

**TOWARD FORMULATING A MATURITY  
FRAMEWORK FOR E-DIPLOMACY  
IMPLEMENTATION**

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## Abstract

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Toward Formulation a Maturity Framework for E-diplomacy

**Keywords:** diplomacy, e-diplomacy, Digital diplomacy, ICT maturity model, interpretive structural modelling

Digital diplomacy (e-Diplomacy), is commonly defined as the use of information and communication technology for the purposes of attaining foreign policy goals. The emerging field of digital diplomacy has been largely neglected in academic research. Also, in practice, this area has been slow to evolve compared to other areas of public service such as e-government, e-education and e-health. This research draws on the existing literature to present a novel conceptual framework that could be used to guide the implementation of e-diplomacy. A new e-diplomacy maturity framework is formulated to address the modern functions of foreign relations in today's global environment. The e-diplomacy maturity framework is derived from the theory of growth models, the e-government maturity model, the broader literature on diplomacy and the practice of diplomacy. To validate the conceptual framework, a qualitative approach involving semi-structured interviews with diplomats and professionals from the foreign ministries of the USA, the UK and Qatar were conducted. The novelty of this research is based on the development of a conceptual framework of e-diplomacy maturity and implementation that was built around the scaffolding of conjectures that were tested to determine their validity. It can guide research scholars wishing to explore the discipline of digital diplomacy. It will also assist foreign ministries to identify the stage they have reached in deploying ICT in their diplomatic functions. This study should also provide policy makers, diplomats, ICT managers, and practitioners with a greater understanding of the stages and factors that encourage or hinder e-diplomacy implementation and maturity.

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## Declarations

I declare that, to the best of my knowledge, no portion of the work referred to in the thesis has been submitted in support of an application for another degree, or qualification to any other university, or institute of learning. The thesis conforms to British Standard BS 4821: 1990, the 'British Standard Recommendations for the Presentation of Thesis and Dissertations', and follows the Harvard referencing system. Some of the material displayed herein has already been published in the form of the publications listed in the following: - .

- Al-muftah, H., Weerakkody, V. and Sivarajah, U., 2016, March. e-Diplomacy: a Systematic Literature Review. In *Proceedings of the 9th International Conference on Theory and Practice of Electronic Governance* (pp. 131-134). ACM.
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# Chapter 1: Introduction to the research area

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## **Abstract**

This chapter provides an insight into the proposed research. An overview of e-diplomacy is presented first. Then, the research, research problem questions, the aim and objectives follow. The significance and the contribution of this study is also set out in this chapter. Finally, to introduce readers to the remainder of this thesis, an overview is offered at section 1.7.

## Chapter 1: Introduction to the research area

### 1.1. Introduction

E-diplomacy has been defined as an online platform in which different types of tools and applications provide security for various diplomatic goals around the world (Hanson, 2012). E-diplomacy is also known as communication technology that helps different nations to set diplomatic objectives and goals. This online platform has a wide range of scopes and uses. There is no perfect definition of e-diplomacy. At the present time, ICT continues to undergo profound changes which has enabled it to integrate with a range of diplomatic affairs and issues (Asgarkhani, 2005). The modes of sharing, analysing and acquiring information have changed over time (Bekkers and Homburg, 2007). With the development of e-diplomacy, public opinion is no longer confined to limited circles. A number of tools can be used to implement E-diplomacy. The internet has contributed a major advance to the tools used in e-diplomacy. This chapter will focus on the different tools which provide the main means of access to this platform.

This chapter will also illustrate the research problem, aims, and questions. The significance of the study, its context and impact will be also introduced. To familiarise readers with the remainder of this thesis, an outline is presented in the last section.

[The next section presents background to the study.]

### 1.2. Background to the study

E-diplomacy, also known as digital diplomacy, is an online platform that encompasses varied applications and tools that guarantee the security of diplomatic goals across the globe (Hanson, 2012). In essence, e-diplomacy is a communications technology that allows different nations to define and establish diplomatic goals and objectives. According to the UK Foreign and Commonwealth Office (2012), digital diplomacy has become a crucial tool in the management of issues that surround foreign policies through the internet (ibid). However, e-diplomacy has had limited definitions that fail to capture its potential scope. For instance, the current definition fails to take account of internal electronic processes, major mobile applications, and various other novel technologies. The Bureau of

Information Resource Management (IRM)'s office of e-diplomacy (2015) acknowledges that platform which developed in the 21<sup>st</sup> century include statecraft as a domain involving applications and essentials of e-diplomacy. In this regard, e-diplomacy focuses on three broad aspects of information networks: personal communications; international relations; and mass media.

In the recent past, ICT became integrated in the affairs of diplomacy to a significant degree (Ehiane, 2013). This development continues an ongoing paradigm shift in way political scientists view the process of transformation. For example, due to advances in the ICT sector, e-diplomacy has evolved functions to enable digital delivery of information and governments to connect with other states across the world (Heeks & Bailur, 2007). E-diplomacy has also initiated a shift in the roles of diplomats by expanding cloud-storage of office documents guaranteeing access from anywhere. Therefore, ministries need to reap the benefits of IT.

Nweke (2012) used an Actor-Network Theory (ANT) to observe the concept of e-diplomacy, describing the relationship between an "actant" and "actor." He argues that actors should be classified as non-human elements. For example, texts, computers, and hybrids. In this context, an actant refers to a human element. In this analysis, diplomats are the actants, whereas machines and social media play the role of actors (Nweke, 2012). Thus, the ANT theory allows for the conceptualisation and construction of the social space.

It is important to recognise, critically interpret and analyse ICTs before the governments adopt them completely (Chadwick, 2008). Government policies could encompass strategic deliberations that may be affected by hindrances from culture, institutional features, and averseness exhibited by decision makers (Jordan, Wurzel, & Zito, 2005). In fact, ministries of foreign affairs (MFAs) bind their digital diplomatic policies toward those people and institutions renowned for public diplomacy since they instigate opportunities and novel initiatives. In spite of being aware of this limitation, MFAs fail to develop networks with the public which leads to the widening of gaps in terms of participation (Coelho & Von Lieres, 2010). Hence, MFAs should look for new ways to engage their public because the public is receptive to advances in technology (Batora, 2008).

Sharing has never been so easy as it is today. People can share their views and other types of information with the whole world with the help of internet and the social media (Itō & Antin, 2010). Intercultural dialogue has become more common

and the interactions between citizens of different nationalities has become routine (Ramzan, 2013). Public opinion tends to evolve with every passing moment. All these and many other innovations have been witnessed by this generation of the age of information (Kaplan & Haenlein, 2010). Matters concerning state policies are discussed regularly among family members of the social media. In contrast to earlier years, the common man of today can be found regularly indulging in debates about policy matters. The right to know, and the right to express one's opinion are the two basic determinants that have accelerated development of social media and the World Wide Web (Weber, 2010). The basic modes of acquiring, sharing and analysing information have changed. The opinion of the common man was once restricted to his social circle or community, and his access to information was relatively limited, confined mainly to newspapers, talk shows and books (Khosrow-Pour, 2009). These limitations hindered the growth of public opinion, which promoted a culture of controversies, misconceptions and monologues; and consequently the lines of conflict hardened (Jaeger & Bertot, 2010; Permyakova, 2014).

### **Tools for E-diplomacy**

Before elaborating the wide array of tools available for e-diplomacy today, it is important to understand how developments in the internet made the whole concept of e-diplomacy a practical possibility. Initially, most internet applications were restricted to one-way communication, similar to TV and radio (Black, 2002). This was web 1.0 of the web, in which people could only extract information without adding any of their own. For this reason, the number of internet users was relatively limited; usually governments who would rely on the internet to deliver data for official purposes. The invention of Web 2.0 revolutionised this setup, once it became a more readily accessed medium for communication (Governor, Nickull, & Hinchcliffe, 2009). It offered collective, group-based, multiple-way communication. With these developments, the transfer of information became more rapid; and people became empowered to express their views and share what others had to say (Vossen & Hagemann, 2007). This was the era when the concept of social media became popular, and it was at this juncture that the concept of digital diplomacy started to materialise (Permyakova, 2014).

Information and communication technology (ICT) has undergone several transformations before evolving into the ICT that we recognise today. A wide array of tools and applications are provided by ICT to carry out diplomacy (Zaharna, 2007).

The tool used most extensively for e-diplomacy is the World Wide Web. This is the network that connects information, or the source, with the receptor (Morville & Rosenfeld, 2007). This enables the simultaneous retrieval of information by different computers. The content of a website can be secured by limiting access or it could operate with open access. Websites allow storage of information and access by people all over the globe (Crossler et al., 2013). Information can also be preserved in form of a web database. This tool can be used by governments to store important documents related to public policy, which can be retrieved by members of the public (Morzy, Härder, & Wrembel, 2012). This may include personal information about individuals or a biometric database accessible only by the individual himself. It may also provide answers to frequently-asked questions, along with other important implications of official protocol (Permyakova, 2014).

Social media is regarded as the key driver in the development of digital diplomacy (Hare, 2016). Ambassadors and other foreign office officials use this medium to communicate with citizens all around the globe. Moreover, it can be deployed to aid in matters where citizens need their help (Neyazi, 2014). Some of the most commonly used platforms of the social media are Facebook; Twitter; LinkedIn; Instagram; and YouTube. The emergence of Web 2.0 technology was the main force behind the development of all these platforms (Greenhow, Robelia, & Hughes, 2009). One key factor that encouraged the growth of digital diplomacy via social media is the opportunity for people to interact directly with government officials; they can present their own opinions, or question the government's agenda (Permyakova, 2014).

The provision of online services is another tool regularly used by embassies. Visa information and other associated documents can be delivered online to citizens from any part of the world (Balzacq, 2007). Further, embassies use the internet as a tool for cultural exchange, it provides a platform to share speeches, documents, videos and other items of promoting cultural exchange (Permyakova, 2014). ICT may also be used for the intergovernmental exchange of documents from one bureau to the other. For instance, illegal migrants can be identified by sharing information about individuals whose visas have expired, or who have entered the borders without permission. By sharing such information via the internet with their head offices, embassies can improve their efficiency several-fold. Online conference calls and webinars are widely used by diplomats all around the world to address



target audiences (Slavik, 2004). They are also used by diplomats to share their views with the general public, and to promote calm during a state of emergency, when visuals can be more effective than words (Permyakova, 2014).

### **A country-wise analysis of digital diplomacy**

The age of information has revolutionised the decorum of foreign policy, and the networks that operate with it in today's global arena (Balzacq, 2007). At present, many foreign ministries have twitter accounts; more than forty ministers working in foreign affairs run personal twitter accounts (Small, 2012). This is a very recent shift in the diplomatic paradigm, since, only a few years earlier, digital diplomacy was considered out of the ordinary. Today, digital diplomacy tools have become an essential component of public diplomacy, facilitating communication between foreign ministries and their target audiences (Pigman, 2010). Some key facts and the chronological development of digital diplomacy in various countries are discussed below.

