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Relevance of the UN e-Government surveys and the OECD Digital Government Index 2019 to e-government Stakeholders: The Case of Antigua and Barbuda

Master's Thesis

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PhD

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ÜRO e-Valitsemise uuringute ja OECD 2019. aasta digivalitsemise indeksi asjakohasus e-valitsemise sidusrühmade jaoks: Antigua ja Barbuda juhtum

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Author’s declaration of originality

I hereby certify that I am the sole author of this dissertation. All the used materials, references to the literature and the work of others have been referred to. This dissertation has not been presented for examination anywhere else.

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Abstract

The implementation of e-government is viewed as an effective and efficient way to bridge the gap between government and citizens also other agencies. The role of e-government also shares its benefits with enhancing the delivery of businesses and political mandates. However, although there are numerous benefits of the deployment of e-government initiatives, the failure rate of these initiatives is relatively high given the many advantages, particularly in developing countries. International organizations such as the United Nations and the Organization for Economic Co-operation and Development provide rankings and recommendations to support countries with developing e-government initiatives on a national level.

The study utilizes a case study of a developing country, Antigua and Barbuda, to assess the relevance of these international organization surveys, the UN and OECD surveys to stakeholders. The study aims to understand the role of key stakeholders which influence the success of e-governance projects, examine the correlation and role among diverse stakeholders and how they contribute to the successful implementation of e-governance programs; and determine if there are any gaps in policymaking and recommendations when implementing e-government initiatives based on the UN and OECD report.

This dissertation is written in English and is **sixty-two** pages long, including **six** chapters, **four** figures and **six** tables.

List of abbreviations and terms

CARICOM	Caribbean Community
COVID-19	Coronavirus Disease of 2019
DPIDG	Division for Public Institutions and Digital Government
EGDI	E-government Development Index
GDP	Gross Domestic Product
ICT	Information and Communication Technology
OECD	Organization for Economic Co-operation and Development
OECS	Organization of Eastern Caribbean States
SDGs	Sustainable Development Goals
ECLAC	Economic Commission for Latin America and the Caribbean
SIDS	Small Island Developing States
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs

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1. Introduction

The rise of the digital sphere has created a more suitable market for individuals, particularly consumers and traders, who can easily collaborate to achieve their goals, thereby contributing significantly to the economy's functioning and stability: through the sale and purchase of goods and services. (Cortes, 2017). The increasing rate of e-commerce, where firms try to offer their services to consumers and consumers engage interchangeably, is an example of this increase. (J, 2016). The Internet and modern technologies have demonstrated the possibilities of creating web-based electronic applications (Metaxiotis & John, 2004). An aspect of this increase can be noticed in the growth rate of e-commerce, where businesses aim to sell their services to consumers and consumers interact interchangeably (Cortes, 2017). Governments are focusing on the transformational implications of information and communication technology (ICT) in the public sector by pursuing e-government projects as a result of the successful growth of e-commerce (Drigas & Koukianakis , 2009), (Siqing, Li, Jing, Yi, & Fan, 2011). Scholars who have studied this field indicate that "[t]hese technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management […] [while] [t]he resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and cost reductions" (Basu, 2004).

Previous research has mentioned that " [while] [g]overnment […] engages in marketing and sales via the Internet, [this] is not the heart of e-government. The core task of government is governance, the job of regulating society and not just marketing and sales" (Guo, 2011).

Based on these detectable relations, the United Nations (UN) and the OECD have motivated government representatives and academic scholars to create a structure to benchmark or rank to promote and incorporate e-government services by acknowledging top performers and those lagging in investing in this capability. Due to the UN's influence in international politics, the surveys can play an instrument in promoting this

transformation and possible democratic deficits. It has been debated that the successful implementation of e-government depends not only on the use of technology (Bharosa , Lips , & Draheim , 2020), (Zhang, S, & Sarkis, 2005). Instead, scholars have pointed out that key stakeholders' role is paramount for any successful implementation (Ashaye & Irani, 2019) . Previous studies have researched the importance of key stakeholders in the implementation and effective adoption of e-government (Siqing, Li, Jing, Yi, & Fan, 2011). However, there is a gap in the United Nations Global e-government surveys and the OECD Digital Government Index related to the relevance of stakeholders with the developing e-government pertaining to the implementation, monitoring, and policymaking of e-government initiatives. One of the areas of examination is the clusters used by these surveys; clusters within this dissertation are the methods in which data is collected to measure the development of e-government at a national level.

1.1 The OECD, United Nations & E-government

The United Nations, a successor of the League of Nations after World War II, was established through a charter on the 26th of June,1945, consisting of 193 Member States. The UN is an international organization working on maintaining "international peace and security, giving humanitarian assistance to those in need, protecting human rights, and upholding international law" (Nations, History of the United Nations, 2021). To achieve and sustain the UN agendas, there are different arms such as the General Assembly, Security Council, Economic and Social Council, Trusteeship Council, International Court of Justice, and Secretariat. Due to the influential position of the UN, the international organization sets global goals and agendas. For instance, the UN implementation of the 2030 Sustainable Development Goals is a call to action to protect the environment while achieving economic stability. The 2030 sustainable development goals are listed below:

1. "No poverty
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy

8. Decent work and economic growth
9. Industry, innovation and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnerships for the goals.” (Nations, Department of Economic and Social Affairs, 2022)

The goals mentioned above are governed by the United Nations Department of Economic and Social Affairs (UNDESA), aiming to develop a working relationship with key stakeholders such as governments “to help countries around the world meet their economic, social and environmental goals” (UNDESA, UN Youth Envoy, 2022). The department is also responsible for producing the e-government surveys; it is significant to note that this survey assesses all member states globally. The UN surveys were debuted in 2001, carried out every two years. The survey's main goal is to exhibit how information and communication technologies (ICTs) are being used to transform public administration and institutions supporting the development. (Nations, 2022)

The Organization for Economic Co-operation and Development (OECD) is an international organization that collaborates with government officials, policymakers and citizens “on establishing evidence-based international standards and finding solutions to a range of social, economic, and environmental challenges... and advice on public policies and international standard-setting” (OECD, 2022). The internal department of the OECD, the Directorate for Public Governance and Territorial Development, is to assist its 35 Member States with implementing digital transformation in the public sector. The OECD 2019 report, one of the organizations that this dissertation is based upon, is the first effort to translate the OECD Digital Government Policy Framework into a tool supporting concrete policy decisions (OECD, Digital Government Index: 2019 results, 2022).

The OECD developed an Index in 2019 called the Digital Government Index (DGI) to monitor and support the implementation of Digital Government Strategies. The creation of this index was based on the OECD Recommendation of the Council in 2014. The goal is to assess how governments are implementing strategic data and digital technology methods.

It has been stated that measuring governments' "digital maturity" can help public authorities develop sound digital government strategies and initiatives. "The assessment is based on six dimensions of a fully digital government derived from the recommendation and which constitute the OECD Digital Government Policy Framework (DGPF):

1. digital by design
2. government as a platform
3. data-driven public sector
4. open by default
5. user-driven
6. proactiveness." (OECD, 2022)

1.2 Research Objective

The research aims to (1) to understand the role of key stakeholders which influence the success of e-governance projects, (2) to examine the correlation and role among diverse stakeholders and how they contribute to the successful implementation of e-governance programs; and (3) to examine if there any gaps in policymaking and recommendations when implementing e-government initiatives based on the UN and OECD reports. This research is essential for assessing the effective adoption and development of digital transformation in an era that depends not only on traditional services and governing. The surveys may have a direct or indirect impact on incorporating e-government projects. Government officials often ignore these publications. Therefore, assessing the impact, the surveys also have on the development of e-government across the globe and how it affects the influence of e-government stakeholders seems beneficial. Authors have criticized the methodology used in these surveys to determine the ranking and readiness of e-government strategies and the relevance of these surveys (Whitmore, 2012) . While

authors such as Whitmore may argue the veracity of the UN surveys, there is still needed research on its influence on e-government stakeholders.

To further emphasize the importance of this research, it has been found in the past that most e-governance initiatives fail after they have begun. In some instances, the e-government initiative has a total failure after successful implementation or is immediately abandoned entirely (Heeks, 2001). Due to the high failure rates of e-government, more attention has been given to improving its performance due to the high value of e-government (Siqing, Li, Jing, Yi, & Fan, 2011). More recently, the Covid -19 pandemic has shown a significant need for successful e-government adoption and continuous maintenances of e-government initiatives. According to the OECD report of 2019, the Covid-19 pandemic challenged governments to use digital technologies strategically and data to respond to the crisis with agility (OECD, Digital Government Index: 2019 results", OECD Public Governance Policy Papers, 2020). It was observed that "governments that had invested in sound digital governance, policy levers and skills, were better prepared to leverage digital technologies and data to provide rapid and effective responses to the Covid-19 outbreak. Similarly, the pandemic has spurred governments to intensify the digitalization of public sectors to support the design of sustainable recovery policies and initiatives…" (OECD, Digital Government Index: 2019 results", OECD Public Governance Policy Papers, 2020).

The OECD also stated that engaging both users and stakeholders throughout the cycle of e-government initiatives is crucial as it ensures " that the design, implementation, delivery and monitoring of digitally-enabled public services are fully aligned with users' needs, expectations and preferences" (OECD, Digital Government Index: 2019 results", OECD Public Governance Policy Papers, 2020).

1.3 Research Questions

Reseacrh question 1: How do e-government stakeholders exploit the e-government Surveys and Indexes?

The main research question of the dissertation aims to understand the phenomenon by examining and analyzing if there is effective adoption of e-government initiatives based on UN surveys and Indexes. The survey results have spanned over 20 years where the

internet and e-government initiatives became present along with various international development. Therefore, the researcher will seek to understand the surveys' importance for stakeholders when adopting e-government initiatives.

