are citizen-centric, efficient, transparent, secure, and inclusive while promoting collaboration and interoperability among different stakeholders. However, specific approaches to e-government may vary depending on the context, goals, and priorities of each government and jurisdiction.

As for the mechanisms, patterned from Ndou's e-government framework, e-governments must operate with these three major components: **transformation areas; users, stakeholders, and their interrelationships; and e-government application domains** (Ndou, 2004).

There are three transformation areas: internal, external, and relational (Twizeyimana & Andersson, 2019).

- Internal Transformation Area - refers to the use of ICT in order to improve government efficiency in terms of internal functions and processes. Example: one government agency connecting to another.
- External Transformation Area - refers to the use of ICT for transparency and information dissemination. Example: disaster risk announcements from the government.
- Relational Transformation Area - refers to the use of ICT in altering the relationships between the citizens and the government. Example: Government websites are regarded to be more reliable than other social media platforms or news outlets, thus creating more trust between citizens and the state.

There are generally four main groups of stakeholders which are the citizens, businesses, governments, and employees. As such, electronic transactions revolve around these different relationships (G2C, G2B, G2G, and G2E).

The three domains are similar to what has previously been discussed as strategic areas (e-government, e-business, cybersecurity, and e-society) explained by Villanueva (2018). These domains, however, were originally created by Heeks (2001):

- e-Administration - this domain automates administrative tasks to allow strategies to form.
- e-Services - this domain connects the stakeholder groups through the transaction of services.
- e-Citizens and e-Society - this domain allows for general interaction among all stakeholders.

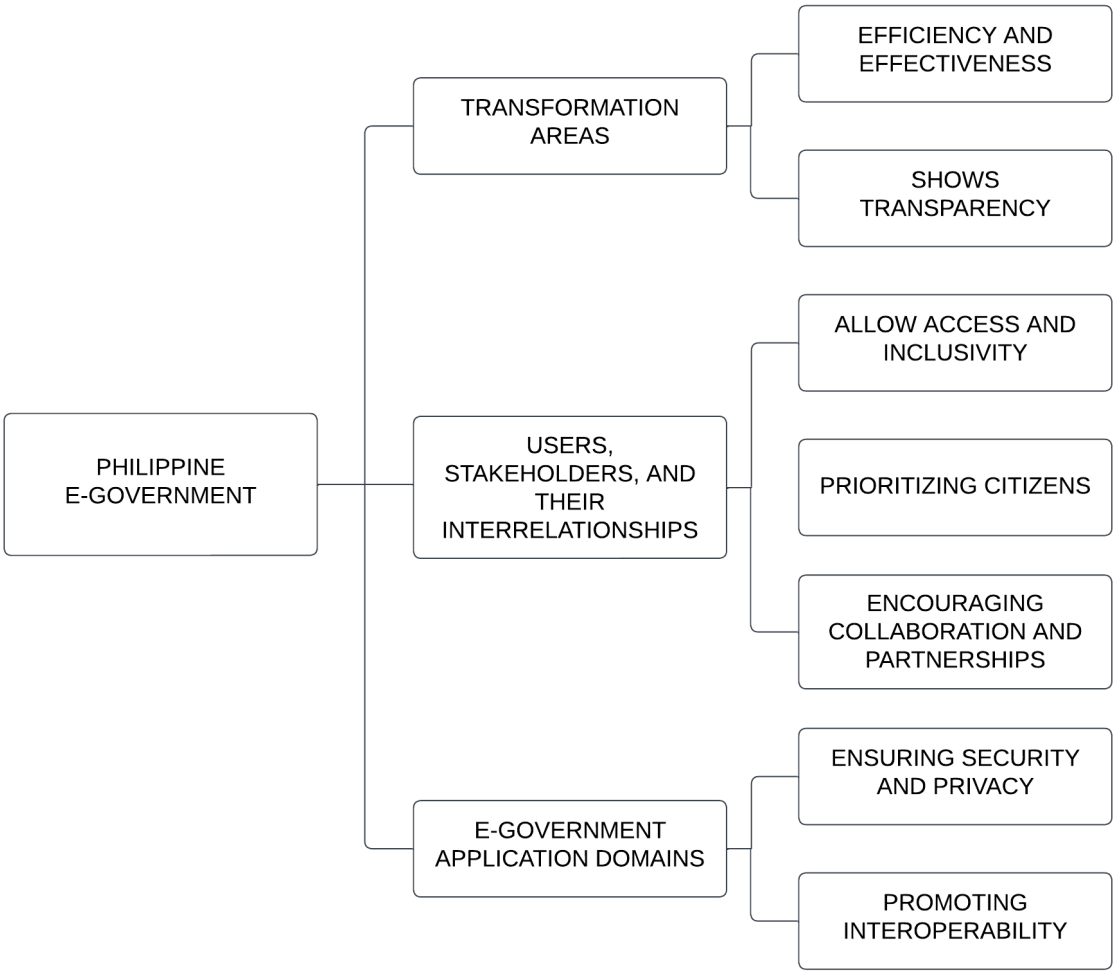


Diagram 1. The Principles and Mechanisms of the Developmental Model

For each mechanism, certain principles are paired to concretize them.