Diplomacy.Live published its Digital Diplomacy Ranking 2016, which ranked the foreign affairs ministries of 210 countries according to their use of digital diplomacy tools (Diplomacy.Live, 2016). Researchers used open digital and diplomacy assets such as mobile apps, websites, social networks and determined how these assets were used for diplomatic efforts. The review stated that, of 210 ministries of foreign affairs listed, 166 operated at least one single Twitter account and 120 ministries operated at least one Facebook account. Of 120 ministries, 77 ministries operated active Twitter accounts, making Twitter a major interface for ministries to communicate with their followers, followed by the Facebook. (ibid). According to the 2016 ranking of digital diplomacy (Diplomacy.Live, 2016), UK and France were ranked in first and second positions, US third and Russia in fourth position. The review confirmed India and Mexico in the top-ten, thanks to their emerging powers of digital diplomacy. Saudi Arabia was ranked top of the Arab countries and 29<sup>th</sup> out of the total 210 countries on the list.

The United States of America (US) has maintained its position of forerunner in every field, particularly those related to technology and security (Chadwick, 2006). The Office of E-Diplomacy was established in the U.S. Department of State in 2003 (Executive Office of the President, 2003) but remained in a dormant state for almost six years. In 2009, when Hillary Clinton became the Secretary of the State, she launched "21<sup>st</sup> Century Statecraft" (ibid). The idea was to hybridise classic diplomatic

practices with innovations ICT tools had made possible. During this period, the Department of State managed around 300 Facebook pages, with almost 13 million followers and 196 Twitter accounts with 1.9 million followers. It also manages 125 YouTube channels getting over 16 million views (Hanson, 2012). When John Kerry replaced Clinton, this level of activity decreased slightly, apparently her successor as Secretary of the State was more willing to maintain the traditional touch (Hallams, 2010; Lichtenstein, 2010).

The United Kingdom is regarded as one of the conservative states in terms of foreign policy matters. However, this contrasts sharply with its adoption of innovative tools of public diplomacy, for which the UK is ranked very highly. The UK's digital diplomacy is managed directly by the FCO. It holds several official accounts on Facebook and Twitter (Digital strategy of the FCO, 2012).

Australia was slow to comprehend the potential benefits that digitalisation of diplomatic procedures could bring. However, after observing the rapid developments in the field of digital diplomacy, it has started work in this area.

The Australian Department of Foreign Affairs and Trade (DFAT) has been active in its pursuit of strengthening the Australian digital diplomacy since the latter half of the last decade (Hanson, 2012).

In 2013, DFAT operated more than sixty social media accounts, which comprised numerous Facebook and Twitter accounts, along with three accounts each of YouTube and Flickr (DFAT, 2016). In addition, it also runs accounts with Sina Microblog, Sina Blog and Youku. Even though the most developments in Australian digital diplomacy only took place over the past two years, it has, however, succeeded in securing a place within the top 60 countries worldwide (ibid). DFAT's dedication to digital diplomacy can be observed from the fact that Australia leads in its responses to queries from the public (Thomler, 2014; Mediabadger, 2012).

In any discussion of diplomacy and foreign affairs, it would be negligent to overlook developments taking place in Russia. The Russian government has not yet shaped its e-diplomacy strategy completely. However, online communications and correspondence on social media are carried out by the Department for Information and Press of the Russian Ministry of Foreign Affairs (Simons, 2015). In 2012, while addressing a meeting of Russian ambassadors, Vladimir Putin, President of Russia, urged his diplomats to utilise recent developments in social media and information technology (Cross, 2013). Russia launched its first official Twitter account in 2011;

while in 2012, “midrftube” was established, a YouTube account run by The Ministry of Foreign Affairs of the Russian Federation (2016). The Russian government has been relatively conservative in its use of social media, it tends to denounce access to its official Facebook account (established in 2013) by non-Russian speakers and is only followed by over thirteen thousand followers (ibid). However, in the Russian sphere of digital diplomacy, the picture is changing, and at present more than 70 official Twitter accounts are managed by the Russian government (Kelly, 2012).

China, the powerhouse of Asian economy, understands the importance of digital diplomacy (Wang, 2008). The Chinese use a policy called, “Step Out, Welcome In”, as a counter to international influence exerted via social media (Chen, 2012). China is involved in developing websites in the English language, to reach out to the world and deliver its manifesto. More than three hundred thousand people in China are employed by the government to manage blogs, forums and websites .

### 1.3. Research problem

As mentioned previously, technology has affected the style of diplomacy and international politics, and public diplomacy is now slowly beginning to compete with classical diplomacy (Sikkink, 2011). Debri & Bannister (2015) noted that continuous emergence of new ICT and associated application defines the ICT revolution that has happened over the past decades. Becker (2010) claimed that over 3,000 academic papers were published on the topic of how ICT impacts organisations from 1995 to 2010. Existing networks and digital technologies upgraded the level of interactions between citizens, institutions and the public sector (Bretschneider, 2003). According to Contini and Lanzara (2008), ICT-based innovations have enhanced the efficiency of communication channels in public-sector contexts. It has supported citizens to acquire wide base of knowledge in the shortest time possible. However, there is still a lack of policy frameworks, management approaches and governance structures, which are necessary to operate effectively in the big data age (Contini and Lanzara, 2008). According to Asgarkhani (2005), ICT policies in the public sector have been able to shape e-government projects effectively and such policies were incorporated when a technological shift took place in the public sector during the early 1990s. Institutional changes that are also closely associated with the adoption of ICT include public-service delivery, government operations, governance reform, citizen participation and policy making (Asgarkhani, 2005). Whilst a number

of frameworks might be used to explore this topic, the literature, which focuses on e-diplomacy, in particular, is very limited. Furthermore, the unique field of digital diplomacy has been largely neglected in academic research; most scholars have focused on one aspect, i.e. the diplomatist literature, which emphasizes the diplomatic function, negotiation, mediation and others. Also, in practice, this area has been slow to evolve compared to other areas of public services such as e-government, e-commerce and e-health. A systemic literature review of digital diplomacy conducted (Al-muftah & Weerakkody, 2016) concluded that only few publications have explored the topic. More specifically, few studies have explored the factors affecting the implementation and diffusion of digital diplomacy. In this study, the author aims to evaluate inter-organisational and intra-organisational use of digital diplomacy within foreign ministries and embassies. The study will focus on formulating a framework for maturity stages of digital diplomacy encapsulating ICT use across inter- and intra-organisational contexts. The e-diplomacy maturity framework differs from that of e-government in terms of the scope of operation: E-diplomacy involves interactions not only between the government and citizens of a country, but also between the global community, such as the public of the host country, and other international actors such as NGOs and international organisations. Furthermore, the level of interactions that take place within the diplomatic context involve issues that are political and of a sensitive nature. In addition, the diverse nature of diplomatic functions, which include bilateral relations; promotion; consular services; mediation, public engagement, distinguishes diplomacy from other common public services. Finally, according to DeBri & Bannister (2015), e-government models have some limitations that prevent them from being applied to other public services. For these reasons, there is a need to formulate an e-diplomacy maturity framework to fill this research gap, which will not only help the academic study of e-diplomacy but also assist practitioners seeking to apply e-diplomacy tools. The significance of this research is illustrated in section 1.5.

#### 1.4. Research Aim, Questions and Objectives

##### **Aim**

The Aim of this study is to identify and empirically validate the stages of e-diplomacy maturity, as well as the factors that impact its implementation within

foreign ministries. To realise this aim, the following research questions have been proposed: -

### **Questions**

- What are the effects of ICT on the organisational contexts of foreign embassies when implementing digital diplomacy?
- What are the key factors that influence digital diplomacy implementation and adoption, both inside and outside a country?
- What are the stages of maturity in the implementation and diffusion of digital diplomacy?

With this premise, the following **objectives** are introduced:

1. Conduct a comprehensive literature review of the relevant literature, including diplomacy, foreign affairs, politics and the influence of ICT within these contexts;
2. Conduct a secondary analysis of digital diplomacy practices;
3. Conduct a systematic literature review of technology maturity models – in both organisation growth theories of ICT and in digital government – to formulate the basis of a maturity model for digital diplomacy;
4. Formulate a digital diplomacy maturity framework encompassing ICT use across inter- and intra-organisational contexts for political, social, cultural and economic contexts (translating the necessary research into a conceptual framework);
5. Review and formulate a methodological approach to validate and evaluate the theoretical framework by conducting empirical research and apply this framework to collect qualitative data from selected embassies of leading countries to refine and formalise the maturity of digital diplomacy;
6. Review the empirical results to extrapolate data that can be translated into a revised e-diplomacy maturity framework;
7. Offer conclusions and recommended further work.

### **1.5. Significance of the study and contributions**

This research provides several significant contributions to the field of diplomacy in general and e-diplomacy in particular. As previously mentioned, few

studies have explored the effect of ICT on diplomacy. A maturity framework for e-diplomacy is formulated and validated in different foreign ministries, using key indicators to measure the maturity of ICT in the field of diplomacy. The novelty of this research is based on the development of a conceptual framework of e-diplomacy maturity and implementation that is developed around the scaffolding of conjectures that is validated to determine their validity. Not only will it assist practitioners and diplomats, but also academics wishing to study the field of digital diplomacy further. It should also assist foreign ministries to identify the stage they have reached in deploying ICT in their diplomatic functions. This research therefore develops a conceptual framework that contributes to existing knowledge of e-diplomacy by drawing stages of e-diplomacy maturity and impact factors that affect its implementation. A further important contribution is the use of the ISM method to determine the causal relationships among factors impacting e-diplomacy implementation. This study should also provide policy makers, diplomats, ICT managers, and practitioners with a greater understanding of maturity stages and factors that encourage or hinder e-diplomacy implementation and maturity. The results should provide senior management and others with clear guidelines that can be used while applying e-diplomacy tools.

### 1.6. Research Approach

This research uses an Interpretivist philosophy, in which conceptual framework is developed and empirically validated data from three case studies (Saunders, Lewia & Thornhill, 2016). A multi-method approach is used to collect the empirical evidence and to achieve validity. Pilot interviews are conducted in selected embassies and foreign ministries responsible for implementing digital diplomacy, including the UK, the US and the state of Qatar. Semi-structured, in-depth, personal interviews with diplomats and professionals are used to explore factors affecting the diffusion of digital diplomacy. To evaluate the proposed framework, Delphi technique is applied to evaluate the usefulness, effectiveness, appropriateness and the efficiency of the framework. Finally, the stages, the factors (key indicators) and variables that influence both the implementation and diffusion of the maturity of digital diplomacy is further analysed by applying the Interpretive Structural Modelling (ISM) technique to formalise the final e-diplomacy maturity framework. Further details concerning the research methodology are presented in chapter 4.

## 1.7. Thesis outline

The approach used in this thesis follows a methodology discussed by Phillips and Pugh (2000) that consists of four stages: a) background theory, which focuses on identifying the area of the problem and is based on an inclusive literature review; b) focal theory, which concentrates on developing the conceptual model of the study; c) data theory, which focuses on the research strategy, collection and analysis of the data; d) a novel contribution, in which the results and the significance of the study are presented.