Research sub-question 1: Who are the beneficiaries of the e-government Surveys and Indexes?

This sub-question aims to assess the intended stakeholders the surveys and Indexes seek to address in order to enact change and growth in e-government initiatives.

Research sub-question 2: What clusters are used to determine the e-government development indexes (EGDI) and Digital Government Index (DGI) in relation to the e-government initiatives?

This sub-question aims to analyze how the EGDI and DGI levels are developed and the methods used to assess how the results influence e-government initiatives related to stakeholders' adoption. For example, if most countries create policies based on the results of the surveys and indexes, does it imply that there is effective adoption of e-government initiatives?

1.4 Motivation for Research

Previous research on how developing countries, specifical stakeholders within the field, adopt and found relevance in the United Nations e-government surveys and the OECD index when developing policies and strategies are not well known. Therefore the researcher is interested in examing the e-government projects in Antigua and Barbuda. The research gap on how the multi-national organization impacts e-government stakeholders is limited and seemingly undervalued. It is presumed that "e-government involves more than just the tools: it involves rethinking organizations and processes and changing behaviour to deliver public services more efficiently to people" (Comission, 2021). At the same time, if adopted, the economic gains also appear to be valuable. The paper ´Shaping Europe's digital future stated, "...if introduced across the EU, annual savings could exceed €50 billion. Meanwhile, in Italy, e-procurement systems cut over €3 billion in costs" (Comission, 2021).

The impact gained on an economic level is not only based on a particular jurisdiction. However, it stretches to the Caribbean, where the dissertation focuses its research. According to a study, broadband service expansion and digital technology usage can help contribute to up to a 3.2% increase in Gross Domestic Product and a 2.6 percentage point increase in productivity (Ram, 2021).

The OECD also stated that engaging both users and stakeholders throughout the cycle of e-government initiatives is crucial as it ensures "that the design, implementation, delivery and monitoring of digitally-enabled public services are fully aligned with users' needs, expectations and preferences" (OECD, Digital Government Index: 2019 results", OECD Public Governance Policy Papers, 2020).

The flow of engagement between stakeholders and users also improves the legitimacy of decisions and actions (OECD, Digital Government Index: 2019 results", OECD Public Governance Policy Papers, 2020). To date, most countries lack the necessary level of users' attention when designing and executing digital government initiatives. The OECD report revealed that "only 45% of the countries noted the presence of specific mechanisms to engage users in service design; and 27% in service delivery. Additionally, approximately only [one-third] of countries count with formal requirements for line ministries or agencies to use digital tools for crowdsourcing ideas from stakeholders during policy and service development" (OECD, Digital Government Index: 2019 results", OECD Public Governance Policy Papers, 2020).

Therefore, it is assumed that strategic choices on strengthening digital government will improve recovery measures of e-government initiatives and pave the way for quicker responses in adverse situations and better resilience in the future of the public sector (OECD, Digital Government Index: 2019 results", OECD Public Governance Policy Papers, 2020).

1.5 Structure of Work

The author divided this research paper into sections to guide the reader through the pages and provide insight into the subject. The dissertation is structured as follows:

- **Introduction:** This section provides a general introduction to the growth of e-government initiatives that was spiralled from IT services. Moreover, it emphasizes the need to research the gap in the use of stakeholders to develop and successfully maintain these initiatives.

- **Literature review:** This section gives you an overview of prior research on the topic of e-government and is based upon the theories and concepts that the dissertation establishes its scope.

- **Theoretical background:** The theoretical framework that acts as the foundation for the dissertation structure is introduced in this portion of the paper.

- **Research methodology:** This section introduces the readers to procedures and techniques used to gain more data from the field. Also, the methods that were used to analyze the data that was found. The precise methodology used is stated and explained within this section.

- **Research findings & discussion:** This section introduces the reader to the research findings after utilizing the techniques in the above section to gather data on the topic. This section provides and discusses the information collected to prove whether the dissertation's hypothesis is verifiable.

- **Conclusion & future research:** A description of the research undertaken, a contribution to the study, and a framework for future research are included in the concluding part.

2. Literature Review

2.1 E-government

E-government is a new phenomenon, and currently, there is no standard definition for e-government. The variation of the e-government definition can be seen in the current international system's leading organizations. The difference in meanings can be based on perspectives, such as whether the definition perspective is from an organizational, political or economic standpoint. However, most scholars agree that e-government is a platform that provides good quality government services and information to its citizens, businesses, and organizations using ICT services and communication (Guo, 2011), (Kaylor, Deshazo, & Van Eck, 2001).

According to McClure, e-government is defined as an "[e]lectronic government [referring]to government's use of technology, particularly web-based internet applications to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities" (McClure, 2001).

The UN-linked financial institution specifies that e-government is "everything from 'online government services' to 'exchange of information and services electronically with citizens, businesses, and other arms of government" (Nations, UN E-Government Knowledgebase, 2022). The World Bank provides an extensive understanding of the phenomenon, focusing more on quantifiable gains and referring to the notion "to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that can transform relations with citizens, businesses, and other arms of government " (Bank, 2015).

However, for the purpose of this dissertation, e-government will be defined as "the application of ICT by the government for (i) facilitating internal government operations and administrative reform; (ii) improving government electronic public service quality and delivery that respond to the needs of citizens and businesses; (iii) strengthening the relationship of a government with its different stakeholders (citizens, civil society, non-government organizations, and the business sector); (iv) increasing citizen participation

in decision-making processes; (v) reinforcing goals of making government more open, accountable, and transparent; and (vi) supporting the reach of "shared or participatory society." (Alarabiat, Ferreira, & Sá-Soares, 2018)

E-government plays an integral role by helping the public sector move from traditional governance to a modernized approach and "increase the efficiency of service delivery to reduce public spending" (Müller & Skau, 2015). The table adapted by (Suri & Sushil, 2017) gives an overview from various authors on the benefits that e-government provides.

2.2 Contributions of e-government

Table 1 Contributions of e-government

Author	**Contributions**
Tsohou (2014)	Enables public administrations to offer an increased portfolio of public services to citizens, businesses, or other public agencies in an efficient and cost-effective manner
Lindgren (2013)	Improves citizens' opportunities to interact with government authorities; increases government authorities' efficiency by reducing the number of manual routines; increases democracy through greater governmental transparency
Planning Commission (2013)	Facilitates attaining attributes of good governance, transparency, efficiency, responsiveness, cost-effectiveness and accountability
Wang and Chen (2012)	An effective means to transform government functions, improve administrative efficiency and promote the openness of government affairs and meliorate public service
Valdes et al. (2011)	Improves the efficiency of service delivery through interconnected networks, encourages citizen participation; increases the transparency of administrative processes
UN (2008, xii)	Can significantly contribute to the process of government transformation towards a leaner, more cost-effective government; can

Author	Contributions
	facilitate communication and improve the coordination of authorities at different tiers of government; and can enhance the speed and efficiency of operations by streamlining processes, lowering costs, improving research capabilities, and improving documentation and record-keeping
Luna-Reyes et al. (2007)	Collaborative e-government contributes in the form of technical, organizational and political benefits
OECD (2003)	E-government improves efficiency and services, helps in achieving specific outcomes, can be a major contributor to reform, enables greater engagement with citizens and helps building trust between government and citizens
Evans and Yen (2006)	Facilitates information support to decision-makers enabling them to serve citizens in a more timely, cost-efficient and cost-effective manner; facilitates better coordination among different layers of Government as well as Government and beneficiaries
Grant and Chau (2005)	Develops and delivers high quality, seamless and integrated public services; enables effective constituent relationship management; and supports the economic and social development goals of citizens, businesses, and civil society at local, state, national and international levels
Maio et al. (2000)	Constant improvement of service delivery, participation of constituents and improved governance
World Bank (www.worldbank.org/egov)	Serves different ends such as better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management
UNESCO (www.unesco.org)	Improving information and service delivery, encouraging citizen participation in the decision-making process, and making

Author	Contributions
	governance more accountable, transparent and effective

2.3 The UN E-government Development Index

While e-government plays a significant role within the public sector by reducing public spending and increasing service delivery, the challenges of digitization are often overlooked. The UN surveys serve as a benchmark to promote not only encourage e-government. Also, the purpose of the survey is to measure "the effectiveness in the delivery of public services and identify patterns in e-government development and performance as well as countries and areas where the potential of Information and Communications Technologies (ICT) and e-government have not yet been fully exploited and where capacity development support might be helpful " (UNDESA, 2018).

To measure the performance and development in all regions and guide policy formulation and implementation, the UN uses the e-government Development Index, hereinafter referred to as EDGI. The EGDI is a composite index made up of three normalized indexes that are weighted together. One-third comes from the International TelecommunicationsUnion's (ITU) Telecommunications Infrastructure Index (TII), and one-third from the United Nations Educational, Scientific, and CulturalOrganization's (UNESCO) Human Capital Index (HCI), and one-third from the Online Service Index (OSI). The survey is based on information gathered from an independent UNDESA survey questionnaire. The survey primarily focuses on the online presence that the national government provides to its citizens that promotes online service delivery, "e-participation multi-channel service delivery, mobile services, usage uptake, digital divide, and innovative partnerships through the use of ICTs" (UNDESA, 2018). A group of researchers collects the data and is supervised by UNDESA. The UN surveys that are being referred to are illustrated in Table 2 below, which was adapted from (Norbert, 2021).