- Transformation Areas - Provides efficiency and effectiveness, Shows transparency
- Users, Stakeholders, and their Interrelationships - Allow access and inclusivity, Prioritizing Citizens, Encouraging collaboration and partnerships
- E-government Application Domains - Ensuring security and privacy, Promoting interoperability

Certain principles exist to concretize the mechanisms, allowing for better and more impactful e-government. Having these principles and mechanisms for the developmental model provides essential knowledge for future e-government attempts as it concentrates on the challenges of developing countries in maintaining an e-government system while also providing a solution to said problems.

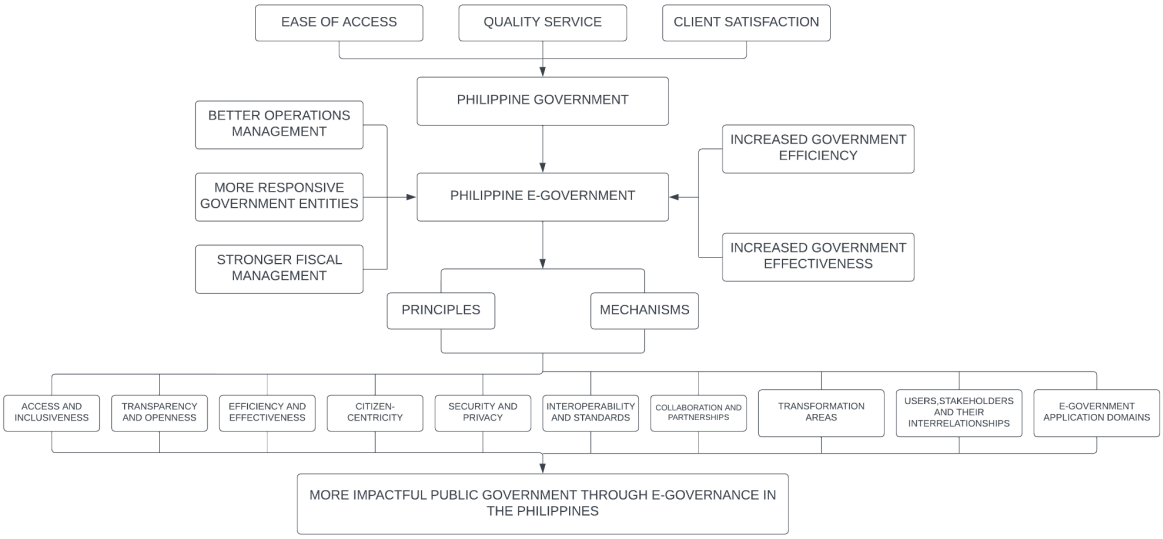


Diagram 2. Developmental Model

The developmental model presented shows both the traditional government and the e-government along with the factors that make each structure work in its specific contexts. Through this model, we are able to identify why adopting an e-government stricture may improve the government's overall performance and raise satisfaction rates among the stakeholders.

Ease of Access, Quality Service, and Client Satisfaction are three large components considered in a government. In the traditional government setup, these components are slowly falling towards the negative as the Digital Age has inevitably entered the conversation. Especially due to the pandemic, it is but a necessity to transact online. This created difficulty in ease of access as the government was unprepared with their online presence, lacking the skill to accommodate the many Filipinos wanting and needing to transact online. The quality of service also dwindled due to the unpreparedness in training employees or hiring IT specialists. Finally, as an outcome of this lack of online savviness, the Filipino public expressed dissatisfaction. Thus, the need for e-government emerged once again.

Potentially successful e-government has many factors that make it so. The output of employing e-government can offer better operations management, provide more responsive government entities, strengthen fiscal management, and increase government efficiency and effectiveness. For that to happen, it must have principles and mechanisms that allow it to perform to its full potential. These components make the government more impactful through the use of ICT.