### **Chapter 1: Introduction**

This chapter provides an insight to the proposed research. The first section of this chapter provides an overview of e-diplomacy. Section 1.3 will define the research problem. The research questions, aims and objectives will be offered in section 1.4. The significance and the contribution of the study is illustrated in section 1.5. Section 1.6 outlines the research approach. Finally, to familiarise the readers with the remainder of this thesis, an overview is provided in section 1.7.

### **Chapter 2: Literature review and background theory**

This chapter aims to present a critical review of diplomacy, e-government, maturity models and theories and e-diplomacy. Its main aim is to present the following: a) the practice and challenges of ordinary diplomacy; b) the evolution of ICT services in public sectors; c) an overview of e-government; d) ICT uses within the ministry of foreign affairs; e) a systematic literature review of e-diplomacy; f) Maturity models and theories such as ICT maturity models, management maturity models, stage of growth theories, and e-government maturity models

### **Chapter 3: The Conceptual framework**

Based on the findings from chapter two this chapter should propose a maturity framework for e-diplomacy. The components of this model are discussed in detail. Also, the conjectures of the research will be presented which are derived from the conceptual framework.

### **Chapter 4: Research methodology – data theory**

An explanation of the overall research design is presented in this chapter to select the most appropriate option for this research. This chapter describes the research methodology and strategy chosen for the study and justifies the selection.

## **Chapter 5: The pilot study**

This chapter presents the findings of the pilot interviews and illustrates how these findings contribute to conducting the case studies, which will be presented in chapter 6

## **Chapter 6: the case study and the research findings-data theory**

The results of the case studies are outlined in this chapter. In order to explore the practical issues associated with implementing e-diplomacy, interviews were conducted with key government employees responsible for e-diplomacy and ambassadors in three places: the US state department; the UK's Foreign and Commonwealth Office and the foreign ministry in Qatar.

## **Chapter 7: Interpretive structural modelling (ISM)**

This chapter presents a brief background to interpretive structural modelling (ISM). ISM is used in this research to identify relationships among factors and variables that impact e-diplomacy implementation and then develop a relationship framework that can assist both academics and practitioners in the field.

## **Chapter 8: Discussion and revising the conceptual model - novel contribution**

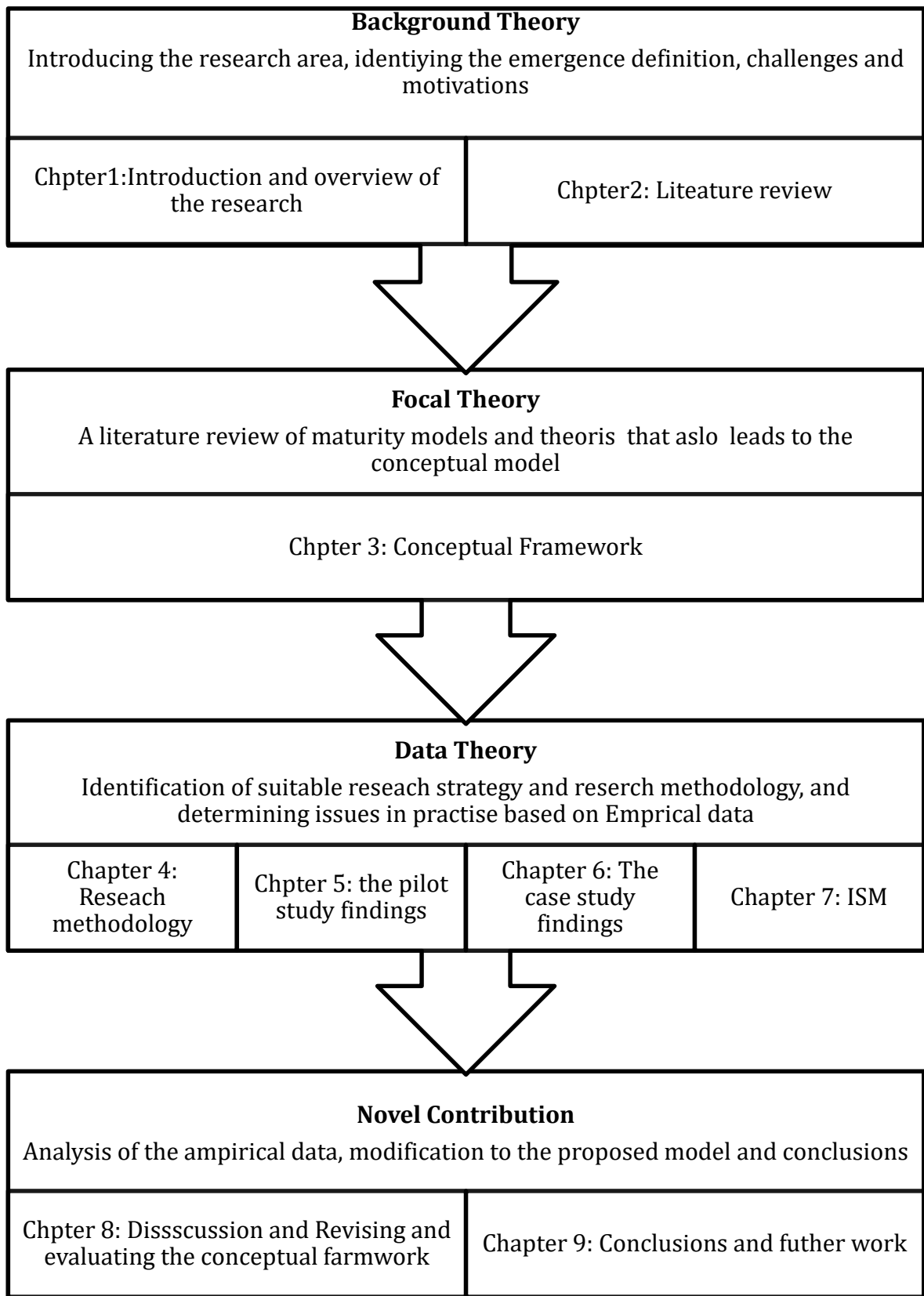
Based on the empirical findings from chapters 5, 6 and 7, this chapter focuses on revising the initial conceptual model offered in chapter 3. As a result, a novel conceptual model for E-diplomacy maturity is proposed. Delphi processes are also used to evaluate the proposed e-diplomacy framework through discussion with experts in this area.

## **Chapter 9: Conclusions and further work**

This chapter provides a comprehensive summary, conclusion, and discussion of the limitations of the current research and recommendations for future research.

The following figure illustrates the research outline:





**Figure 1.1, The Research Outline**

# Chapter 2: Literature review

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## **Abstract**

This chapter will discuss the involvement of ICT in government activities and functions. Foreign ministers are responsible for improving and maintaining rules and regulations of foreign policies. They use ICT that facilitates the maintenance of good relationships with other countries. This chapter seeks to present a critical review of diplomacy, ICT evolution, e-government, maturity models and e-diplomacy. The main aim of this chapter is to present the following: a) The practice and challenges of ordinary diplomacy; b) The evolution of ICT services; c) An overview of E-government; d) ICT uses within ministries of foreign affairs; e) A systematic literature review of e-diplomacy f) ICT maturity models.

## Chapter 2: Literature review

### 2.1. Introduction

The Institution where men and women provide services for dealing with the foreign affairs of a state is known as the Ministry of Foreign Affairs (MFA). This chapter will highlight the views and opinions of different authors to explain the functions of ministries of foreign affairs and diplomacy. Foreign ministers perform different diplomatic duties. In the recent times, MFAs have undergone significant changes in the way they handle foreign affairs effectively. Government has developed different tools to interact with foreign countries and these have contributed much to the formation of diverse international policies (Hanson, 2012). Advances in ICT have impacted public service policies significantly. ICT has facilitated the government to develop effective foreign policies. According to (Saunders, Lewia & Thornhill, 2016), there are several types of literature review: the integrated review, the historical review, the methodological review and the systematic review. In this chapter, an integrated literature review of diplomacy and foreign affairs is presented initially. Next, an historical review of ICT evolution and e-government is discussed. Finally, a systematic literature review of e-diplomacy and a literature review of ICT maturity models are presented. The next section presents the first section of the literature that outlines the functions of diplomacy and foreign relation.

### 2.2. Ministry of foreign affairs and diplomacy

An MFA is an institution in which men and women contribute their services to the state's foreign service using well-established procedures and norms (Lequesne, 2015). Countries use different titles to refer to their foreign ministers. For instance, in Brazil, he or she is referred to as the Minister for External Relations, and Chancellor in Spanish speaking countries in Latin America. Diplomacy is the process by which various representatives perform foreign policies, while the foreign policies themselves are the decisions made by the influential political leaders and their advisers to serve the interests of their countries (Evans & Steven, 2010). Diplomacy plays a role in implementing foreign policies through negotiations, i.e. making policies understood and accepted, if possible, by other states (Todhunter, 2013; Murray, et al., 2011). The policy is a direction and formation while diplomacy is

implementation and communication (Chelotti, 2015). Ministers in an MFA are responsible for various diplomatic duties, for example hosting foreign leaders from different parts of the world and attending state meetings in other countries (Baxter & Stewart, 2008). In the UK, the Secretary of State for Foreign and Commonwealth Affairs is the minister accountable for foreign policy and British overseas territories. Baxter & Stewart (2008) noted that before 1968, the Secretary of State for Commonwealth Affairs was the minister in charge of the relations with the colonies and Commonwealth countries while the Secretary of State for Foreign Affairs dealt with non-Commonwealth countries. In the United States, the Secretary of State is responsible for foreign policy and he or she is the US senior cabinet officer (Dodge, 2015). Changes have taken place in MFAs due to the participation of almost every sector of government in the field of foreign affairs. The activities and interests of governments have become chaotic, resulting in disarray in embassies abroad, and creating problems for ambassadors and their staff (Hallams, 2010).

The 21st century is the century of globalised diplomacy, because of the paradigmatic changes to the ways in which international relations are performed (Elman, 2001). The shift towards a globalised diplomacy was determined by the growing importance of public diplomacy. This came about through the prioritising of science, technology, consular work and culture in diplomacy as well as the growing importance of regional mediation and groupings founded on the geographic principle (Smith, 2016). Diplomacy has become multilateral, multifaceted, demanding, and unstable. During the growth of the state-based diplomacy, national governments developed tools to interact with the external environments and to implement their diverse international policy goals. While a MFA is an ordinary component of national bureaucracies, there are noticeable distinctions in the way that both practitioners of diplomacy and academic observers regard the role and significance of the MFA. To academic observers, a MFA is a reflection of the different approaches to the significance and nature of diplomacy in the contemporary political world (Gilmore, 2015). State-focused narratives of diplomacy assign particular significance to state-based agents of diplomacy, particularly MFAs and their assorted networks of missions overseas (Adler-Nissen, 2014).