Table 2 UN e-government surveys titles and subtitles (2001-2020)

Year	Survey Main Title	Survey Subtitle
2001	Benchmarking E-government: A Global Perspective (UNDESA, 2001)	Assessing the Progress of UN Member States
2003	UN Global E-government Survey 2003 (UNDESA, 2003)	--
2004	Global E-government Readiness Report 2004 (UNDESA, 2004)	Towards Access for Opportunity
2005	Global E-government Readiness Report 2005 (UNDESA, 2005)	From E-government to E-inclusion
2008	UN E-government Survey 2008 (UNDESA, 2008)	From E-government to Connected Governance
2010	UN E-government Survey 2010 (UNDESA, 2010)	Leveraging E-government at a time of Financial and Economic Crisis
2012	UN E-government Survey 2012 (UNDESA, 2012)	E-government for the People
2014	UN E-government Survey 2014 (UNDESA, 2014)	E-government for the Future We Want
2016	UN E-government Survey 2016 (UNDESA, 2016)	E-government in Support of Sustainable Development
2018	UN E-government Survey 2018 (UNDESA, 2018)	Gearing E-government to Support Transformation Towards Sustainable and Resilient Societies
2020	E-government Survey 2020 (UNDESA, 2020)	Digital Government in the Decade of Action for Sustainable Development—With Addendum on COVID-19 Response

2.4 Stakeholders of e-government

It is argued that while the socio-technical and business processes change, literature is aware of the importance and limitations of the deployment of information technology. The greater picture of how IT can help address and bridge the gap with constituents' concerns and interests is realized more when incorporating the stakeholder theory. There has been a growing concern amongst governments about the low – levels of accepting e-

government initiatives despite significant investments in this field. However, the successful projects of e-government increase the use of stakeholders through the effective use of ICT. Moreover, studies on the stakeholders of e-government are currently lacking; it is assumed that this affects the development of e-government.

Although many stakeholders are involved in e-government efforts, the most important ones are employees of government organizations and government service customers (Suri & Sushil, 2017). The government services employees can be categorized into key decision-makers and line managers. The decision-makers are usually the executors of e-government projects or rather the driving force behind the project. At the same time, the line managers are viewed as the implementers of e-government projects. The stakeholders can then be divided into three groups: "planners, implementers, and beneficiaries" (Suri & Sushil, 2017). E-government offers interactive services to users. Unlike e-commerce, it provides services for four primary types of customers: the government, citizens, employees, and businesses. (Backus, 2001)

However, these services differ depending on the user's need. This variation of users has given rise to different types of development of e-government (Guo, 2011). The categories of e-government can be classified into the following eight categories according to this same scholar (Guo, 2011):

1. **Government-to-Citizen (G2C)**

Government to citizens is where the government exhibits political will to commit to e-government by providing public services online for citizens to communicate with the government.G2C's main goal is to develop the collaboration between the government and its citizens.

Citizen-to-Government (C2G)

Citizens to the government are where citizens exhibit interest and trust to interact with the government and participate in decision making through IT services. The vital aim of G2C refers to the relationship between the government and its citizens.

2. **Government-to-Business (G2B)**

E-procurement and the development of an electronic marketplace for government purchases are actively promoted by the government to business. Additionally, using IT services to communicate information and commodities to perform government procurement proposals

3. **Business-to-Government (B2G)**

E-procurement and the creation of an electronic marketplace for government purchases are actively promoted by Business to Government. Conducting government procurement proposals through the use of IT services for the exchange of goods and services is also an option.

4. **Government-to-Employee (G2E)**

The relationship between the government and its employees is referred to as“government to employee” This is where measures to handle internal communication with government personnel, as well as e-career applications and a paperless processing system, are taken.

5. **Government-to-Government (G2G)**

Offer online communication between government organizations, departments, and agencies based on a mega government database in order to increase efficiency and productivity.

6. **Government-to-Nonprofit (G2N)**

Government offers communication and information to non-profit organizations and social organizations.

7. **Nonprofit-to-Government (N2G)**

Interchange of communication between government and non-profits organizations and social organizations.

There are Scholars that believe that additional types of stakeholders should be included in the discussion of the e-government project apart from the scope mentioned. According to Palvia et al., Government to Constituents is another type of stakeholder that should be

included (Palvia & Sharma, 2007). These types of stakeholders are involved in online conferences and debates, or these types of stakeholders would involve interaction between the government and constituents by using unconventional methods such as blog users and internet surfers. Another author, Yildiz focuses on another external stakeholder (Government to Civil Society Organizations); these stakeholders emerge when there are natural disasters or participating in any forms of debates or discussion regarding civic issues. Also, these types of stakeholders challenge the government institutions to uphold transparency and accountability. (Yildiz, E-government research: Reviewing the literature, limitations, and ways forward, 2007)

The OECD Digital Government Index 2019 refers to the following stakeholders within the field: public sector organizations, private sector organizations, civil society, public servants, academia, and citizens. On the other hand, although the United Nations Surveys mention the importance of collaboration with stakeholders, throughout the surveys from 2001 to 2020, specific stakeholders are only listed or suggested in five of the eleven surveys, as demonstrated in Table 3.

Table 3 UN e-government Stakeholders (2001-2020)

Year	**Survey Main Title**	**Stakeholders Cited**
2001	Benchmarking E-government: A Global Perspective	No Citation
2003	UN Global E-government Survey 2003	No Citation
2004	Global E-government Readiness Report 2004	No Citation
2005	Global E-government Readiness Report 2005	No Citation
2008	UN E-government Survey 2008	Government, Private Sector, Academic institutions, NGOs, and Civil Society
2010	UN E-government Survey 2010	No Citation

Year	Survey Main Title	Stakeholders Cited
2012	UN E-government Survey 2012	No Citation
2014	UN E-government Survey 2014	Government agencies, citizens, civil society organizations
2016	UN E-government Survey 2016	International organizations, NGOs, Private Sector and Civil Society
2018	UN E-government Survey 2018	Governments, local public authorities, the private sector, academia, civil society, and international organizations
2020	E-government Survey 2020	Policymakers, Government officials, academia, civil society, private sector

The most frequent beneficiaries and implementers of e-government stakeholders that are commonly mentioned throughout the literature are: “citizens; business circles; civil servants; government agencies; non-profit organizations, trade unions, various communities; politicians and political parties; foreign investors.” (Almen, 2021)

After eliminating overlapping categories and combining similar categories, the resulting stakeholders in this dissertation are the following: Government to Government, Government to Citizen, Government to Business, Government to Civil Society, and Citizen to Citizen. These types of stakeholders were also adopted by the author (Yildiz, 2007).

2.5 Stages of e-government

According to the literature, several maturity models refer to the e-government implementation stage (Layne & Lee, 2001). The process from one step to another is dependent on how advanced the e-government initiatives are at the time.

One of the maturity models that has been spoken about throughout various literature is the Layne and Lee maturity model (Layne & Lee, 2001). The four-stage model that measures the level of maturity by these authors is classified as Catalogue, Transaction, Vertical Integration and Horizontal Integration. Based on the literature, one of the authors argues that the UN model is very similar to the model mentioned in Layne and Lee (Yildiz, 2007). The UN model relates to the following five stages: emerging presence,

enhanced presence, interactive presence, transactional presence and seamless or fully integrated. “The UN ‘emerging’ and ‘enhanced’ stages roughly correspond to Layne and Lee’s cataloguing stage. The ‘interactive’ and ‘transactional’ stages are comparable to Layne and Lee’s ‘transaction’ stages. The ‘seamless’ stage covers both vertical and horizontal integration.” (Yildiz, 2007)

For the purpose of this paper, the UN Five-Stage model was chosen when referring to the implementation of e-government. The model relates to the following five stages: emerging presence, enhanced presence, interactive presence, transactional presence and seamless or fully integrated. The emerging service is where a country offers a formal but essential government web presence through a few independent websites that provide users with basic government information. Information may include contact information of government officials, regulations, policies, or updates on national information.

The second stage is the enhanced presence, where the country’s online presence grows as more official websites increase. The website content will include more tailored information updated frequently; the websites will link to other official government pages. Also, national strategies or rulings may connect the user to other government departments.

The third stage, interactive presence, is where the government´s presence on the Internet increases significantly and regularly provides access to government institutions and services. This stage can be viewed as a two-way communication where citizens and service providers have formal interactions, such as a post comments area.

The fourth stage is the transactional presence, where the government is more proactive in providing services to their citizens, and there is more involvement from the citizens in decision-making. Complete and secure transactions can be carried out, such as obtaining passports, birth and death record bills and taxes. Moreover, digital signatures may be utilized to enable procurement and government to business procurement.

The fifth stage is seamless or fully integrated; this stage is characterized by having all online services and information available to users through a single-entry point driven by a super search engine. Also, a reorganization of internal administrative structures

provides seamless interaction between human and technology procedures. Achieving this level requires immense political, administrative, and managerial cooperation.

2.6 Previous Research Work

It is expected that e-government, which incorporates ICT, will help streamline government operations, improve administrative efficiency, provide convenient electronic services, and reform the government's relationships with various stakeholders, all of which will improve the government's integrity, transparency, and accountability (Alarabiat, Ferreira, & Sá-Soares, 2018). It is assumed that enacting e-government initiatives should allow countries to reach the United Nations 2030 Agenda and 17 Sustainable Development Goals (SDGs).

Although there are benchmarking initiatives, it has been stated that experts should give attention to "what is to be measured and assessed, how and when to measure and assess, as these are fundamental questions that challenge those involved in e-government measurement, assessment, and monitoring initiatives" (Kabbar & Dell, 2013).

According to Ayman Alarabiat, it is crucial to create clear frameworks, systematic assessments, and specific indicators to measure e-government progress, as any inconsistencies in these can obstruct the agreements on how to best measure the progress of e-government initiatives (Alarabiat, Ferreira, & Sá-Soares, 2018).