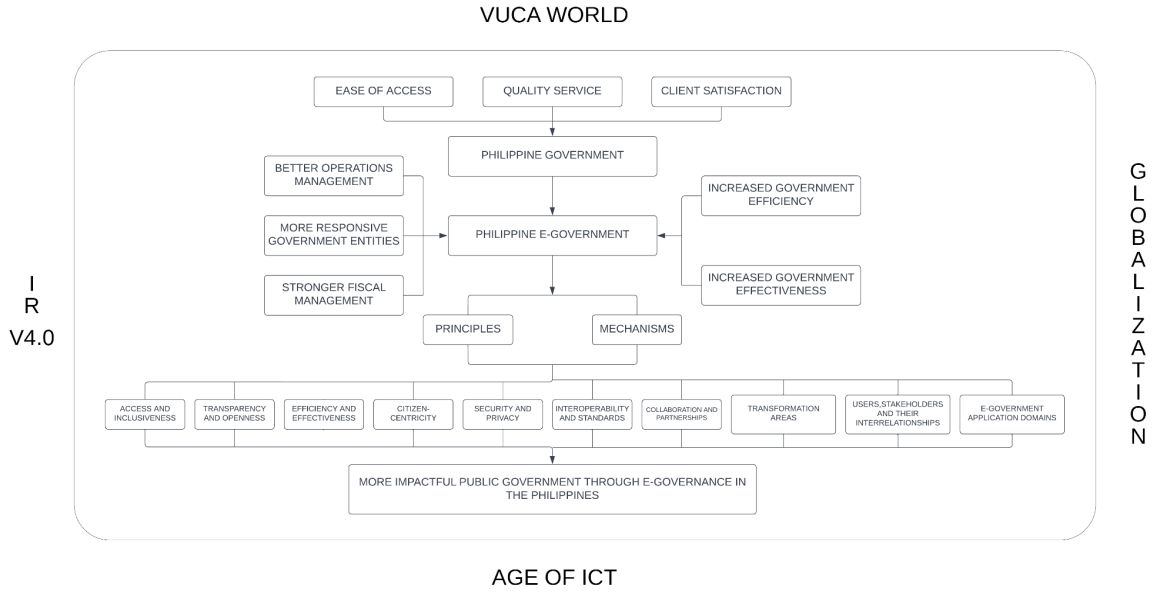


Diagram 3. Developmental with External Factors

The Philippines operates as a democratic state wherein the government serves as its internal decision-maker. However, there are external elements that affect the effectiveness of the government. These external elements are the VUCA (Volatile, Uncertain, Complex, and Ambiguous) World, IR V4.0 (Industrial Revolution Version 4.0), Globalization, and the Age of ICT.

As we exist in a VUCA World, we must catch up to the fast-paced growth of the countries around us. Falling behind can have a drastic impact on our economy. Our goal of alleviating poverty can only be realized once the government becomes equipped in handling the VUCA world. The Industrial Revolution has come to a point where livelihoods start to depend on the technological advancements that continually pop up. This revolution will affect aspects of society that then affect Filipinos' lifestyles due to its roots in creativity and innovation. Globalization also has bridged the gap in communication and connected us to one another, emerging technologies and demanding developing countries to catch up to international trade. As previously mentioned, we live in the Digital Age now, the Age of ICT. With the quickened pace of technological growth, even traditionalist countries are encouraged to grow with the world. This means having to explore ICT options in larger scales.

These external factors support why a nation like the Philippines must commit to an e-government. It allows us to be on par with other countries. Such a status can provide us with advantages economically.

Conclusions

The research focused on the need for a traditional government to transition into an e-government through the use of a developmental model. In doing so, the researcher has concluded that attempts to change the system of the government continually failed due to three things: ease of access, quality service, and client satisfaction. Due to the issues of the digital divide and ICT literacy, access to e-government tools is inconsistent for the general public. Quality service is also dependent on government employees' competency. Without the proper training and agency coordination, service quality dwindles and causes negative citizen reviews. This leads to the factor of Client Satisfaction. E-governments only succeed when users are satisfied with the overall performance of the provided online services. Without this, a large chunk of the stakeholders is likely to resign to their traditional ways. The

research, however, is limited to only the general frontline services that can be offered both online and offline. It does not consider the less streamlined and highly decentralized agencies that provide more niche services.

Recommendations

The researcher would like to recommend future researchers explore the digital divide further and determine ways in which the gap can be closed. A more inter-agency focus on the paper may also provide more information on internal stakeholder relationships and how they align with external stakeholders' interests. Finally, we recommend future researchers test the developmental model within a doable scale.