### 2.3. Practice of Diplomacy

Diplomacy involves the process of undertaking negotiations between representatives from different states. It is often used to refer to international diplomacy or international relations with the participation of professional diplomats who discuss peace-making, trade agreements, culture, the environment, and human rights (Black, 2010; Glover, 2011; Gupta, Chaturvedi, & Joshi, 2004; Klavins, 2001). The modern functions of diplomacy are discussed in this section.

#### **Bilateral and Multilateral Relations**

Bilateralism includes political, economic, and cultural relations between two independent states (in contrast to unilateralism, and multilateralism) in terms of how relations are conducted and the number of parties involved (Yilmazkuday & Yilmazkuday, 2014). As states acknowledge one another as independent parties and agree to establish diplomatic relations, they exchange agents, including ambassadors, to manage dialogues and to build cooperative links with each other (White, 2004). Free trade agreements are the most common forms of bilateral relations, where the specific qualities of the countries involved indicate preferential treatment for each other, which is not a general principle but is situational (Thompson and Verdier, 2013). With bilateralism, states can tailor agreements and responsibilities and apply these to each other. (Zhang, 2014).

Multilateral agreements were established in the form of the General Agreement on Tariffs and Trade (Ciprian-Beniamin, 2014; Thompson and Verdier, 2013). Even with multilateral processes dominated by the UN and the WTO, diplomatic activities are still carried out at the bilateral level (Kinne, 2014). Bilateral relations are more manageable and flexible, qualities that are difficult to achieve in multilateral systems (Torney, 2015). Moreover, differences in power, money, and technology can be easily exploited by the stronger side in bilateral diplomacy, where powerful states assess the positive elements in relation to the consensus-dominated multilateral type of diplomacy where one state, one-vote is usually applied (Dastanka, 2015)

## **Consular services**

Another important function of any diplomat is to provide consular services. Consular affairs generally function to implement laws, security regulations, as well as implement policies on various services relating to immigration and consular activities (Nicolson, 2011). Consular affairs usually focus on the issuance of visas and passports, as well as the extension of visas for non-immigrants (Wright, 2008). At present, consular affairs have been working towards using e-technology or digital technology to issue visas and passports (Mareev, et al., 2013). Major functions of consular departments of foreign ministries and embassies include: the protection and care of citizens' interests; issuing guidelines and advice before travel, acting as the active link between the interests of approved diplomatic missions of the state and the interests of their citizens; receiving reports on the entry of foreign ships and aircraft; issuing permits for the transit and landing of non-commercial airplanes in international airspaces and lands; receiving applications for entry visas, authenticating certificates and documents issued by ministries, government agencies and the approved diplomatic missions. (Burt and Robison, 2008; MOFAQ, 2014)

## **Negotiation and Mediation**

Negotiation and mediation are processes used in resolving disparate options between parties (Papagianni, 2010). Negotiation covers discussions between parties with the end-goal of securing an agreement. The number of parties or disputants is not limited, however, two-party negotiations are often used (Andersen, 2008). Mediation plays a varied role in negotiations, and involves one or more outsiders who aim to assist the parties in their discussions (Carnevale, 1992). Mediation implies a special kind of negotiation; negotiation is usually more broadly encompassing.

## **Public Diplomacy and Social Engagement**

Public diplomacy can be distinguished from traditional diplomacy because it includes not only interactions with governments, but also with non-governmental organisations (Leonard, 2002). Public diplomacy also covers activities relating to private individuals and organisations as well as official government views (Westermann-Behaylo, Rehbein, & Fort, 2015). Public diplomacy seeks to ensure

that national interests are secured and impacts on foreign audiences are understood. The goal of public diplomacy is to impact opinions in specific states and make it more convenient for the government to achieving its goals (Zhang, 2013). The image of countries involved in diplomacy is an important factor. However, this is not the only requisite (Leonard, 2002). For most states, an internationalist posture is usually favoured (Johnston, 2014). A limited pursuit of interests at the expense of others would not be favourable.

### **Promotion and image building**

Successful home-country promotion and global image building are also necessary facets of diplomatic excellence (Adriana, 2013). Countries do not always find it easy to form healthy relationships with other countries when they are negatively characterised, such as associations with terrorism, political instability, and human-rights abuses, among others (Freeman, 2007). From an interior-ministry view, various roles can be played to ensure that countries develop an international image that is acceptable to all (Scott & Newton, 2012). According to Yucheng (2012), it was recommended that a way be found to ensure the rule of law encourages human rights fairness as well as fair promotion among citizens.

### **Internal Administrative Functions and the use of ICT**

Shultz (1997) argues that e-diplomacy should be viewed as a way of using ICT to achieve diplomatic excellence. Modern governance and politics, in contrast, view ICT as an influential factor which cannot be omitted from officials' work and engagements (Dizard, 2001). It is because ICT has become necessary in the construction of communication systems that embassies and other offices within the foreign affairs ministry use it daily. According to Yi (2005), an assessment of how detailed the systems of information and communication are within a ministry is the correct measure of efficiency. Consequently, ministries should focus on incorporating ICT in their day-to-day operations. In any embassy, most departments including HR, finance, information, consular and political departments among others, have deployed ICT (Batora, 2008; Hanson, 2012).

The table below summarises the main functions of diplomats:-

<b>Function</b>	<b>Description</b>
Bilateral and Multilateral Relations	Relationship building between officials of the host and the homes counters. Which includes managing dialogues and building cooperative links with each other.
Consular services	Consular affairs generally function to protect and care of citizens' interests in a foreign country. (e.g. visa issuing, authenticating certificates and documents, crisis management.. etc.)
Negotiation and Mediation	Resolving disparate options between parties
Public Diplomacy and Social Engagement	The engagement and interaction of diplomats with the public of the host country and other non-governmental organisations
Promotion and image building	Promotion and global image building of the Home country in host country
Internal Administrative Functions	Management of a foreign mention (HR, Finance, Management)

**Table 2.1, the main diplomatic functions**

## 2.4. Evolution of ICT

In their paper, Hirschheim and Klein's (2013) discussed three technological IT eras: the mainframe era; the PC era and the internet era. This section illustrates the evolution of ICT from the use of mainframe computing to personal computing to smart hand-held devices. The product life-cycle concept and the technology-acceptance model are discussed first, as they are important to understanding the changes.

### 2.4.1. Product life cycle

The notion of product life cycle suggests dynamism in the availability and use of products in markets and implies that a single product is not likely to be dominant among users. The four major stages are: introduction, growth, maturity, and decline (Zhang, Liang, & Chen, 2013). The significance of a product in a market will vary across the stages and will eventually fade away, paving the way for other products and their applications. At the introduction stage, the product emerges in the market with marketing initiatives to promote awareness and use of the products. Acceptance increases gradually and sales and market share increase as the product approaches maturity. A decline stage then follows, in which sales and market share decline (Kahn, 2015; Boone & Kurtz, 2011). In a dynamic environment, such as ICT environments whose effects have been revolutionary, the emergence of new products is identified during the decline stage of an existing product.



#### **2.4.2. Technology acceptance model**

The ability to penetrate a market and remain relevant to consumers, according to the product life cycle, is one factor that encourages dynamism in industry. The Technology Acceptance Model explains this from a consumer's psychological perspective. Based on the theory of reasoned action, the technology acceptance model explains the role of "perceived usefulness" and "perceived ease of use" of technology of associated applications to explain attitudes towards a product (Thatcher & Ndabeni, 2012). This in turn influences intentions to use the product and its actual use. Positive attitudes towards the two perceptions, as well as the degree of the attitude, influence the desire to use a product and user satisfaction with the product, and a high probability of sustained use of the product will then follow (Ratten, 2012). External factors affecting use mediate perceptions of usefulness and ease of use of a technology, though perceived ease of use also influences perceptions of usefulness. These influence attitudes towards usage and determine behaviour, though perceived usefulness also has affects behaviour that determines application directly (Steinhauser, 2008). Health-care professionals, for example, focus on their patients and outcomes, and any difficulty using a technology may induce negative attitudes towards it and discourage its application (Hatton, Schmidt, & Jelen, 2013).

#### **2.4.3. Mainframe computing**

Mainframe computing is one of the earliest computer applications for information management, though its use is no longer significant. Harbert's discussion (2011) of the possible hosting of a private cloud in a mainframe illustrates the transition from the earlier application. Maher (2010) argues that PCs developed from the mainframes that are themselves a crude form of PC technology. Mainframes were slower than PC technology and less effective at solving problems that appear simple with PC technology. In using mainframes, a person had to make a formal submission to request information. Mainframe administrators would then review the request and search for the required information before it could be delivered, while a user could immediately and directly retrieve information from a PC (ibid). Historic usage of mainframes identifies their popularity peaks in the 1980s and early 1990s and Takahashi (2005) explains that they vanished afterward.

#### **2.4.4. Data processing**

Data processing was to emerge significantly in the 1980s, when mainframe computing was still popular. Parallel data processing then became popular in the 1990s (Reed & Dongarra, 2015), a period when the use of mainframe computing began to decline, according to Takahashi (2005). By the early 1970s, however, the need for data processing using technology had emerged, and technology experts were trained at postgraduate level in relevant competencies (Lukaitis, Lukaitis, & Davey, 2010). Press (1999), however, extends the history of data processing to the middle of the 20th century with early computational roles. According to the author, significant data processing emerged with developments in accounting through the IBM 1401 early in 1959. This is consistent with the reported demand for training for employees in data processing by late 1960 (Lukaitis, Lukaitis, & Davey, 2010) and the significance of data processing in the 1980s (Reed & Dongarra, 2015).

#### **2.4.5. Management information system (CRM)**

Another aspect of the ICT is the management of information systems for benefits that accrue to organisations. The application of information systems has diverse scopes depending on the type of organisation as well as on divisional structures within organisations. Within organisations, information systems can be used for operational management, tactical management, strategic management, and project management. Application in strategic and operational management, according to Nechkoska, Poels, & Manceski (2015), is more popular than use in tactical and project management, based on research interest that they have undertaken. The managerial scope of ICT, however, could still be underutilised. Gaps also exist in demands for real-time information, the use of information systems to forecast or align management, and the choice of techniques for data mining and analysis for management (Nechkoska, Poels, & Manceski, 2015). These gaps relate to the application of information technology for tactical management and can be inferred from other management aspects.

Management of consumer relationships is another application area of information technology whose significance was noted by 2016. (Lal & Bharadwa, 2016).). Information technology has aided management in hospital set ups. (Luzia,, 2015). Information systems also play a significant role in managing stakeholders,

such as stakeholders of a supply chain, and in managing processes such as internal and external supply chain management (Hossain, Hasan, & Ahmed, 2015).

#### **2.4.6. Personal computing**

Technology has also promoted personal computing, even in professional environments. Functionality and cost-effectiveness are some of the factors relevant to personal computing, but functionality appears to be the most significant factor in professional environments where personal computing is sometimes banned. The availability of cloud tools for individual personal needs has promoted reliance on cloud-based services such as “Box, Copy, Dropbox, Evernote”, among others, because of their ease of use and effectiveness (Pratt, 2013).