The United Nations surveys serve as a benchmark and a wealth of information on e-government services. It has been said that the surveys have focused more on the supply side, implementing e-services initiatives. It has been argued by the author Ayman Alarabiat regarding the supply-side standpoint of the UN survey the following: "[w]ithout a doubt, assessing the supply side is very significant, but it does not constitute or guarantee advanced e-government development and adoption. The real users' awareness, willingness, ability, actual usage, expectations, needs and preferences should be considered and precisely measured. Hence, further efforts dedicated to assessing the demand side seems convenient" (Alarabiat, Ferreira, & Sá-Soares, 2018).

Furthermore, it was argued that the assessments should focus on the impact they may have on "social, economic, environmental, and political levels in terms of making

government more participatory, improving efficiency and effectiveness of government operations, reinforcing economic status, and increasing democracy" (Alarabiat, Ferreira, & Sá-Soares, 2018) , rather than just adoption. Furthermore, more assessments on the demand side, that is, stakeholders in the area, should be undertaken to understand the influence of their activities on e-government.

Another author examined the UN survey's assessments by analyzing the metric used by the UN, the EGDI. It has been stated that the UN rankings can not be undervalued as the surveys are influential by default and because they are widely cited and discussed. However, it has been claimed that UN surveys should focus on both the supply and demand side when measuring e-government performances.

That is a metric that takes into account economic and sociocultural factors. Also, the report should address "the cultural changes required towards e-government from the users' side, including citizen trust in government and their willingness to voluntary participate in online services" (Kabbar & Dell, 2013).

It is argued that the UN ranking could give misleading information on a country's performance as the rankings are used for academic discussion, and the surveys are open for public disclosure.

According to Kabbar, in many cases, the raw UN rankings may give a misleading indication of a country's e-government development performance; however, these Rankings are a staple of discussion in official, academic, and public discourse. They could create "a risk that the wrong exemplars will be put forward in policy and related debates" (Kabbar & Dell, 2013). Moreover, the author views that an EGDI that does not consider the wealth of a country can be misleading.

One of the author's primary arguments is that wealthy countries are more than likely in a better position to invest in online services, telecommunications and other services that can promote e-government services. Therefore, it is assumed that some UN Member States who have a higher GDP will more than likely produce a higher EGDI rating.

The author refers to Qatar, the world's most prosperous country regarding per capita GDP, which generated an EGDI of 0.6405. The author relates then in contrast to Zimbabwe, one of the world's poorest countries, which had an EGDI of only 0.3583. The

author then challenges the metric used by the UN by asking the following: “Is one, therefore, to conclude that Qatar is “better” at delivering e-government than Zimbabwe? Or more efficient? Or something else entirely?”

3. Theoretical Background

According to Edward Freeman in a publication titled Strategic Management: A Stakeholder Approach, stakeholder theory is defined as “any group or individual who can affect or is affected by the achievement of the organization objectives” (Edward, 1984). The theory has roots in management theory addressing the interests of all stakeholders in a firm instead of focusing only on the interest of senior managers and stockholders. Aside from the stakeholder theory’s original profit focus, it was discovered that the theory and the government’s goal of delivering services for citizens, organizations, and society’s stakeholders have no conceptual mismatch. The Stakeholder theory might be expected to contribute to the development of management propositions for e-government, applying the tools for managing effectively. As Freeman argued, focusing on maximizing shareholder profit is not sufficient; instead, assessing the needs of multiple stakeholders makes the organization more competitive (Edward, 1984). Another author who has studied the relevance of involving stakeholders in e-government projects points out that it is critical that stakeholders have a stake in the project and that everyone participating is dedicated to the process (Suri & Sushil, 2017). One of the success factors mentioned in the literature surrounds the need to share information between stakeholders on best practices; it has been said that a lack of knowledge sharing and lack of communication is problematic to the development of e-government initiatives (Wiredu, 2012).

Moreover, lack of information sharing amongst government agencies is an implementation barrier of e-government projects as lack of information makes it difficult to collaborate, and collaboration is highly significant when implementing these projects.

When implementing e-government services, management characteristics play an important role in the organization; that is, management readiness has negative or positive effects on the implementation of e-government services (Müller & Skau, 2015).

Additionally, while having a political will and commitment by top management is useful for the success of e-government, another factor that supports the development of these initiatives is having ownership of tasks. It is argued that when the internal stakeholders do not provide a clear division of duties and responsibilities, the risk of failure increases and focus may eventually disappear.

The management topic can further extend to include having a clear vision and strategy for implementing e-government initiatives. Also, emphasis should be placed on IT management to avoid the over-reliance on technology, which can be deemed problematic since these services require an ongoing evaluation process (Suri & Sushil, 2017).

The key concept is that the stakeholders' role is paramount to preventing the uneven and ineffective adoption of ICT to users. Additionally, the role of stakeholders functions is not merely the deployment of ICT services but rather the deployment of e-government initiatives through the use of ICT services (Ashaye & Irani, 2019). Academic scholars have argued that efficient and robust e-government deployment requires collaboration and organizational skills amongst the stakeholders to maintain the strategies and vision of all parties involved (Ashaye & Irani, 2019).

Consequently, this dissertation relies on this framework to be able to assess the level of collaboration of stakeholders in the case of Antigua and Barbuda. Through this, the researcher will be able to identify any gaps as it relates to communication, information sharing, and collaboration on initiatives throughout the process of developing e-government. Based on the literature, it is anticipated that once there is a meaningful collaboration of initiatives amongst stakeholders, the rate of success is likely to be higher as opposed to a lack of cooperation.

4. Research Methodology

This section of the proposal focuses on the primary techniques of the dissertation. It gives an overview of the data collection methods and procedures that will be used and research questions.

After formulating the research questions, an appropriate methodology was incorporated to investigate the current problem. Assessing the exploitation of international organizations' surveys in developing countries, understanding the stakeholders within the field, and discovering gaps in e-government initiatives require observational evidence to be gathered to understand the area. Qualitative research methods will be most suitable for this research.

The qualitative research method will be the best for this research. It analyzes textual information and interprets texts to understand human cultural behaviour (Leavy, 2014).

Qualitative research is the type of research that finds out about people's experiences, and it helps the researcher understand what is essential for people (Silverman, 2021). Qualitative research aims to understand human experience, treating interviews and focus groups as providing direct access to the context of people's heads (Silverman, 2021). Unlike the quantitative method, qualitative methodology goes beyond collecting a set of data-gathering techniques. Qualitative researchers are concerned with the meaning people attach to things; thus, qualitative research is understanding people from their perspectives and experiencing reality as they experience it (Taylor, Bogdan, & DeVault, 2015). Researchers construct thoughts, insights, and understanding based on patterns in the data to test preconceived models, hypotheses, or theories in qualitative research (Taylor, Bogdan, & DeVault, 2015). Grounded theory refers to the inductive theorizing process involved in qualitative research that aims to build theory; this theory has been chosen as a model.

Also, qualitative research is a method of exploring and pursuing to understand behaviours, experiences, and phenomena in detail, focusing on interpretation (Hammersley, 2013).

One of this dissertation's research methods is an inductive case study. According to Yin, a case study is "a social science research method, generally used to investigate a

contemporary phenomenon in depth and in its real-world context" (Yin, 2018). Case studies can be inductive to understand a complex phenomenon using data methods such as interviews, documents, field observations, archival records, physical artifacts, and participant observation (Yin, 2018). According to Yin, a case study is the most suitable method to deploy if the research questions seek to explain "how", "why", and "what" questions and the study focuses on a social phenomenon. Therefore, the justifications for employing a case study in this dissertation are listed below:

- E-government is still considered a new phenomenon, and the implementation process is not well known. A case study is the most suitable method to explore the phenomenon.
- A case study is also justifiable when collecting data by multiple means. For the purposes of this dissertation, several data methods were used, namely, semi-structured interviews, documents, survey results and field observations.
- Case studies are suitable for studies aiming to address "how", "why", and "what" questions.

According to Yin, one of the most critical case study sources is an interview. Interviews can help explain the "hows" and "whys" and gain insights into participants' perspectives. Yin defines a case study interview as "collecting responses (verbal and nonverbal) from a case study participant; case study interviews are usually conversational in nature and guided by the researcher's mental agenda, as the interview questions do not follow the exact same verbalization with every participant interviewed" (Yin, 2018).

Based on these highlights, interviews were conducted to better understand the subject by interviewing different key stakeholders in Antigua to gain their perspectives. Seven interviewees are participating in the research; all participants are from Antigua, as the case study is based on the insights gathered from this country. The interviewees ranged from individuals working with the United Nations, the Ministry of Telecommunications, the Ministry of Legal Affairs, the Business sector and a citizen.

Marlon Percival, United Nations Country Coordinator of Dominica, represents the UN at the local through enhancement of the UN's programme support tailored to Small Island Developing States' needs and coordination capacities through in-country presence. This includes coordination on behalf of the Resident Coordinator and the Multi-Country Office

with the various Agencies of the UN. Mr Percival has experience with digital transformation and was a part of a regional integration initiative to develop e-government across the OECS member states, including Antigua. Therefore, he was able to give insights on the positives and challenges of implementing e-government.

Andrea Andrew serves as UN Country Coordination Officer to serve as the UN Resident Coordinator Office representative in Antigua and Barbuda. The Country Coordination Officer provide support to the various UN agencies based in Barbados and in the respective country of coverage and serve as the primary liaison between the government, its national ministries and the RCO. Additionally, they ensure linkages of country-level efforts and collaborate closely with focal points, national coordinators, designated counterparts, and national authorities. Their essential functions encompass support and monitoring of SDG implementation and Country Implementation Plans, support for crisis management preparedness and response, effective communication, and advocacy to maintain and build strong relationships and partnerships.