References:

Alawneh, A., Al-Refai, H., & Batiha, K. (2013). Measuring user satisfaction from e-Government services: Lessons from Jordan. *Government Information Quarterly*, *30*(3), 277–288. https://doi.org/10.1016/j.giq.2013.03.001

Alshehri, M., & Drew, S. J. (2011). E-government principles: implementation, advantages and challenges. *International Journal of Electronic Business*, *9*(3), 255. https://doi.org/10.1504/ijeb.2011.042545

Apeti, A. E. (2022). Does trust in government improve Covid-19's crisis management? *SN Social Sciences*, *2*(10). https://doi.org/10.1007/s43545-022-00505-6

Apleni, A., & Smuts, H. (2020). An e-Government Implementation Framework: A Developing Country Case Study. *Lecture Notes in Computer Science*, 15–27. https://doi.org/10.1007/978-3-030-45002-1_2

Asian Development Bank. (2023, February 2). *ADB, Philippine Government Award Skills-Training Grants to Raise Workers' Productivity*. Asian Development Bank. https://www.adb.org/news/adb-philippine-government-award-skills-training-grants-raise-workers-productivity

Awiti, R., & Reuben, J. (2020, July). *Influence of Internet Access and ICT Literacy on E- Government Services Utilization by Small and Medium...* ResearchGate; unknown. https://www.researchgate.net/publication/348658063_Influence_of_Internet_Access_and_ICT_Literacy_on_E-_Government_Services_Utilization_by_Small_and_Medium_Enterprises_in_Kenya_A_Case_Study_of_Kibera_in_Nairobi_County

Bajar, J. T. (2020, December). *E-Government in the Philippines: An Assessment*. Ssrn.com. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3762071

Britannica. (2022). Philippines - The Spanish period | Britannica. In *Encyclopædia Britannica*. https://www.britannica.com/place/Philippines/The-Spanish-period

Buenaobra, M. I. T. (2016, February 24). *The Politics of Religion in the Philippines - The Asia Foundation*. The Asia Foundation. https://asiafoundation.org/2016/02/24/the-politics-of-religion-in-the-philippines/

Bureau of Internal Revenue. (2023). *eComplaint DISIPLINA*. Bir.gov.ph. https://birapps.bir.gov.ph/ecomplaint/no_or_form.jsp

Capistrano, E. P. (2020). Determining e-Government Trust: An Information Systems Success Model Approach to the Philippines' Government Service Insurance System (GSIS), the Social Security System (SSS), and the Bureau of Internal Revenue (BIR). *Philippine Management Review*, *27*, 57–78. https://pmr.upd.edu.ph/index.php/pmr/article/view/342

Carvin, A., Hill, J., & Smothers, S. (2004). *E-government for all: Ensuring equitable access to online government services*. The EDC center for media & community and the NYS forum.

Chukwuemeka, E. E. O., Chinenye, O., & Okafor, C. (2018, November 29). *Enhancing service delivery in Joint Admission and Matriculation Board (JAMB) Nigeria: The imperative of...* ResearchGate; AOSIS. https://www.researchgate.net/publication/329314397_Enhancing_service_delivery_in_Joint_Admission_and_Matriculation_Board_JAMB_Nigeria_The_imperative_of_e-governance

Coface. (2019). *MAJOR MACRO ECONOMIC INDICATORS*. Coface.com. https://www.coface.com/Economic-Studies-and-Country-Risks/Philippines

Cruz, R. (2023, March 6). *House OKs E-Governance Act*. ABS-CBN News; ABS-CBN News. https://news.abs-cbn.com/news/03/07/23/house-oks-e-governance-act

Cupin, B. (2021, November 25). *This study says Filipinos trust religious leaders, journalists the most*. RAPPLER. https://www.rappler.com/nation/filipinos-trust-religious-leaders-journalists-philippine-trust-index-2021-results/

Cupin, B. (2022, August 22). *Education, infrastructure top priority sectors in Marcos' first budget*. RAPPLER. https://www.rappler.com/nation/marcos-2023-budget-priority-sectors/

Curato, N. (2021, January 22). *Democratic expressions amidst fragile institutions: Possibilities for reform in Duterte's Philippines*. Brookings; Brookings. https://www.brookings.edu/articles/democratic-expressions-amidst-fragile-institutions-possibilities-for-reform-in-dutertes-philippines/

Davison, R. M., Wagner, C., & Ma, L. C. K. (2005). From government to e-government: a transition model. *Information Technology & People*, *18*(3), 280–299. https://doi.org/10.1108/09593840510615888