Personal computing, however, has existed for years, and was reported as early as 1980. Their use involved the introduction of personal computers in companies and the trend increased dramatically. The earlier scope of personal computing, however, focused on personal computers, owned by employers for the purposes of undertaking professional duties (Gulmaraes & Ramanujam, 1986). Developments in technology have induced the challenge and as Pratt (2013) reports, the line between personal and professional application in personal computing is likely to cease. Gartner (2015), based on a predicted evolution of personal cloud services, supports this position. The usefulness of the personal cloud will grow and employers will be motivated to encourage its use in organisations. Increasing access to information from personal cloud and improved user experiences are among the factors likely to continue encouraging employees to use personal clouds and its relevance to communications within the work environment will continue to motivate its use for professional objectives (Gartner, 2015). Based on the Technology Acceptance Model, Igbaria (1997) noted that anticipated usefulness and user-friendliness are factors that have influenced some managers to support the use of a personal cloud in employment set ups (ibid). Personal computing, therefore, has existed for decades. Ease of use and usefulness continue to improve encouraging current uptake and will likely continue to influence its acceptance in professional environments.

#### **2.4.7. Smart hand-held devices**

Smart devices define another class in the ICT revolution. These devices perform the functions of computers and have, in most cases, been used as substitutes to computers because of their portability and user experience advantages. The use of smart devices, however, is limited to just a few technologies (Lynch & Terry, 2014). Access to information and the need to disseminate or receive information are other drivers of smart devices. Age and occupation are mediating factors. The use of some smart devices and not others identifies consumer perception of the benefits of the technologies. Perceived usefulness and ease of use are possible factors (Si, Radford, & Fabian, 2016). The use of smart technology in an academic context also suggests a revolution in the education sector, departing from ancient approaches at odds with technology. The conflict existed in Australian preparatory academic setups but a more liberal perspective has developed (Lynch & Terry, 2014). Limitations, such as a lack of preparedness and a lack of exposure to the technologies, also exist in educational perspectives but strong demand drives application (Day-Black & Merrill, 2015). The use of a smart mobile application to measure blood pressure is another possible application of smart held technologies (Ilhan, Yildiz, & Kayrak, 2016).

#### **2.4.8. Ubiquitous access to the organisation users**

One implications of the transition from mainframes to other forms of information technology is ubiquitous access by users of information in an organisation (Maher, 2010). The scope of older mainframe computing restricted access to technology administrators in an organisation. Other users had to apply for access to the information they required and then wait to receive it (ibid). The transition to personal computers changed this by allowing users to extract information faster from their computers (Lukaitis, Lukaitis, & Davey, 2010). Developments such as personal computing, cloud computing, and smart devices have also improved access to information among organisational users by making information instantly available and encouraging the sharing of data (Pratt, 2013; Si, Radford, & Fabian, 2016). The benefits of cloud computing and the mobile may also explain the extent to which ICT has provided ubiquitous access of information to users in an organisation. The speed and agility with which information can be

transferred, according to Johnson, Loot, and Esterhuyse (2016) are some of the advantages the cloud provides to organisations. Information can be delivered or accessed faster and in a flexible manner using the cloud, and this improves the productivity of an organisation. Cloud computing allows an entity to access its information in its external environment, and while this could present security and privacy concerns if third parties access and misuse the information, it promotes access to internal stakeholders even when they are out of reach of the entity's information system (Avram, 2014). The challenges faced by cloud computing are to some extent remedied by the mobile cloud, which is able to provide ubiquitous access to data. The mobile cloud solves performance problems such as bandwidth and power problems that computers may encounter. Availability, reliability, and privacy are further ubiquitous access benefits guaranteed by the mobile cloud (Gheorghe, 2014).

#### **2.4.9. Use of web applications and social media**

Many web applications exist to access or disseminate information, though not all are popular among users. Web 2.0 devices are examples of contemporary information technologies that are popular (Si, Radford, & Fabian, 2016). The management role of information systems that require collection and the analysis of data and dissemination of developed knowledge for managerial purposes (Ku, 2010) require rich sources of data, for which social media is suited. Content that corporate entities develop and disseminate through social media can influence consumer behaviour toward the purchase of the organisations' products (Kumar, 2016). The use of social media for advertisements could be even more effective than traditional media advertisements, especially among technology-oriented or aware consumers (ibid). Followership in social media also provides the basis for collecting information on consumers and understanding their needs and being able to respond to them (Carlson & Lee, 2015).

#### **2.4.10. Advanced and secured tools: Connecting supply chain and organisational stakeholders**

As part of the evolution of ICT, a platform for stakeholders' collective responsibilities was developed. Different management departments may use this technology to work independently or collaboratively towards achieving an

organisation's objectives (Nechkoska, Poels, & Manceski, 2015). Technology also links organisations with their customers (Luzia, 2015) as well as with supply chain stakeholders (Hossain, Hasan, & Ahmed, 2015) and with employees. Ensuring stakeholders' information is secure is critical, and tools exist to achieve this. The use of Access Control Domain to organise security rules, the use of Attribute-Based Access Control and the development of systems to respond to threats are some of the applications for securing use of technology among the stakeholders (Fugini, Teimourikia, & Hadjichristofi, 2016). A Cloud Computing Adoption Framework for security (Chang, Kuo, & Ramachandran, 2016), as well as integrated software and measures such as security configuration, backups, and analysis of data flow (Pendley, 2015) also promote security.

#### **2.4.11. Change management, institutional and structuration theories**

The change management literature is more focused on an "engineering" approach as opposed to a sociological approach (Burnes, 2000). Whilst change management does have a strong focus on the engineering approach, there are threads of the literature which recognise and accept the sociological nature of change. As such, whilst the "classic" view of change management remains engineering focused, modern change management is becoming somewhat sociological in nature.

At the core of the engineering argument is the view that social stability is not favourably perceived by those attempting to introduce change (Pfeffer and Salancik 1978). This classical view holds that change is something to be engineered through the introduction of instability, with people trained to accept the need to break old norms and stable concepts, and then be shaped into whatever the organisation requires for its future success. Such an argument is reflected in similar classical theories such as the three stage approach to change management. This view argues that change proceeds through three stages, with the first being the need to 'unfreeze' the present situation, followed by a period of change, followed in turn by a move to 're-freeze' the organisation or entity being changed into its desired state (Johnson et al, 2014).

As noted by Kanter (1994), change can either be a friend or foe, depending on the resources available to cope with it and the position of the individual. The individual can only ride the change and accept or resist its advances depending on

their position within it. This is reflected in models such as Kotter's (2012) eight stage change framework. Under this framework, managers must manage a change carefully through a number of stages, with each stage having the potential for resistance, either rational or irrational in nature, and thus associated strategies for managers to pursue at each stage. Again, this is akin to engineering processes where everything is done in a planned and staged manner to arrive at an end point determined well in advance. It is also reflected in arguments around the need to plan for change, and for managers to deploy the necessary organisational resources in order to achieve desired change outcomes (Michaelis et al, 2010). As such, this further emphasises the planned rigidity of the classical approach to change management.

However, there is a growing body of literature which emphasises the sociological approach and the role of social constructionism in the management of change. For example, Robson (2004) notes that resocialisation is at the heart of change, if people are to adapt to a new organisational reality. This argument can be seen to focus on an engineering approach and the need for training, however it can also reflect a wider sociological approach which incorporates the need to help individuals understand and to incorporate their perspectives on change. In particular,

The issue of people is also increasingly considered in the change process, but more from the perspective of avoiding resistance than acknowledging sociological impacts. As noted by Lawrence (1969), there are few things that irritate people more than to be blamed for resisting change when actually they are doing their best to learn a difficult procedure. This is thus at the core of modern change management approaches, where managers look to recognise the characteristics of an organisation and their role as a leader and communicator (Cowan-Sahadath, 2010).

Scoff (2013) observed that most of the nations around the world have strived to establish organizations that promote ICTs because they fear that unless areas that are less advanced technologically have an opportunity to catch up, the increased technological advances in the developed nations will continue to worsen the existing economic gap among the technological have and have not regions. The application of ICTs in institutions and organizations has brought about positive changes the society, as decision-making processes have been made easy.

Salazar (2007) noted that transparent, effective, and shared information in the management of organizations brings about significant impact on improving accountability, transparency, and efficiency in the civil service and increases alignment of the external resources with public priorities and plans and advancing the efficiency and effectiveness of reconstruction and development.

Karatas and Tunca (2010) stated that the use of improved technologies serves the states in a variety of different ends in institutions, that is, enhanced deliverance of government services to the society, individual empowerment through rights to use to information, improved relations with industry and business and more professional government management. The application of ICTs therefore results to massive benefits for instance, increased transparency, less corruption, revenue growth, greater convenience and cost reductions. Adoption of ICTs in governments involves changes to processes, individuals, and structure.

### **Institutional and structuration theories**

Dettori and Persico (2011) stated that **institutionalism is a dominant theory** that assists individuals to comprehend the complex and intertwined nature of the associations among organizational factors, technology, socio-economic context, and the institutional arrangements where they are embedded. The institutional theory and technology enactment framework present a substitute way to elaborate precise impacts of Information technology for specific associations such as MFAs or people and enable them to comprehend the relations between organizational characteristics, information technologies, environmental conditions, and institutional arrangements. Peters (2005) stated that the institutional theory involves policy making that accentuates the legal and formal components of the government structures. The theory is a theoretical posture that is accepted widely since it emphasizes isomorphism, legitimacy, and rational myths. Tihanyi et al. (2012) noted that the institutional theory is significant because it emphasizes on the deeper facets of the social structure whereby various processes such as rules, routines, schemes, and norms are founded as the dependable guidelines for ensuring social behavior. The institutions are considered emergent and high order factors that are above individual levels, constituting or constraining the political concerns and interests of performers without involving repeated authoritative intervention or collective



mobilization to achieve the regularities (Baker, 2006). According to Mora (2012), there is a complex interaction between ICTs and the social context where they are chosen, developed, executed, and used. Institutional theorists argue that ICTs are technological artifacts and organizational and social aspects around the artifacts. Technology enactment centers on the connections between bureaucratic structures, information technologies, and institutions. Scott (2013) commented that objective technologies are normally shaped by the institutional arrangements and organizational forms to become enacted technologies. The selection process, design and the use of ICTs influence institutional arrangements and organizational forms. Weerakkody (2011) elaborated the enacted technology as the discernment, design, and application of objective technologies for example different pieces of software and hardware and the internet. Enacted technology generates various positive organizational results in terms of transparency, effectiveness, and efficiency among others. Economic institutionalism theorists predict that powerful international institutions will stimulate trust and promote arms length trade transactions in communities by using ICTs.