Daniel Knight, who was recently appointed as director of e-government in Antigua, is, tasked with formulating Information and Communication Technology (ICT) strategies and policies related to the digital agenda, government improvement and effective ICT management. Coordinate and manage the support of systems, data, processes, and approaches with a keen focus on integration, innovation, interoperability, and identity and or access management. Since the appointment is new, he establishes Standard Operating Procedures for the smooth functioning of the department and enhancing or increasing access to Government services by citizens, residents, visitors and businesses. He was able to offer insights into the status of e-government, the adoption of or lack thereof of international surveys and challenges faced with the implementation of e-government.

Clement Samuel was beneficial in this interview. He was the past telecommunications officer in the Ministry of Telecommunications between 2005 and 2013, an attorney at law, and a business solutions manager for over eight years. He is responsible for supporting the delivery and implementation of value-added Business Services in Antigua.

Luxmore Edwards has been the Information Technology Center director for fifteen years, which is a department under the Ministry of Telecommunications and Information. He is responsible for any ICT and related matters within the government of Antigua and

Barbuda. Developing an infrastructure to assist with e-government initiatives and ensuring the infrastructure is in place and working.

Susan Jarvis is a Law Revision Commissioner, supervising the ongoing revision of the laws of Antigua and Barbuda; keeping the laws of Antigua and Barbuda under review and actively making proposals for the reform of existing laws; advising the Attorney General of issues pertaining to various regulations as they arise, and operating the law revision office on behalf of the Government of Antigua and Barbuda.

J'moul Francis is a citizen of Antigua and Barbuda with experience in European Union and International law from Tal Tech (Tallinn University of Technology). He also has experience with drafting and public (inclusive of digital) communication while working as a Political and Communications Officer at the Antigua and Barbuda High Commission office in the United Kingdom.

All of the interviews were recorded using the application, Zoom and transcribed. The dissertation then employed a thematic analysis method under qualitative research. For the thematic analysis, excel was used to code the data on the software and analyze and interpret patterns found.

This strategy thoroughly organizes, simplifies, and describes the facts at hand. According to Braun and Clarke, the method comprises six phases, namely:

1. "Familiarising with the data,
2. Generating initial codes,
3. Searching for themes,
4. Reviewing themes,
5. Defining and naming themes,
6. Producing the report." (Braun & Clarke, 2006)

To conclude, the author decided to adopt qualitative research to explain the phenomena with communication through participants and analyze the adoption of the UN e-government surveys from 2001 to 2020 and the OECD Index of 2019 outcomes while mapping the stakeholders involved.

Moreover, this method is significant for this research as it helps to provide explanation, interpretation, and insights into a problem.

4.1 Application and explanation of Methodology

4.1.1 Phase 1: familiarising with the data

As emphasized earlier, interviews were conducted to gain more insights into this study to collect objective data. According to Braun and Clarke, the first step a researcher should follow is being familiarized with the data. This is crucial to analyze the data and retrieve factual results. The key is to be familiar with the depth and breadth of the content to identify patterns and meanings that will help code the data. While the first step can be time-consuming, it is paramount that this step is not avoided as the remaining sections of the thematic analysis rely on this process since the interviews were recorded and automatically transcribed using the platform, Zoom. The transcripts were checked against the original audio recordings for accuracy. During this process, the researcher became more familiar with the data and gained insights and identified patterns before the actual coding of the data.

4.1.2 Phase 2: generating initial codes

This phase occurs when the researcher has read and has been familiarised with the data and created a list of ideas and initial codes from the data set. Braun and Clarke mention that coding depends on whether the themes are more ‘data-driven’ or ‘theory-driven.’ Data-driven coding is where the themes are produced depending on the data. However, a theory-driven is utilized when the researcher approaches the data with ore-set questions that will then be coded around. Codes represent a feature of the raw data that can be assessed meaningfully regarding the phenomenon.

The researcher coded systematically through the entire data set and formulated codes based on the patterns observed. The researcher identified codes and inserted them into an excel sheet. Then, the codes were matched against the extracts collected from the transcripts.

4.1.3 Phase 3: Searching for themes

According to Braun and Clarke, the initial codes are concatenated in this stage based on data from the data set (Braun & Clarke, 2006). Afterwards, the codes are grouped with potential themes, which are broader terms as opposed to codes. A thematic map is generated to help sort different codes into themes; this can be in the form of a mind map, tables, or pen and paper to help formulate an organized structure of themes to be later streamlined in the last stage.

4.1.4 Phase 4: Reviewing themes

In this phase, the researcher edits the existing themes by either grouping themes together or removing themes that do not have enough data to support them. This phase involved two different levels of reviewing the data. The first level involves reading all the extracts and ensuring that the themes form a coherent pattern. The second level repeats the first step by reviewing the cohesion between the extract and codes and identifying any missing themes highlighted in the coding process. At the end of the stage, the researcher should have a sufficient idea of the different themes and the overall story of the data set.

4.1.5 Phase 5: defining and naming themes

This phase produces a final thematic map of the themes; at this stage, the themes should be concise and give the reader a precise meaning. The themes and codes of this dissertation are shown below in Table 4 below:

Table 4 Themes in the Dissertation

Theme 1	**Theme 2**	**Theme 3**	**Theme 4**
Stakolders in Antigua and Barbuda	Stakeholders Collaboration in Antigua and Barbuda	implementation strategy of e-government in Antigua	Awareness of International Surveys for e-government

4.1.6 Phase 6: Producing the report

The final stage is producing the final analysis report in a “concise, coherent, logical, non-repetitive and interesting account of the data” (Braun & Clarke, 2006). Moreover, the report should present data and description, provide an analytical narrative, and correlate with the research questions. The data is shown in the next section of this dissertation.

5. Research Findings & Discussion

This section gives insights into the research questions. Also, it identifies implementation challenges that affect the adoption of e-government initiatives in developing countries such as Antigua and Barbuda. The section also produces data analysis based on the themes and codes generated. The researcher presents the results in the form of graphs to provide the reader with a more precise depiction of the results. The analysis results are presented under the following categories: stakeholders identified in the case study, stakeholders' collaboration, implementation strategies and adoption of international surveys.

5.1 Findings

5.1.1 Stakeholders in Antigua and Barbuda

The figure introduces the reader to the key stakeholders that were highlighted in the study. Based on the respondent's perspectives, the key stakeholders identified are primarily Businesses, the Ministry of Telecommunications, the cabinet, citizens, the civil society. Representatives of the legal department, international organizations such as the United Nations and World Bank and regional organizations such as the OECS and Caricom.

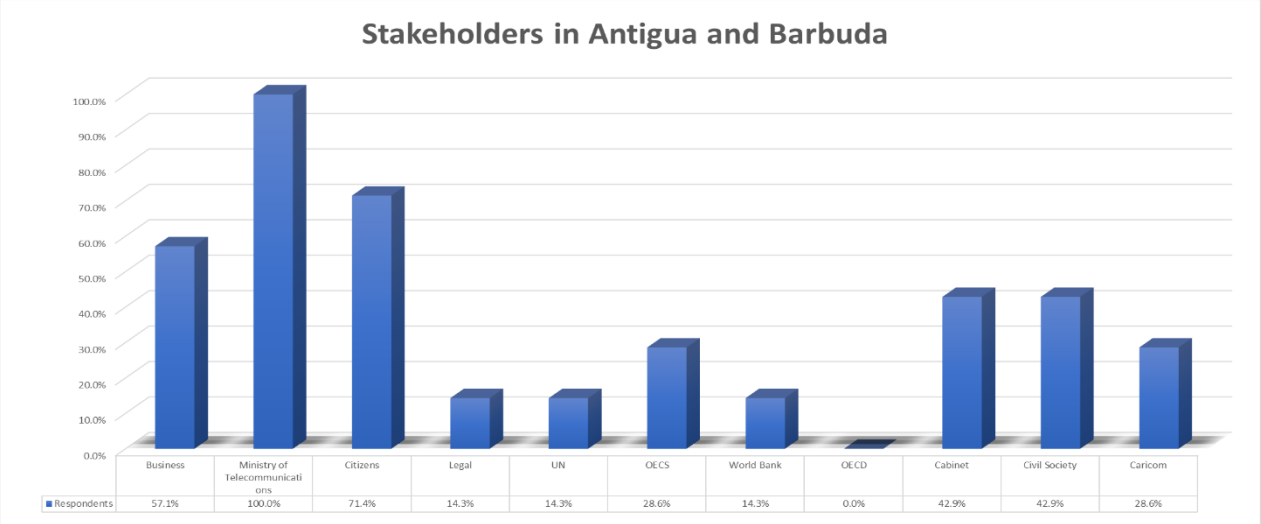

Figure 1 Stakeholders in Antigua and Barbuda (author's assessment)

One of the key highlights observed during the research is that the majority of the key stakeholders interviewed were not aware of other stakeholders involved in the

implementation process of e-government. One of the interviewees stated, “I can’t say that I know the full list, but I know for sure that the Ministry of information of the IT division would be involved, to an extent depending on what is required.” This observation seems to signify a gap in stakeholders’ understanding of both the internal and external stakeholders who are involved in the process. Also, it can be stated that a stakeholder is made aware of their involvement based on their own knowledge of their position. For instance, the law revision commissioner was the only participant who mentioned that the legal department would play an integral role in implementing e-government initiatives. From the commissioner’s viewpoint, laws are important to govern new phenomena and ensure no infringements such as data and privacy issues are adhered to throughout the process. However, while other interviewees, such as the director of e-government, mentioned that “legislation is very key”, the legal team was not referred to as a stakeholder. To sum up this highlight, as to one of the reasons for this gap, the director of e-government mentioned,“…each entity is working on their own individual plan, which will then join up into a national ICT strategic plan, so that process is ongoing.” Therefore, this structure shows individuality in the design stages and can explain the gap in others’ understanding of primary roles and the significance of inclusivity in e-government.