Development Academy of the Philippines. (2022, February 22). *Improving frontline government services through citizens' feedback | PDC*. Dap.edu.ph. http://pdc.dap.edu.ph/index.php/improving-frontline-government-services-through-citizens-feedback/

Dooms, M. (2019). Stakeholder Management for Port Sustainability. *Green Ports*, 63–84. https://doi.org/10.1016/b978-0-12-814054-3.00004-9

E-Government for Women's Empowerment in Asia and the Pacific. (2016a). *2. Evolution of e-government in the Philippines | E-Government for Women's Empowerment in Asia and the Pacific*. Unescapsdd.org. https://egov4women.unescapsdd.org/country-overviews/philippines/evolution-of-e-government-in-the-philippines

E-Government for Women's Empowerment in Asia and the Pacific. (2016b). *8. Existing legislative and policy frameworks on e-Governance | E-Government for Women's Empowerment in Asia and the Pacific*. Unescapsdd.org. https://egov4women.unescapsdd.org/country-overviews/philippines/existing-legislative-and-policy-frameworks-on-e-governance

E-SPIN. (2023, February 15). *Advantages and Disadvantages of E-Government: Exploring the Pros and Cons of Digital Government Services*. E-SPIN Group; E-SPIN. https://www.e-spincorp.com/the-advantages-and-disadvantages-of-e-government/

Economic Times India. (2022, August 16). *How long before India becomes a developed country?* The Economic Times; Economic Times. https://economictimes.indiatimes.com/news/india/how-long-before-india-becomes-a-developed-country/articleshow/93589480.cms

eLegal Dasini & Dasini Law Office Publication. (2015, April 20). *The Philippine E-Government Fund | eLegal Philippines*. ELegal Philippines. https://elegal.ph/the-philippine-e-government-fund/

EON Group. (2022, August 9). *Philippines Trust Index - EON Group | Public Relations*. EON. https://www.eon.com.ph/services/the-philippine-trust-index/

Esakkirani, Dr. R. S., & Chitra, V. (2020, June 30). *Public Awareness and Usages of E-Government Services*. ResearchGate; Tejass Publisheers. https://www.researchgate.net/publication/352973394_Public_Awareness_and_Usages_of_E-Government_Services

Fox, R. B. (2022). *THE STUDY OF FILIPINO SOCIETY AND ITS SIGNIFICANCE TO PROGRAMS OF ECONOMIC AND SOCIAL DEVELOPMENT on JSTOR*. Jstor.org. https://www.jstor.org/stable/43498112

Heeks, R. (2001, February 18). *Understanding e-Governance for Development*. Papers.ssrn.com. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3540058

Human Rights Watch. (2021, December). *World Report 2022: Rights Trends in Philippines*. Human Rights Watch. https://www.hrw.org/world-report/2022/country-chapters/philippines

Ichimura, A. (2019). *10 Government Services You Didn't Know You Can Do Online*. Esquiremag.ph. https://www.esquiremag.ph/money/industry/10-online-government-services-a00304-20191018-lfrm

IGI Global. (2021). *What is E-Society?* Igi-Global.com. https://www.igi-global.com/dictionary/government-implementation-transition-countries/8925#:~:text=Electronic%20or%20information%20society.,processes%20of%20individuals%20and%20organizations.

Interaction Design Foundation. (2023). *What is Ease of Use?* The Interaction Design Foundation; UX courses. https://www.interaction-design.org/literature/topics/ease-of-use

iSupport Worldwide. (2021, June 16). *How the Government Enhanced the BPO Industry in the Philippines*. ISupport Worldwide. https://isupportworldwide.com/how-the-philippine-government-enhanced-the-bpo-industry/

Jain, V. (2020, March 14). *E-Governance - Trends, Scenario, Problems and Solutions - research journal*. Research Journal. https://www.gyanvihar.org/journals/index.php/2020/03/14/e-governance-trends-scenario-problems-and-solutions/

Japan Gov. (2018). *The Origin of Japan's Modernization / The Government of Japan - JapanGov -*. The Government of Japan - JapanGov -. https://www.japan.go.jp/tomodachi/2018/spring2018/the_origin_of_japans_modernization.html

Lallana, E., Pascual, P., Soriano, E., Nakpil, K., & Recio, B. (2002a). *e-Government in the Philippines: Benchmarking Against Global Best Practices*. https://www.unapcict.org/sites/default/files/2019-01/e-Government%20in%20the%20Philippines%20-%20Benchmarking%20Against%20Global%20Best%20Practices.pdf