The theory of structuration was developed by sociologist Anthony Giddens in the 1980s (Rose 2012). The basic argument in this theory is that humans live in a structured society and that the structure in this society affects the way people act, and behave (Robert, 2012). Anthony Giddens identified that even though the rules and norms that a society subscribes to are not explicit but only implicit, this does not prevent these rules and norms from being there and to be followed by people. He argued that the rules exist in the subconscious of people and are not necessarily represented in a formal way (Joseph, 2012). However, people have to live by these norms and those who fail to apply these social norms will not be well received by the society. Some of the critics of this social theory argue that these rules do not exist and so the theory is faulty. Anthony Giddens has responded to such criticisms by saying that the theory is straightforward and should be easy to understand as long as people do not complicate it. This theory is very different from the Actor network theory in a number of respects.

The theory of structuration is a very broad in that it covers not just the issue of how social systems affect the growth of technology , such as social media, and scientific knowledge, but all the issues that happens within a social system (Mouzelis, 1989). IT is one of the technologies that has the biggest potential to

change social structures. The IT has changed the way people communicate, the way people relate and the way people learn. It has also changed the way people play and work. It has been said that need is the one that drives technological innovation. As a result, it can be argued that the growth of human social structure is the one that leads to the growth of the IT and that modern advancements in the information technology has been as a result of the ever changing and ever growing social structure as well as the roles of the various agents in the social systems (Healy, 1998). In the theory of structuring, the agency changes of over time and this can also be seen with the introduction of the IT. As the IT has grown, various roles within the social systems have also changed and this is supported by the theory of structuration (Healy, 1998).

## 2.5. The Emergence of E-government

According to Bekkers and Homburg (2007), the concept of e-governance has emerged with the increased use of ICT tools. This technology-based platform has supported a wide range of administrative tasks and even facilitated the integration of governmental operations. Public services are also positively affected by the increased use of social media, wireless or mobile ICT, Web 2.0, etc., since they influence citizens' levels of engagement with government operations. The key concepts within this framework were: functional division; hierarchy; and centralised operations (Bekkers and Homburg, 2007). As stated by Bretschneider (2003), a major transformation took place in the 21<sup>st</sup> century, when focus shifted towards empowerment values. Citizens were empowered to participate in societal functions. Technological advancements helped establish a networked world. In his studies, Dawes (2009) stated that, in terms of adopting an of e-governance framework, the public sector in developing countries is not equal to that in developed countries.

Collaborative service production in a modern age is dependent on ICT-enabled technologies. This form of public service is based on citizen-generated or government data, provided electronically by NGOs, government, civil servant, citizens, etc. (Dawes, 2009). According to Denziger and Andersen (2002), four main domains of ICT operate in the public sector: capabilities; interactions; value

distribution; and orientations. In recent years, ICT has provided a secure platform with which corruption can be eradicated from the system. It was initially adopted as a tool to reduce manual errors but in the current scenario it helps retain some transparency of the system (ibid).

According to Pham (2014), public sector innovation is linked with ICT. Innovation is not only developing new products but also facilitating value creation. In the context of the public sector, ICT implementation provides a superior quality of service to citizens. As stated by Esharenana (2010), the public sector relies on ICT to accomplish its mandate in some form. Service delivery and efficiency is achieved through such integrated frameworks. It covers a wide area, ranging from tax collection through justice and education. E-government is closely linked with rapid information accessibility by the public and tends to make-government accountable and transparent toward its citizens (ibid).

According to Feridun and Karagiannis (2009), information and communication technology is an extended approach of information technology. This concept emphasises the role of telecommunication integration, audio-visual systems, enterprise software, storage, unified communications and middleware. ICT technologies enable users to share and access information efficiently. Appropriate ICT systems support an organisation to improve efficiency and reduce costs. ICT skills and knowledge vary, as set out in figure 2.1 (Feridun and Karagiannis, 2009).

There are many models for the adoption of ICT within public services. For example, as Welch, Hinnant and Moon (2005) state, the main objective of TAM (Technology Acceptance Model) is to explain computer acceptance determinants. This model elaborates user behaviour across wide range of user populations and end-user computing technologies. According to Davison, Wagner and Ma (2005), the Diffusion of Innovation Theory further elaborates ICT adoption in G2C. On the basis of this theory, it is clearly evident that citizens' intentions can be accurately predicted by compatibility, perceived image and relative advantage in using ICT services. The major limitation of the TAM model is that it can only be implemented in scenarios where the use of technology is voluntary (Davison, Wagner and Ma, 2005). According to Weerakkody (2008), UTAUT better explains the use of ICT in public services. This model aims at establishing a unified view, in terms of user acceptance. The unified theory encompasses different behavioural models associated with technology adoption. These models can be classified as reasoned

action theory; motivational model; planned behaviour theory; TAM, innovation diffusion theory; PC utilisation model; cognitive theory; etc. The UTAUT model clearly states that different constructs have distinct impacts on technological adoption (Weerakkody, 2008).

Hazlett and Hill (2003) investigated the use of IT in public sector by the government. The paper deals with ways in which e-government is being used to improve public services in the UK. The paper seeks to identify potential problems in the use of e-government initiatives, and highlights the fact that there is evidence on both sides (Hazlett, and Hill, 2003). While there is evidence of spectacular successes achieved by the application of e-government, there are also incidents where the application of e-government initiatives have resulted in failure. This paper (Hazlett, and Hill, 2003) highlights a range of problems that arise when using e-government initiatives.

Sharma and Sturges (2007) evaluate the use of ICT in order to facilitate access of public services by the poor. Projects making use of some form of ICT in studies for this paper were found to be more effective in providing services to the public (Sharma and Sturges, 2007). Lee, Tan and Trimi (2005) found that people using ICT tools found them to be helpful and would be able to take more control of their interaction with officials.

As Feridun and Karagiannis (2009) state, the public sector requires completely distinct ICT practices. This is due to contextual differences prevalent in external environments. These differences encompass decision making and organisational structure, service orientation, bureaucratic and regulatory frameworks, and political influence. Critical success factors (CSF) are a major area of concern, particularly for investment and resource optimisation, since they help to enhance the effectiveness level of ICT frameworks (Feridun and Karagiannis, 2009). According to Dingwerth and Pattberg (2006), these factors in the context of ICT may be expected to vary due to differences in goals, geographical aspects, objectives and culture. The focus of ICT is mainly on cost reduction, agility, innovation, customer satisfaction and compliance. All these elements are accompanied by certain CSFs. For instance, a CSF for innovation is the continuous development of human resources and research (Dingwerth and Pattberg, 2006).

Fountain (2001) defines e-government as the integration and use of information technologies such as the internet, World Wide Web Networks and mobile computing

in different areas of the governmental activities which is primarily undertaken by government agencies to facilitate the interactions with the citizens (Fountain, 2001). E-government is gaining in popularity because of its ability to make significant transformations in the relations between government and citizens, businesses as well as agencies and arms of government. Information and communication technologies enable governments to provide improved services to citizens, enhance interaction capabilities between government and business and industries, empower citizens through higher levels of information provision and improved access to information, and also empowers government to achieve more efficient management of its different units and activities. According to Okot-Uma (2000), these include: reduced corruption in the economy; more convenient delivery of public services, higher growth in revenues, reduced cost of government functioning and increased transparency within the social and political aspects of the nation. Thus, e-government has emerged as a key trend in the contemporary world and aims to use the internet and other information and communication technology advances to deliver government information and public services to the public in an efficient, timely and effective manner (Okot-Uma, 2000).

There are specific delivery models of electronic government. These models are based on the types of interactions undertaken using e-government formats in a country. These may include: digital interactions between the-government and the citizens of the country; between the government and employees of government; between the government and governmental agencies; citizens and the government; and the interactions of business and commercial entities with the-government of a country (Prabhu, 2004).

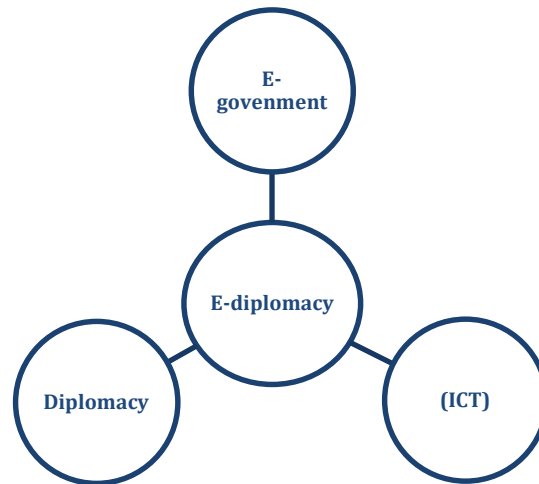
These interactions mainly encompass citizens who interact with all levels and functions of government. These levels include the city, province or state, national and international levels of government functioning as well as ancillary aspects such as Information and Communication Technology (ICT), governance and Business Process Re-engineering (BPR) as deployed in the e-government constructs of a nation (Prabhu, 2004).

## **The relationship between e-diplomacy and e-government**

The relationship between e-government and e-diplomacy can be traced back to the beginning of the e-government era. In particular, Pamment (2018) notes how in 1999, as the UK government began adopting e-government concepts for the first time, the Foreign & Commonwealth Office commissioned a report around how diplomacy should be conducted using ICT. This report offered insight into how the digital technologies implemented to support public discourse in e-government could also support the role of public discourse in diplomacy, making the process more participative and democratic. However, more recent analysis of the concept indicates that the contemporary model of digital government has expanded to encompass “innovative ways of applying big data and artificial intelligence in the public administration, including the areas of security and protection from emergencies, education and health, transport and budget” (Kosorukov, 2017, p1). Such developments have implications for e-diplomacy in the process of conducting diplomatic exchanges and developing foreign policy in the future.

The contemporary development of e-government and e-diplomacy have also been heavily influenced and informed by the rise of social media. This is reflected in its growing use by governments and ministers, with Donald Trump the most high profile example of using social media in an effort to support and communication government policies. Such developments have been linked in the literature to the rise of digital diplomacy, a process through which “dialogic communication is adopted by foreign ministries in terms of content, media channels and public engagement” (Kampf et al, 2015, p331). At the moment, this form of diplomacy is rare, and often restricted to the use of social media to target foreign populations, similar to how modern e-government use of social media targets domestic populations. As such, e-diplomacy can be seen to be less developed than e-government. There have also been some efforts to boost foreign diplomatic profiles through electronic means, such as the US State Department’s ‘Apps4Africa’ contest designed to support the development of socially conscious mobile applications to help boost the US’ diplomatic presence in the continent (Milam and Avery, 2012). This hence shows a similar use of tactics, albeit in a less developed manner.

The above-mentioned discussion leads to the definition of e-diplomacy which is basically a combination of three main concepts that are e-government and public services, ICT, and diplomacy. The figure below illustrates this:



**Figure 2.1, E-diplomacy concept**

As mentioned earlier in chapter 1, unlike e-government and other public services, e-diplomacy differs from them in terms of the scope of operation. The interaction in e-diplomacy occurs not only between the government and citizens of a country, but also between the global community as well as international actors such as NGOs and international organisations. Furthermore, the varied nature of diplomatic functions, which include bilateral relations; branding; consular services; mediation, public engagement, distinguishes diplomacy from other common public services. The next section illustrates the potential use of ICT by foreign ministries which should further illustrate the definition and the concept of e-diplomacy.