According to the OECD 2019 report, as mentioned earlier in this dissertation, it is crucial to engage both users and stakeholders throughout the implementation, delivery and monitoring of e-government services to ensure that needs and expectations are tailored to the users’ needs. According to an author in the literature, “the effective directing of e-government stakeholders, the coordination of many government department activities, close cooperation among employees, managers, IT specialists, citizens and industry, as well as ICT” (Apleni & Smuts, 2020).

The results showed the presence of regional cooperation when developing these services and a minimal referral to international collaboration. The reoccurring stakeholder mentioned was the Ministry of Telecommunications. All participants noted this ministry as the most influential in developing these initiatives. While ICT is an enabler for these projects, it improves service offers, provides a suitable infrastructure for decision-making, and access to citizens, and grows the business economy (Apleni & Smuts, 2020). As mentioned in the literature, the success of e-government is not heavily dependent on

ICT but on stakeholders collaborating with the use of ICT to implement strategies effectively.

The UN addresses this issue in one of the reports by stating: "…governments also need to encourage government agencies, businesses, their citizens and all of civil society to fully embrace the emerging global language and culture of technology" (UNDESA, 2004).

5.1.2 Stakeholders Collaboration in Antigua and Barbuda

The following figure gives details on the presence of stakeholders' collaboration in Antigua and Barbuda. Although there is a relatively high score for stakeholders' cooperation, the researcher reveals some observations and underlying traits under this category.

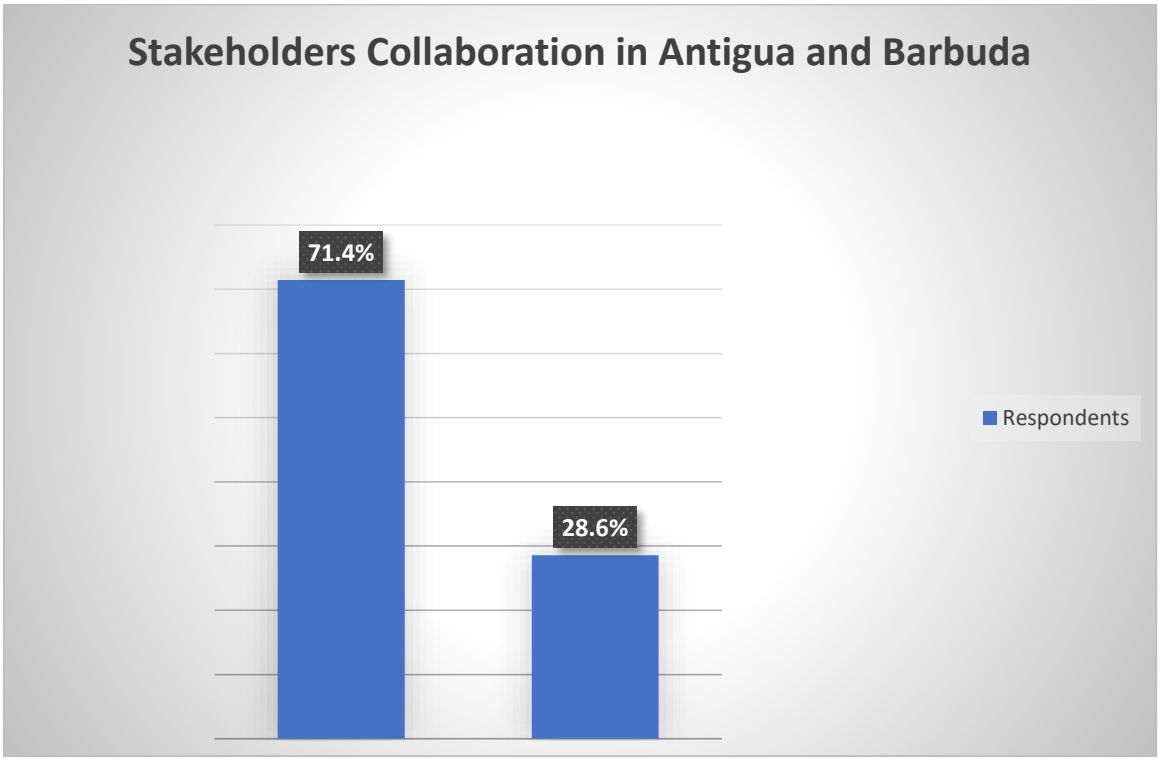

Figure 2 stakeholders' collaboration in Antigua and Barbuda (author's assessment)

The figure depicts a high rate of collaboration amongst the stakeholders in Antigua, which gives the impression that the relationship is practical and an ideal approach for e-government strategies. However, it was examined based on the data set that the collaboration referred to is an informal type of collaboration. This was discovered by various interviewees when explaining the environment of stakeholders. The director of e-

government stated, “in terms of the internal stakeholders, there’s a need to have greater engagement, especially as we move forward in terms of some of these initiatives.”

While the director of IT further emphasized this point by stating, “on an informal level, it’s good; on a legal level, there are challenges that we have to overcome that need legislation.” Another interviewee from the business sector shared the following view:

“ I think that there needs to be even more consultation. One of the e-government services that I know that they have tried to implement, and just looking on social media, over the last few weeks. A lot of people have complained that is not gone down well is the issuing of new birth certificates. My advice to them would be… is to do a whole series of consultation tests, and make sure when they roll up these things that it goes a lot more smoothly.”

The researcher observed that collaboration occurs, but the involved stakeholders are not clearly identified as the process is done in an informal setting. Moreover, this type of approach can cause information sharing to be easily lost and hinder the implementation services’ progress, which can negatively impact when launching of e-government services, as highlighted by the representative of the business sector.

Furthermore, when the interviewees were asked if a team was working on developing e-government initiatives, the respondents could not give a definite answer or were not aware of the existence and had to defer the question. The e-government director explained that there is no official team, and current plans to create a clear strategy for e-government are currently being developed. The UN surveys address these issues by recommending the use of social media to make a difference and a shift towards involving users when implementing services; the surveys are highlighted below:

“Increasingly, there is a shift towards people-driven services whereby people play a more active role in the design and customization of services” (UNDESA, 2016).

Leveraging social media for the benefit of e-service uptake is another area where a greater effort can make a difference” (UNDESA, 2012).

5.1.3 Implementation Strategy of e-government in Antigua and Barbuda

Figure 3 provides the reader with an overview of the current structure or lack thereof of e-government strategies in Antigua and Barbuda.

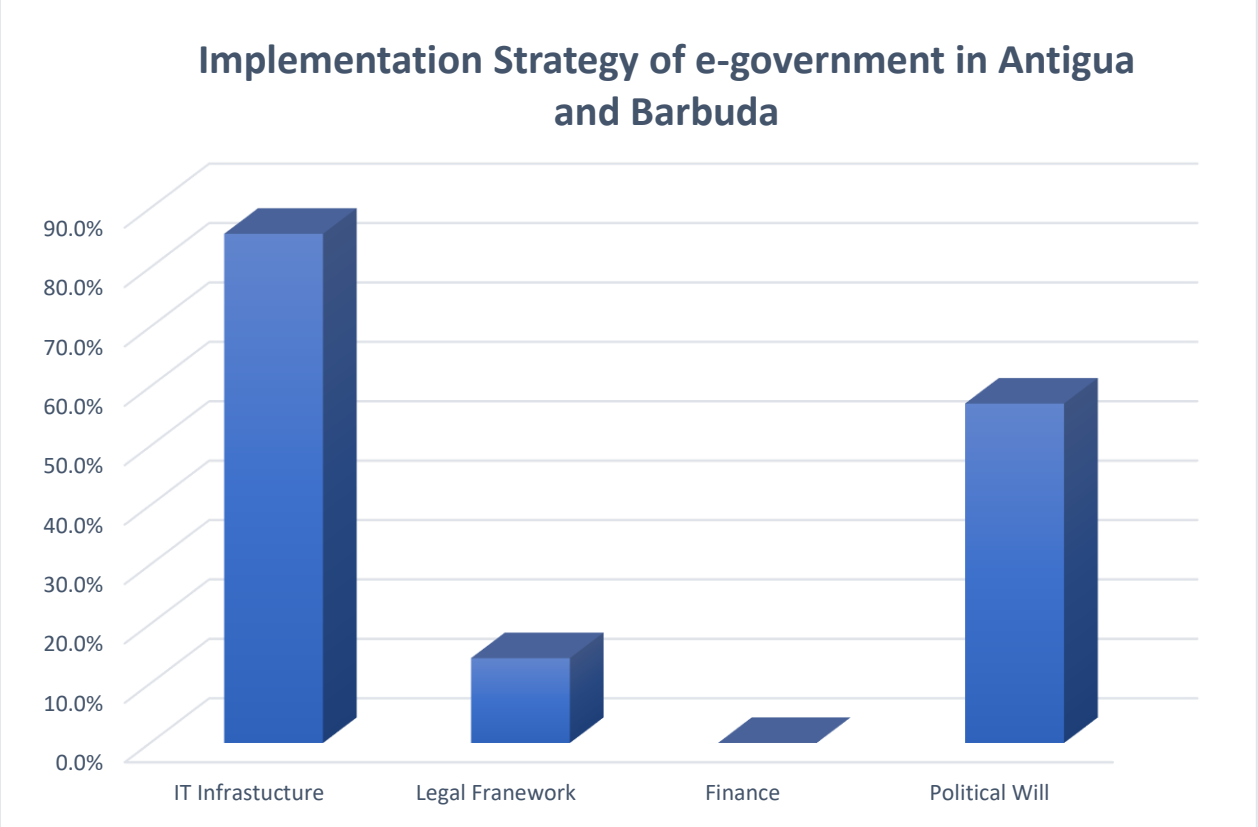

Figure 3 implementation strategy of e-government in Antigua (author's assessment)

In terms of the implementation strategies, the author identified four principal codes under this theme, namely, IT infrastructure, legal framework, finance and political will. The results draw attention to the current IT landscape in this country. Implementing services is possible as there have been various initiatives and execution of these plans. However, the maintenance, continuous development, and success of these services often fail or do not work in their complete entirety. Several interviewees mentioned unsuccessful government services that had to be revamped by returning to the drawing board.