Lallana, E., Pascual, P., Soriano, E., Nakpil, K., & Recio, B. (2002b). *e-Government in the Philippines: Benchmarking Against Global Best Practices*. https://www.unapcict.org/sites/default/files/2019-01/e-Government%20in%20the%20Philippines%20-%20Benchmarking%20Against%20Global%20Best%20Practices.pdf

Law Insider. (2015). *Ease of access Definition | Law Insider*. Law Insider; Law Insider. https://www.lawinsider.com/dictionary/ease-of-access

LawPhil. (2019). *G.R. No. 210503*. Lawphil.net. https://www.lawphil.net/judjuris/juri2019/oct2019/gr_210503_2019.html

Li, F. (2003). Implementing E-Government Strategy in Scotland. *Journal of Electronic Commerce in Organizations*, *1*(2), 44–65. https://doi.org/10.4018/jeco.2003040104

Li, Y., & Shang, H. (2020). Service quality, perceived value, and citizens' continuous-use intention regarding e-government: Empirical evidence from China. *Information & Management*, *57*(3), 103197. https://doi.org/10.1016/j.im.2019.103197

Magno, F. (2018). E-Government and Philippine Development. In *core.ac.uk*. https://core.ac.uk/download/pdf/159504666.pdf

Moon, M. J. (2002). The Evolution of E-Government among Municipalities: Rhetoric or Reality? *Public Administration Review*, *62*(4), 424–433. https://doi.org/10.1111/0033-3352.00196

Myint, A. A. (2022). Users' satisfaction with e-government services. *International Journal of Research in Business and Social Science (2147- 4478)*, *11*(3), 73–81. https://doi.org/10.20525/ijrbs.v11i3.1712

Ndou, D. (2004, June). *E-Government for Developing Countries: Opportunities and Challenges*. ResearchGate; unknown. https://www.researchgate.net/publication/228580317_E-Government_for_Developing_Countries_Opportunities_and_Challenges

Neil. (2021, November 29). *Trust Issues: Reflections on the current Philippine trust landscape - BusinessWorld Online*. BusinessWorld Online. https://www.bworldonline.com/opinion/2021/11/29/413980/trust-issues-reflections-on-the-current-philippine-trust-landscape/

Neil. (2023, March 15). *Philippines ranks second on global cyberattack list - BusinessWorld Online*. BusinessWorld Online. https://www.bworldonline.com/technology/2023/03/16/510855/philippines-ranks-second-on-global-cyberattack-list/#:~:text=THE%20Philippines%20ranked%20the%20second,company%20Kaspersky%20said%20on%20Tuesday.

OECD. (2020). *The territorial impact of COVID-19: Managing the crisis across levels of government*. OECD. https://www.oecd.org/coronavirus/policy-responses/the-territorial-impact-of-covid-19-managing-the-crisis-across-levels-of-government-d3e314e1/

OECD iLibrary. (2016). *Chapter 1*. Oecd-llibrary.org. https://www.oecd-ilibrary.org/sites/af1b4fa3-en/index.html?itemId=/content/component/af1b4fa3-en

Official Gazette. (2000, June 14). *Republic Act No. 8792 | GOVPH*. Official Gazette of the Republic of the Philippines. https://www.officialgazette.gov.ph/2000/06/14/republic-act-no-8792-s-2000/

Official Gazette. (2011, June 23). *Executive Order No. 47, s. 2011 | GOVPH*. Official Gazette of the Republic of the Philippines. https://www.officialgazette.gov.ph/2011/06/23/executive-order-no-47-s-2011/

Official Gazette. (2021). *Executive Order No. 140, s. 2021 - Official Gazette*. Official Gazette. https://www.officialgazette.gov.ph/downloads/2021/06jun/20210625-EO-140-RRD.pdf

Ona, S., Estefanie Ulit Bertumen, & Hanna, N. K. (2012). *The Philippines: The Quest for Genuine e-Development*. ResearchGate; unknown. https://www.researchgate.net/publication/302455614_The_Philippines_The_Quest_for_Genuine_e-Development

Organization of American States. (2022). *About e-Government*. Oas.org. http://portal.oas.org/portal/sector/sap/departamentoparalagesti%C3%B3np%C3%BAblicaefectiva/npa/sobreprogramadeegobierno/tabid/811/default.aspx?language=en-us

Participedia. (2020). *Traditional Governance Systems – Participedia*. Participedia.net. https://participedia.net/method/5214#:~:text=Traditional%20Governance%20Systems%20approaches%20to,in%20collaborative%20and%20participatory%20processes.