## 2.6. ICT and its potential uses by Foreign Ministries

It has been observed that foreign ministries have made exemplary use of the potential of technology (Ehiane et al, 2013; Hockings & Mellisen. 2015). According to Heeks and Bailur (2007), over the past ten years, ICT has penetrated all societal aspects. It is an indispensable tool when it comes to governmental services. Ministries of Foreign Affairs have used ICT frameworks to reduce the complexity of overall operations (Hanson, 2012; Batora, 2008). Existing technical infrastructures were thoroughly reviewed to improve efficiency levels of foreign ministries' computer

networks (Ehiane et al, 2013). According to the OECD (2007), ministries of foreign affairs are dependent on ICT technologies. ICT systems are strengthened within ministries of foreign affairs through planning, maintaining, developing and operating this innovative technology. Ministries of foreign affairs analyse technical infrastructure before transmitting information through this medium. ICT security measures are first undertaken by ministries of foreign affairs (New Zealand Government, 2009; Meng, 2010; ICTQ, 2011).

According to Batora (2008), foreign ministries have used common desktop environments in an innovative manner. During the establishment of regular desktop environments, foreign ministries used computers in an advanced manner. Foreign ministries developed advanced computer systems using common suites of software as well as an identical configuration of the particular software. This kind of software was installed in every machine of foreign ministries' departments. In addition, the foreign ministries used the technology in an efficient manner to maintain internal and external global networks (ibid). Through effective networking systems, foreign ministries set up a secure global communication process (Catherine et al, 2014). For instance, phone, fax, email and online video sharing are recognised as one of the most innovative, as well as useful, technological inventions in the modern society.

To maintain the business process, technological help is used to prepare electronic pay rolls, electronic bill-paying systems as well as travel vouchers and many other examples (ICTQ, 2011). As part of the development of an effective communication system, the internet chat room is recognised as one most useful technological innovations. The internet chat room is valued as a way to reduce the time-consuming process of communication. Technological innovations bring several improvements in planning processes as well as playing an important role in crisis management (Batora, 2008).

Adoption of advanced technology by foreign ministries has enabled improved communication processes between many significant elements such as headquarters as well as embassies. In addition, technology also improved communications between large numbers of embassies within same region (Batora, 2008). **Virtual Private Network** is a common framework established between missions and ministries (Frankel et al, 2005; Sutton, 2002). It is developed to carry out foreign operations. This form of network is established between each mission and foreign ministry (LIU and Yaun, 2015; Sutton, 2002). Intrusions during operations are



prevented through the incorporation of security measures. Offline operations are accompanied by desktop security, while firewalls are used in online missions (Heeks and Bailur, 2007). These policies and standards are designed according to overall organisational policies.

ICT is essential for ministries of foreign affairs because these departments need to communicate continuously with other countries. This platform enables the department to achieve integration between domestic and foreign units (OECD, 2007). As Joseph (2012) shows, digitised information is stored centrally to facilitate better access by all departmental members. A high-speed communication platform is developed through ICT components. Additionally, document archive automation reduces workload and time. Daily working routines are accelerated when the department is able to communicate and access information from respective units (Zhang, 2009). An online platform can be developed through ICT technologies. Citizens' confidential information can be accessed through this technology in a secure way (FCC, n.d). Technology has enabled services work more easily for both ministries of foreign affairs and citizens. E-service has made obtaining visa simpler for foreign citizens because they do not need to visit a consulate or embassy to submit visa applications (Almuftah, and Sivarajah, 2016). Software flexibility tends to make citizens more efficient. Communication channels provide an opportunity for Ministry of Foreign Affairs to eradicate time constraints and ensure alignment with the mission. For example, automated messages can be digitally generated to remind citizens when their passports are due for renewal (ibid). Ministries of foreign affairs are concerned to decrease the complexity of providing high quality services to citizens. To be more precise, Strategic Implementation Plans (SIP) are designed by all governmental bodies. The budget cycle, in the context of information and communication technology, shall be incorporated in all public bodies (Joseph, 2012).

**Social media development** has altered the entire procedure of interaction between foreign ministry and citizens (Martian and Laura, 2013). Social media tools such as Twitter, Facebook, etc., can spread information around the world in the least time possible (ibid). Foreign services in this current scenario are competing for virtual presence rather than geopolitical aspects. Virtual platforms will be more essential than geopolitical supremacy in the future (Roy, 2011). A range of foreign services are now active on LinkedIn, Facebook, Twitter, etc., mainly from developed countries.

The world is becoming increasingly connected, and it is technology which is driving social and economic changes. An important recent example was the failed coup attempt in Turkey. Turkey's president Recep Tayyip Erdoğan, who, at the time, was believed to be at the Marmaris tourist resort on the southwest coast of the country, used the new Apple FaceTime video call app, found in Apple's iPhone. Erdoğan used this FaceTime to make his first interaction with the media and citizens of Turkey, to rally his supporters. "Go to the streets and give them their answer," said Erdoğan, adding, "I am coming to a square in Ankara." (AppyGeek, 2016)

### **2.6.1. Critical analysis of E-diplomacy definition**

Digital diplomacy is a new word developed to describe and analyze the impacts of Information Communication Technologies, mostly social media and internet in the context of foreign policy and diplomacy (Gilboa, 2016a). Practitioners and scholars have not yet established a definition of Digital diplomacy that all can conquer with. It is mostly contrasted, confused and equated with words such as cyber diplomacy, real-time, social diplomacy, virtual diplomacy, e-diplomacy and networked diplomacy (ibid).

The often-utilised definition refers to digital diplomacy as the application of ICTs, Web and social media tools to participate in diplomatic activities and perform foreign policy goals (Sandre 2013). It is conducted by use of various tools and digital frameworks such as blogs, smartphones, websites and social networks and is broadly applied to cover diverse audiences (Gilboa 2016b).

Equating e-diplomacy is also out of context. This is because diplomacy is performed in various areas where there is absence of ICTs, such as meetings and negotiation amongst diplomats and leaders with officials of government agencies and heads of organizations and businesses (ibid). Dizard (2001) published one of the first books on digital diplomacy and presented his discomfort with the slow and reluctant adjustment of the State in regard to the problems and opportunities of the information age.

Diplomats and researchers have indicated that digital diplomacy is a recent tool developed to acquire the past objectives of diplomacy (Gilboa, 2016a). Those opposed to the argument indicates that it is a tool that has resulted to a paradigmatic shift, the conduct of diplomacy, completely altering the environment and the duties of

the diplomats (Graffy 2009: Seib 2012: Bjola and Holmes 2015: Sandre 2015, Gilboa, 2016a). Ross (2011) has indicated that ICTs have interrupted international relations by developing and utilising new and improved ways for diplomatic activities. The development of information has altered the balance of power among the governments and citizens. In this regard, organizations have become less powerful while individuals become more powerful (Gilboa, 2016a).

Digital diplomacy has changed the duties of diplomats. One of the primary roles of diplomats has been to collect data regarding the regions they work from. This role has become less important because most of this data is currently available on the internet. It has also gone ahead to atomize the Foreign Service and developing tension among diplomats who are located in foreign ministries and abroad (Sarukhan et al. 2012).

#### 2.6.2. Potential and shortcomings of e-diplomacy

The main potential of e-diplomacy for countries is its potential to improve the transparency and accountability of the diplomatic process, particularly for the citizens diplomats represent. This includes the potential to use social media channels to engage with citizens and explain diplomatic decisions, treaties and foreign policy, as well as allowing citizens to engage with diplomats and raise issues of concern through a more modern channel (Estopace, 2016). Such an approach would be particularly valuable when supporting traditional diplomatic consular services, like representing citizens in legal difficulties, if these individuals are unable to reach a physical embassy. Evidence from the literature indicates that the use of digital public diplomacy techniques can help support superior online relationship management, boosting the public image of diplomacy amongst domestic and foreign populations, in theory helping to transform the diplomatic process (Khakimova, 2015).

At the same time, e-diplomacy has the potential to support the exertion of diplomatic influence in a range of situations. This is perhaps the most significant use of e-diplomacy at the present time, with governments looking to use the concept to publicise their foreign policy and look to manage the instruments of statecraft (Spence, 2017). As with other aspects of e-government and e-diplomacy, the US is at the forefront of looking to exploit this potential. In particular, under Hillary Clinton's tenure as US Secretary of State, the department actively promoted micro blogging

and the use of Twitter and Facebook as effective means of exerting influence in a number of nations (Gustin, 2011). Part of this potential can be linked to the range of available communication strategies for social media-based diplomacy, including the potential for “interactive, personalized, positive, relevant, and transparent communication among a broad network of stakeholders” (Strauss et al, 2015, p369). Each of these strategies have been adopted by different embassies and foreign services around the world, although evidence does indicate that their use remains limited and this potential is not fully explored.

Indeed, this limited use of e-diplomacy can be linked to its main shortcoming, namely the potential for electronic communications to undermine dialogue. For example, again considering the example of the United States, Manor (2017) states that the country has used electronic channels to create and maintain a consistent and coherent national brand for the country and its foreign policy. However, this focus on coherence and consistency has undermined the willingness of diplomats to offer opportunities for dialogic engagement, with citizens and foreign governments. (Yachi et al, 2017).

### **Secrecy, privacy and confidentiality**

The other crucial shortcoming of e-diplomacy relates to the security issues around the electronic management and storage of diplomatic documents and communications. This is something which has already been exposed for e-government, with the ‘Wikileaks’ website having revealed a number of secret internal government documents which have proven embarrassing to a number of governments (Cull, 2011). The risk of such disclosures will increase as more diplomatic functions are moved online, and thus become vulnerable to remote hacking and easier to leak in large volumes through flash drives and other electronic media. At the same time, recent revelations have shown that government communication and security agencies have engaged in large scale mass surveillance of the electronic messages of entities, including those of foreign governments (Bauman et al, 2014). These practices could be encouraged by the use of e-diplomacy, with nations risking their rivals or allies gaining vital information by intercepting electronic diplomatic communiqués, undermining negotiating positions and harming foreign policy goals.

Data protection and security is increasingly moving away from the periphery of international relations and is occupying more prominent ground in recent years (Schaub, 2018). The activities of Russia and its attempts to meddle in the internal affairs of other countries is an important contemporary factor, but it is important to remember that China and the United States have been engaged in cyber warfare for over a decade (Heginbotham et al., 2015). The Chinese were amongst the first entrants in this area and were keen to strategically employ this new cyber battlefield in order to pursue important goals to further the Chinese national interest (Heginbotham et al., 2015). Shakarian and Ruef highlight the close relationship between the government, academia and more freelance hacking organisations in China and show how as early as 2003, these actors were targeting US organisations such as the Defence Information Systems Agency (DISA), Lockheed Martin and NASA (Shakarian and Ruef, 2013). Grey and Costas argue that the practises of hiding and sharing illustrate a core aspect of how people experience, and make sense of, organisational life (Grey and Costas, 2016). In this context, where secrecy is such an important constituent element of organisational life in general, and state organisations in particular, the fact that many countries lack comprehensive approaches towards data protection and security is quite remarkable (Grey and Costas, 2016).