Another highlight which is paramount for developing effective e-government is evidence of a political will. The IT director alluded to the Minister of Telecommunications enhancing their knowledge by learning from other countries that have created successful e-government services. By travelling to countries such as Estonia to engage with stakeholders to gain more insights into the functionality and advise on best practices.

According to the literature, it's critical to get legislators' commitment to policy early on when it comes to digitizing government services. (Müller & Skau, 2015). Also, another observation that was discovered is that the effects of Covid-19 prompted a further interest and need to develop these services. One of the participants stated, "in addition to the fact that Covid came, and just transformed the way how we have to do everything…you are forced now to start moving forward with something that you always knew that you had to do but just did not get around to do doing it."

The UN survey addressed this topic to its Member States by stating the following: "Policymakers should seize the COVID-19 crisis as an opportunity to establish tailor-made digital government tools, strategies and collaborations for the future" (UNDESA, 2020). This led to the following code that was highlighted in the interview, the lack of a legal framework.

According to an article by Dr Katrin Nyman-Metcalf, the debate on e-governance tends to be centred on technological advancement. To an extent, this is a natural phenomenon as there will be no discussion of e-governance without technology (Nyman - Metcalf, 2014). However, developing a legal framework is crucial as it helps prevent harmful acts from being carried out via technology. The framework also helps to introduce legal meaning to technological acts such as e-signature, administrative and competition law (ibid). These areas may require new laws to ensure no abuse of a dominant position in the private sector where e-governance is being implemented regarding competition law (ibid). It was found from the study findings that while there are laws governing certain aspects of e-government services, such as the Antigua and Barbuda transactions Act of 2013 that regulates the use of e-signatures. There is not a clear framework for e-government overall. Presently, the Telecommunication Act of 1951 governs the primary use of telecommunications. However, e-government services are not mentioned as the law can be viewed as outdated. The law revision commissioner revealed that new legislation was created that regulates the use of e-government services, the Telecommunications Bill of 2021. However, this legislation is yet to be approved. As a result, while there is a political willingness to be proactive with e-government, there is a level of stagnation regarding the legal framework.

The United Nations e-government survey of 2014 addressed these concerns by stating, "at the most fundamental level, e-government policy must focus on the demand side of

the equation, instead of just focussing on the supply side of e-government services (UNDESA, 2014)."

Finally, when analyzing the implementation strategies, finance showed the lowest response in the case of Antigua and Barbuda. It was discovered that since Antigua falls within the category of Small Island Developing States, the government tends to prioritize other Ministries such as Health and Tourism. One of the interviewees that had a direct working relationship with the process of gaining financial assistance for these services stated, "all ministries are always trying to get a share of a very, very limited budget, and many times I saw at the ministry, they would put you through processes where you would, have to put up these plans, go through a whole process. Then when it actually came to access to the funds, just not available." One of the underlining issues to note is the political period in which a government has to commit to new developments such as e-government and a lack of resources. As cited by an author, "governments of developing countries are still facing challenges regarding transformation due to a myriad of obstacles, which include the lack of interoperability of e-government, lack of resources and lack of management commitment" (Apleni & Smuts, 2020).

5.1.4 Awareness of International Surveys for e-government

The following figure represents the level of awareness of international surveys that assists various countries with recommendations and rankings of e-government development on a national level.

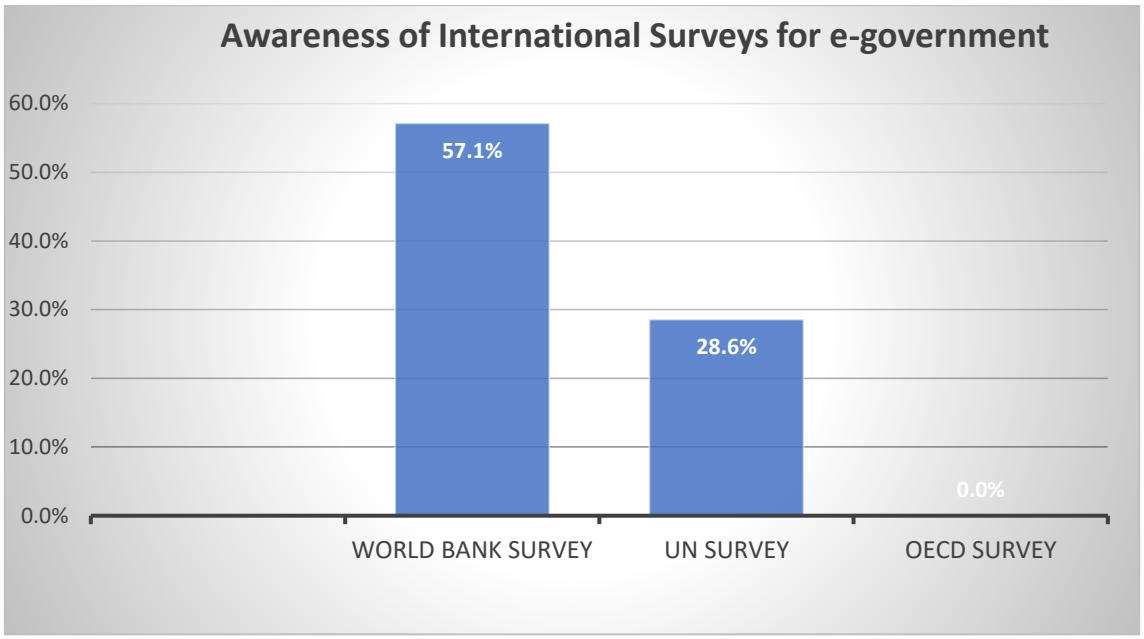

Figure 4 Awareness of International Surveys for e-government (author's assessment)

The findings showed that most of the interviewees were not aware of the criteria used by the UN and the OECD to assess e-government on a national level. The respondents to these questions included the e-government director, the UN country coordinators, the law commissioner, a business representative and a citizen. It was revealed that when stakeholders referred to the UN surveys, it was at a point where an e-government initiative concept was being looked into at that time. However, not continuously as the surveys were released. In summary, one of the issues mentioned by an interviewee is that it appears to be a disconnection of measuring Small Island developing States (SIDS) with the same metric as developed countries. The director of e-government and IT mentioned that metrics such as GDP and social metrics should be included to have a clearer picture of where SIDS countries stand in reality.

Furthermore, it was found that the majority of the stakeholders referred to the World Bank Ease of Doing Business survey for references to develop e-government services. It was revealed that this survey appears to be more attractive to policymakers because the country is dependent on tourism. If there is a high ranking on how seamless it is for visitors and citizens to transact businesses, it will promote investment and more visitation, increasing economic stability. In other words, e-government development is viewed from the standpoint of business endeavours.

5.2 Discussion

This section gives a detailed outline of the relevance of the surveys and indexes to Antigua and Barbuda stakeholders based on the study results. The section also answers the sub research question. It delivers to the reader the overall aim of the study and the significance this study may have on e-government implementation strategies. Tables seven and eight visually represent the answers to one of the main research questions, followed by a discussion.

RQ 1: How do e-government stakeholders exploit the e-government Surveys and Indexes?

The effective adoption of e-government initiatives based on UN surveys and Indexes has shown that the stakeholders of Antigua and Barbuda have not made adequate use of the recommendations and overall ranking of the indexes or use of the surveys. The study revealed that the surveys independently are essential to assist the Member States in developing and maintaining e-government initiatives. For instance, the study showed that challenges range from a clear strategy of e-government, financial constraints, using Covid-19 as a form of political will to implement these services and stakeholders' collaboration. The surveys address how to bypass these pitfalls and topical trends on a regional and integration level.

However, the adoption of these surveys was very low. If references were made, it was done on a limited aspect. Tables five and six visually represent the lack of exploitation of these surveys.

Table 5 Relevance of the UN Survey to the stakeholders of Antigua and Barbuda

Stakeholders in Antigua and Barbuda	**Awareness of the UN Surveys**	**Awareness of the Criteria Used in the survey**	**Comments on the exploitation and importance of the surveys**
United Nations Country Coordinator (Antigua)	No awareness of the surveys	No awareness	The coordinator was not aware of the capacities and use of the surveys

Stakeholders in Antigua and Barbuda	Awareness of the UN Surveys	Awareness of the Criteria Used in the survey	Comments on the exploitation and importance of the surveys
United Nations Country Coordinator (Dominica)	Awareness of the surveys	No awareness	While the coordinator was aware of the surveys, only three references were made to them when aiming to implement a regional e-government platform.
Director of e-government	Awareness of the surveys	No awareness	While the director was aware of the surveys, references were made to recent surveys from 2017 to 2020. Moreover, the director mentioned that only a few sections appeared to be helpful to Antigua and Barbuda.
Director of IT	No awareness of the surveys	No awareness	The coordinator was not aware of the capacities and use of the surveys.
Law Commissioner	No awareness of the surveys	No awareness	The commissioner was not aware of the capacities and use of the surveys
Business Representative	No awareness of the surveys	No awareness	The business representative was not aware of the capacities and use of the surveys
Citizen	No awareness of the surveys	No awareness	The citizen of Antigua and Barbuda was not aware of the capacities and use of the surveys

Table 6 Relevance of the OECD Survey to the stakeholders of Antigua and Barbuda

Stakeholders in Antigua and Barbuda	Awareness of the OECD Survey	Awareness of the Criteria Used in the survey	Comments on the exploitation and importance of the surveys
United Nations Country Coordinator (Antigua)	No awareness of the surveys	No awareness	No awareness
United Nations Country Coordinator (Dominica)	No awareness of the surveys	No awareness	No awareness

Stakeholders in Antigua and Barbuda	Awareness of the OECD Survey	Awareness of the Criteria Used in the survey	Comments on the exploitation and importance of the surveys
Director of e-government	No awareness of the surveys	No awareness	No awareness
Director of IT	No awareness of the surveys	No awareness	No awareness
Law Commissioner	No awareness of the surveys	No awareness	No awareness
Business Representative	No awareness of the surveys	No awareness	No awareness
Citizen	No awareness of the surveys	No awareness	No awareness

RQ 2: Research sub-question 1: Who are the beneficiaries of the e-government Surveys and Indexes?