Patra, P., Ray, A. K., & Ramakrushna Padhy. (2017). *E-governance service deployment: An empirical study with structural equation model*. ResearchGate; Inderscience. https://www.researchgate.net/publication/320478425_E-governance_service_deployment_An_empirical_study_with_structural_equation_model

Philippine Institute for Development Studies. (2013). *Government Information System Plan*. Pids.gov.ph. https://serp-p.pids.gov.ph/publication/public/view?slug=government-information-system-

plan#:~:text=Approved%20by%20the%20President%20for,electronic%20governance%20in%20the%20Philippines.

Philippine Institute for Development Studies. (2019). *Fact Friday on Digital Literacy Skills of Filipinos*. Pids.gov.ph. https://www.pids.gov.ph/details/fact-friday-on-digital-literacy-skills-of-filipinos#:~:text=A%20PIDS%20paper%20underscored%20the

Philippine News Agency. (2022, September 9). *Nat'l program needed to avert learning poverty: solon*. @Pnagovph; Philippine News Agency. https://www.pna.gov.ph/articles/1183313

Pratt, M. K., Cole, B., & Karjian, R. (2022). *e-business (electronic business)*. CIO; TechTarget. https://www.techtarget.com/searchcio/definition/e-business

Press and Public Affairs Bureau. (2022). *House of Representatives Press Releases*. Congress.gov.ph. https://www.congress.gov.ph/press/details.php?pressid=12406

Replicon. (2022, August 25). *Labor Requirements*. Replicon. https://www.replicon.com/regulation/philippines-labor-laws/#:~:text=The%20employer%20shall%20provide%20not,of%20the%20Philippines%2C%20Article%2085.

Rocamora, J. (2005, July 26). *Formal Democracy and its Alternatives in the Philippines:* Transnational Institute. https://www.tni.org/es/node/7396

Ronda, R. A. (2023, March 14). *"Philippines 2nd most attacked by web threats worldwide last year."* Philstar.com; Philstar.com. https://www.philstar.com/headlines/2023/03/15/2251710/philippines-2nd-most-attacked-web-threats-worldwide-last-year

Rose, J., Flak, L. S., & Sæbø, Ø. (2018). Stakeholder theory for the E -government context: Framing a value-oriented normative core. *Government Information Quarterly*, *35*(3), 362–374. https://doi.org/10.1016/j.giq.2018.06.005

Rowley, J. (2011). e-Government stakeholders—Who are they and what do they want? *International Journal of Information Management*, *31*(1), 53–62. https://doi.org/10.1016/j.ijinfomgt.2010.05.005

Rufa Cagoco-Guiam. (2022, September). *Rays of hope*. INQUIRER.net; INQUIRER.net. https://opinion.inquirer.net/156923/rays-of-hope

S. Talabis, D. A., Babierra, A. L., H. Buhat, C. A., Lutero, D. S., Quindala, K. M., & Rabajante, J. F. (2021). Local government responses for COVID-19 management in the Philippines. *BMC Public Health*, *21*(1). https://doi.org/10.1186/s12889-021-11746-0

Salesforce. (2016). *Advantages and Obstacles of Making the Transition to E-Government*. Salesforce. https://www.salesforce.com/solutions/industries/government/resources/advantages-and-obstacles-of-e-government/

Samsor, A. M. (2020). Challenges and Prospects of e-Government implementation in Afghanistan. *International Trade, Politics and Development*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/itpd-01-2020-0001

SARIO, A. (2013). *HEIDEGGER AND MARX ON TECHNOLOGY*. Mabini Review. https://www.academia.edu/44920567/HEIDEGGER_AND_MARX_ON_TECHNOLOGY

Smolicz, J. J. (1991). THE ESSENTIAL TENSION BETWEEN MODERNITY AND TRADITION: ASIAN CULTURAL HERITAGE AND SCIENTIFIC DEVELOPMENT. *Philippine Quarterly of Culture and Society*, *19*(2), 91–106. https://www.jstor.org/stable/29792046

Spacek, D. (2014, July 26). *Coordination of and Through E-Government: The Case of the Czech Republic*. ResearchGate; unknown. https://www.researchgate.net/publication/270268938_Coordination_of_and_Through_E-Government_The_Case_of_the_Czech_Republic

Su, Y., & Thayaalan, S. (2022, February 11). *The Philippines' COVID-19 Response Has Left the Most Vulnerable Behind*. Thediplomat.com. https://thediplomat.com/2022/02/the-philippines-covid-19-response-has-left-the-most-vulnerable-behind/