Based on the results given by the interviewees when the question was asked, "who are the stakeholders when implementing e-government initiatives?" Also, the results are shown in Table 2 of this dissertation; the field's stakeholders regarding the UN can fall within the following categories; organizational, political, and technical. The stakeholders within the field can be started as government, government agencies, private sector, NGOs, civil society, and policymakers. However, the OECD survey did not state explicitly who the stakeholders are within the field. Although stakeholders were mentioned to collaborate when deploying e-government initiatives, a guide on whom the survey addressed was lacking. It is also good to note that the UN surveys did not always reference the stakeholders within the field. On a side note, this can affect the way the surveys are exploited since actual stakeholders may not be aware that the surveys are being addressed to them for practical use and referencing.

Research sub-question 2: What clusters are used to determine the e-government development indexes (EGDI) and Digital Government Index (DGI) in relation to the e-government initiatives?

It was found that the UN international organization based its method to assess e-government using three categories. One-third is obtained from a Telecommunications Infrastructure Index (TII) based on data provided by the International Telecommunications Union (ITU), one-third from a Human Capital Index (HCI) based on data provided by the United Nations Educational, Scientific and Cultural Organization (UNESCO), and one-third from the Online Service Index (OSI) (UNDESA, 2018). Based on the results and literature of the study, it was found that there is a gap in the way the UN ranks its Member States, with a focus on Antigua and Barbuda as a developing state. Firstly, the cluster used does not include the GDP in the index to determine how prepared a country is to develop a working infrastructure for e-government. According to the literature of the study, excluding this metric can be misleading as a country such as Antigua and Barbuda, which lacks the resources, will be ranked amongst countries that are more developed and may have needed resources to proceed with these developments. Ironically, the Economic Commission for Latin America and the Caribbean (ECLAC), a United Nations regional commission (Nations, 2022), reported on the lack of resources possed by the SIDS, such as Antigua, to develop government and possibly earn a high ranking. The organization stated, “the small-island developing States of the Caribbean face difficulties in implementing e-government services, in part because the processes needed to accomplish this modernization are highly resource-intensive, in terms of both human and financial capital” (Williams & Marius, 2016).

Also, it was found that social conditions should be considered in ranking these indexes. Antigua and Barbuda have unique conditions due to economic conditions and geographical conditions within the Atlantic Hurricane belt that have been vulnerable to external shocks, including several hurricanes that have affected the economy significantly (Ram, 2021).

Moreover, the OECD framework gives a working framework on how e-government initiatives should be the policy framework is listed below:

1. “digital by design
2. government as a platform
3. data-driven public sector
4. open by default
5. user-driven

6. proactiveness.” (OECD, 2022)

It can be said that this is an ideal framework to adapt since Antigua and Barbuda is in the developing stage, also known as the emerging stage; these clusters can be instrumental in the framework to include these guidelines. Based on the observation by the researcher, it is suggested that the delivery and promotion of this survey should be accessible or promoted to its member states to provide the needed guidelines for e-government initiatives.

6. Conclusion

The presented research revealed the various challenges and successful implementation strategies that can be incorporated when implementing-government initiatives. To sum up the paper 'Relevance of the UN e-government surveys and the OECD Digital Government Index 2019 to e-government Stakeholders: The Case of Antigua and Barbuda' attempts to answer the questions such as the adoption of these international surveys, to whom the surveys are addressed to enact the recommendations given and also the clusters used in these surveys. The overall aim was to contribute to academic literature and provide critical points to stakeholders that can affect implementation.

The researcher relied on the stakeholder's theory to base the framework, and it was found that stakeholders in e-government play an integral with success or failure. Moreover, it was observed that international surveys have relevance due to their influence and topical issues addressed in their work. The actual use depends on the clusters used, which plays a crucial on whether stakeholders refer to these documents for advice or not, particularly for developing countries, as illustrated in the case of Antigua and Barbuda.

To conclude, the key stakeholders can fall under political, organizational, technical and users such as citizens and civil society. The adoption of the international surveys is very low in Antigua and Barbuda, which seemed to have resulted from metrics such as GDP and social factors being exempted from the EGDI. Additionally, the fact is that the country is still at an emerging level of e-governance; certain fulfilments can not yet be incorporated.

6.1 Future Work

For future work, the researcher recommends for international organizations to provide a more focused index to Small Island Developing States that includes factors that impede the development of e-government initiatives. It was noticed in the study that the UN and OECD indexes provide a general ranking to developing or Small Island countries that may underling issues such as social factors and GDP that affects the overall performance of imploring e-government services in their country. The approach recommended for gathering the empirical data by academic scholars or the experts that generate these

indexes is to conduct research on the indexes that provide a ranking or recommendation for e-government initiatives. For instance, the World Bank Survey appeared to be more adaptable to Antigua and Barbuda. It would be helpful to compare the indexes of e-governments that exit and create a new metric and framework that could be better tailored to support the use of this new phenomenon, particularly for developing countries. Moreover, since the Antigua and Barbuda setting was examined where the majority of the interviewees were based on a management role, it would also be helpful in the future to have a view from the wider audience, such as citizens, to understand their perspective on how beneficial incorporating e-government could be to their daily lives,

6.2 Limitations

Studies investigating a new phenomenon will experience some degree of limitations, and this research was no exception. One of the limitations of the studies was not having access to data such as future strategies due to the lack of implementation strategies in the country of investigation. Also, due to Covid-19, the ability to have direct interaction with the interviewees was a challenge due to Government restrictions on the number of persons that can be assembled. Moreover, another challenge faced was the unavailability of interviewees, particularly managers, to participate in the discussion. Moreover, since the study respondents focused on individuals within Antigua and Barbuda, another limitation faced was conducting the interviews via zoom in a different time zone to gain the necessary data. This affected the scheduling of interviews and the time allotted to transcribing the interviews. It was challenging to meet earlier in the calendar day with interviewees due to a seven-hour time difference.

According to Yin, in research, four logical tests can be applied to test the quality of a study. Constructing validity identifies the main concepts of the dissertation that is being studied (Yin, 2018). This falls under the internal and external validity concepts. Internal validity establishes a casual relationship where certain conditions are dependent on the other. In contrast, external validity shows whether a case study's findings can be generalized (Yin, 2018). Reliability is where the operations of the study can be repeated with the same results.

Although the results of the studies could be generalized because qualitative methods were used, the limitation of this study remains because of the small sample size that was selected in the study.

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Relevance of the UN e-government surveys and the OECD Digital Government Index 2019 to e-government Stakeholders: The Case of Antigua and Barbuda

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Appendix 2 – Interview Questions

Questions to the following:

The UN Country Coordinator of Dominica – Audio Recording 22.04.2022

The UN Country Coordinator of Antigua and Barbuda - Audio Recording 22.04.22

Director of e-government in Antigua and Barbuda - Audio Recording 25.04.22

Law Revision Commissioner in Antigua and Barbuda - Audio Recording 22.04.22

Director of IT in the Ministry of Telecommunications - Audio Recording 25.04.22

Business Representative of the private sector - Audio Recording 25.04.22

A citizen of Antigua and Barbuda - Audio Recording 25.04.22

1. When implementing e-government initiatives in your country, who are involved in the implementation process?
2. How would you describe the relationship between e-government stakeholders in your country? For example, stakeholders that share information and collaborate when implementing e-government initiatives.
3. Throughout the implementation process of the e-government process, how often do stakeholders collaborate?
4. Is there a designated task force or special team when implementing e-government?
5. How important is leadership in e-government initiatives in your country?
6. How supportive is the management of e-government in your country?
7. Is there a clear strategy for implementing e-government initiatives in your country?
8. How do legislations affect the implementation of e-government initiatives in your country?
9. Have you referred to the Organization for Economic Co-operation and Development (OECD) 2019 survey on Digital Government Index for guidance and maintaining e-government initiatives?
10. 9. b If yes, how important were these surveys to the development of e-government?
11. Have you referred to any of the United Nations e-government surveys between 2001- and 2020 for guidance and maintaining e-government initiatives?

12. 10. b If yes, how important were these surveys to the development of e-government?
13. Are you aware of the criteria used by the UN to assess e-government development at the national level?
14. Are you aware of the criteria used by the OECD to assess e-government development at the national level?
15. Do you face any challenges with the budget for e-government initiatives?
16. Does the GDP of your country have any effects on the performance of e-government initiatives?
17. How would you describe the importance of having an IT infrastructure to implement e-government initiatives?
18. How important is the cooperation between your department and the IT department?
19. How would you describe the current qualification level of your staff in terms of IT skills?
20. Any comments?