Thi, N., Thao, P., Van Anh, N., Thi, L., Huong, T., Tran, D., & Huy, N. (2021). Measuring citizen's satisfaction when using E- Government online public services: Lessons from Vietnam. *Journal of Contemporary Issues in Business and Government*, *27*(1), 2021. https://cibgp.com/article_9388_03408b13556a96c57e1e50aca168c645.pdf

Timberman, D. G. (2019, January 10). *Philippine Politics Under Duterte: A Midterm Assessment*. Carnegie Endowment for International Peace; Carnegie Endowment for International Peace.

https://carnegieendowment.org/2019/01/10/philippine-politics-under-duterte-midterm-assessment-pub-78091

Tony Blair Institute for Global Change. (2022, April 11). *Digital Government in South-East Asia: Greater Collaboration Needed to Reach Regional Integration*. Institute.global; Tony Blair Institute. https://www.institute.global/insights/tech-and-digitalisation/digital-government-south-east-asia-greater-collaboration-needed-reach-regional-integration

Translators Without Borders. (2022, July 6). *Language data for the Philippines - Translators without Borders*. Translators without Borders. https://translatorswithoutborders.org/language-data-for-the-philippines#:~:text=Filipino%2C%20the%20standardized%20form%20of,commonly%20used%20by%20the%20government.

Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government – A literature review. *Government Information Quarterly*, *36*(2), 167–178. https://doi.org/10.1016/j.giq.2019.01.001

U.S Department of State. (2021). *JAPAN 2021 INTERNATIONAL RELIGIOUS FREEDOM REPORT*. https://www.state.gov/wp-content/uploads/2022/04/JAPAN-2021-INTERNATIONAL-RELIGIOUS-FREEDOM-REPORT.pdf

UN E-Government Knowledgebase. (2020). *UN E-Government Survey 2020*. Un.org. https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2020

UN E-Government Knowledgebase. (2022a). *EGOVKB | United Nations > About > Overview > E-Government Development Index*. Un.org. https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index

UN E-Government Knowledgebase. (2022b). *EGOVKB | United Nations > Data > Country Information*. Un.org. https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/103-Malaysia

UN E-Government Knowledgebase. (2022c). *EGOVKB | United Nations > Data > Country Information*. Un.org. https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/169-Thailand

UN E-Government Knowledgebase. (2022d). *EGOVKB | United Nations > Data > Country Information*. Un.org. https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/134-Philippines

United Nations. (2018). *The Role of e-Governance in Bridging the Digital Divide | United Nations*. United Nations; United Nations. https://www.un.org/en/chronicle/article/role-e-governance-bridging-digital-divide#:~:text=The%20concept%20of%20the%20digital,and%20those%20who%20do%20not.

United Nations. (2020). *COVID-19 pushes more government activities online despite persisting digital divide | Naciones Unidas*. United Nations; United Nations. https://www.un.org/es/desa/covid-19-pushes-more-government-activities-online-despite-persisting-digital

United Nations Industrial Development Organization. (2020). *Country context | UNIDO*. Unido.org. https://www.unido.org/who-we-are-unido-worldwide-asia-and-pacific-offices-philippines/country-context#:~:text=According%20to%20the%20World%20Bank,a%20globally%2Drecognized%20competitive%20workforce.

United States Holocaust Memorial Museum. (2022). *World War II in the Pacific*. Ushmm.org. https://encyclopedia.ushmm.org/content/en/article/world-war-ii-in-the-pacific

Villanueva, P. A. G. (2018a). Institutional change, corruption and e-government transformation in the Philippines: The Benigno Simeon Aquino III administration. *Kasetsart Journal of Social Sciences*, *39*(3), 463–471. https://doi.org/10.1016/j.kjss.2018.07.015

Villanueva, P. A. G. (2018b). Institutional change, corruption and e-government transformation in the Philippines: The Benigno Simeon Aquino III administration. *Kasetsart Journal of Social Sciences*, *39*(3), 463–471. https://doi.org/10.1016/j.kjss.2018.07.015

WIPO Lex. (2023). *Electronic Commerce Act (Republic Act No. 8792)*. Wipo.int. https://www.wipo.int/wipolex/en/legislation/details/3453

Yan, Z., Sun, B., & Wang, T. (2010). A Study on E-Government Information Sharing. *Understanding Complex Systems*, 571–580. https://doi.org/10.1007/978-3-642-13938-3_50