As Buchanan rightly points out, by conducting cyber warfare, nations do not only attempt to steal valuable data from other nations, but also fulfil a number of defensive strategic purposes (Buchanan, 2017). By gaining access to closely guarded secrets, nations can not only launch further offensive operations, but critically can gain key insights into how that nation might launch cyber attacks against them and use knowledge of organisational procedures, techniques and targets to erect more robust defences of their own data and network structures (Buchanan, 2017). As Maness and Valeriano (2015) shows, the cyber operations launched by Russia were specifically designed by Russian government actors and foreign policy decision-makers to disrupt the functionality of the United States government (as well as other governments).

A further problem that may potentially hinder the progress of e-diplomacy is the threat of hacking (Weber, 2010). Cybercrime has become a major issue in policy discussions (Subashini & Kavitha, 2011). A majority of countries ensure that

important information in online accounts is protected, and access to these accounts may be denied, but if information were retrieved, it may create havoc for the government (Crossler et al., 2013). It is not only official security accounts that may be impacted by hacking or threats of hacking; accounts on the social media are also at risk. A hacker may use official government social media accounts to release fictitious statements (Al-Daraiseh et al., 2014). It would not be wrong to advise governments that caution is vital when using e-diplomacy. Governments must also advise holders of public office to avoid posting mischievous statements.

The hacking of official information combined with the deliberate spreading of misinformation blurs the lines between fact and fiction and creates a level of political dissonance in the American public sphere that has been methodically crafted by Russian actors, undermining the unity and purposes driving US government policy (Tsygankov, 2018). The cyber attacks that Russia have launched in the United States reflect this pattern of combining offensive and defensive motivations, and spearphishing campaigns have targeted governmental organisations, critical infrastructure entities, think tanks, universities, political organisations and corporations (Giles et al., 2017).

Therefore, data protection and security is playing a far more prominent role in modern international relations and the implementation of e-dipamcy. For these reasons, it is surprising that many countries continue to have inadequate policy responses in relation to cyber security – especially when secrecy plays such a foundational role within state organisations.

## 2.7. Systematic literature review of e-diplomacy

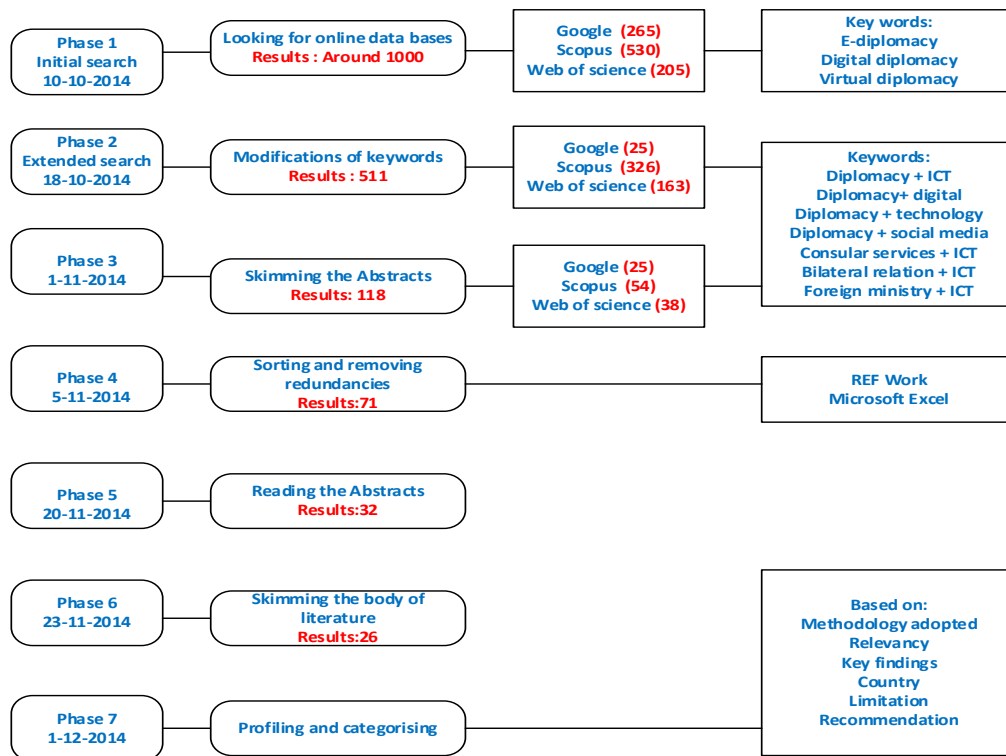
*“E-diplomacy: A Systematic Literature Review”* is a study carried out by the researcher to understand, dissect, and analyse various trends embodied in existing e-diplomacy literature (Al-muftah & Weerakkody, 2016). The study aims to provide a wide-ranging summary of existing digital diplomacy literature. A systematic literature review methodology was used to realise this research objective. The study included a critical review and classification of current studies according to their relevance for this particular research. A profiling table was then used to summarise the study findings, that consisted of various references employed in the research study, methodology, and relevance. Furthermore, the table included key findings, the

respective country of research adoption; a reflection of the merits that are relevant to researchers with interests in e-diplomacy; limitations; and recommendations to guide future research. The particular objective of this study is to establish a preliminary finding and the relevant references to enable researchers interested in e-diplomacy to develop and discover more suggestions within the field that can be backed up by empirical inquiry.

Fundamentally, the study sought to provide researchers dealing with e-diplomacy with a broad summary of the relevant literature. The research was motivated by the lack of study of the area until now, and by the gaps that exist. The study is the first to conduct a systematic review of existing literature by checking fundamental issues such as definitions, focus areas, research instruments, challenges, risks, and empirical cases carried out. It is vital to recognise that this study provides knowledge and relevant references that will enhance future investigations.

### **Methodology**

The study adopted a systematic literature review method. The primary focus is to provide a wide-ranging summary of the existing literature of the research topic, digital diplomacy (Khan, 200; Herman, 2008; Systematic Review, 2013). Contextually, the first stage in the literature review process will be an examination of papers that contain the relevant literature in appropriate academic internet databases. The databases will include Web of Science, Scopus, Google Scholar, and other search engines. Additionally, a manual search will be conducted to identify papers, reports, articles, books, and websites from individual researchers, to ensure no critical works are omitted. After identifying the required sources, the researcher will examine various topics, abstracts, and the research bodies, taking account of pre-determined conditions to ensure relevance and eligibility (Systemic Review, 2013). The diagram below encapsulates the type of methodology used in this study:



**Figure 2.2, Methodology of the systematic literature review**

Figure 2.1 above illustrates the research methodology employed in this study and it is the Figure 2.1 above illustrates the research methodology employed in this study i.e. the systematic literature review. The methodology comprises seven phases that include: initial search; modification of keywords; skimming abstracts; categorisation and elimination of repetitions. In addition, it includes the reading of abstracts, skimming research bodies, and preparation of a profiling table.

**Phase 1: Initial research** There were approximately one thousand results key word search using such words as “e-diplomacy,” “digital diplomacy,” and “virtual diplomacy.” Analysis showed that the search results comprised books, theses, journal articles, e-books, and online resources.

**Phase 2: Modification of keywords** The modification phase preceded the initial search, where it was established that 51.1% of the total results were irrelevant since they did not match the context of the study. Advanced options were used in various search engines and databases that identified which keywords could be combined to yield the expected target. Keyword combinations were not applied as long strings but as separate keywords as indicated in figure 1.

**Phase 3: Skimming of the abstracts** In addition, there was a reduction in the initial results from 511 to 118 as a result of a thorough analysis of the abstracts. This



ensured that that only relevant studies received consideration in this study. In essence, 26 or the results considered were sourced from Google Scholar, 54 from the Scopus database, and 38 from Web of Science.

**Phase 4: Categorisation and elimination of repetition** due to the use of three diverse search engines and databases, it was important to sort and categorise the references to avoid redundancy. This was achieved using Microsoft Excel and REFWORKS programs. REFWORKS manages references that that based on the internet, and produced 71 results.

**Phase 5: Reading of abstracts** In some cases, the topics of books, journal articles, papers, even reports, can be deceptive. Thus, summaries and abstracts provided by the authors were read to ensure the information of the topic was aligned to this study. Due to the thoroughness observed in this phase, 32 sources were found to be relevant for the aims of this study.

**Phase 6: Skimming research bodies** After consideration of 32 sources identified in the previous phase, 26 resources were found to be appropriate and relevant to the objective and topic of the research.

**Phase 7: Profiling table** This is the final stage of the study methodology. It involved preparation of a profiling table comprising 25 of the sources identified as important and relevant to the study topic. The profiling table had columns that contained full references, methodologies adopted, relevance to the research topic, key findings, and a brief description. The table included the nations where the research was conducted, the way researchers benefit from the study, and recommendations to guide future research. In addition, a table summarising the profiling table was provided in the study, to bring the elucidations recognised by this study into perspective.

### **Findings and Limitations to the research study**

Early indications indicated that the profiling table, shown below in Table 2.2, will provide a summary of the major findings that resulted from the systematic literature review.

Study	Main finding and importance to the researchers	Research Limitations
Grech, 2006	This is a Masters dissertation that seeks to illustrate the impact of ICT on aspects of diplomacy as well as showing the methodologies used in diplomacy that led to the replacement of the old methods.	These studies conducted a comprehensive literature review of the field of E-diplomacy, although, they failed to provide substantial evidence to support the theories

	Grech identified three main areas where ICT has contributed significantly: diplomatic missions; learning; and negotiations. Additionally, the researcher conducted a SWOT analysis concerning virtual diplomacy.	illustrated.
Radunovic, 2010	This resource is also a Masters dissertation investigating and illustrating contemporary diplomacy theory, aspects of diplomacy that could be improved by ICT, and various risks.	
Permyakova, 2014	Permyakova (2014) deliberated on the numerous areas bolstered by digital diplomacy. These areas include some foreign ministry resources, management of information, and consular activities. Additionally, it examines the main risks that surround digital diplomacy and highlights tools and resources used in digital diplomacy.	In this case, the author never applied his research findings to any other areas, for instance, to any other country. In addition, he failed to provide support for his arguments, by surveys and interviews, for example.
Batora, 2008	Batora considered two primary questions in the realm of diplomacy that concern the various effects of ICT at the organisational level. In addition, Batora discussed the influence that hierarchy, one-way communication, and secrecy have on the transformation of foreign affairs while using ICT.	Batora did not consider factors influencing diplomats toward adopting e-diplomacy. He also failed to take into consideration vital factors that affect the implementation of e-diplomacy across countries. However, he studied only two countries from Europe and another from North America.
Hanson, 2012	This paper looks at the use and importance of ICT and other novel technologies as experienced by the Australian foreign affairs and trade ministry (DFAT). Contextually, Hanson examined the capacity of ICT to focus on efficiency and effectiveness as well as improving internal and external communications.	Hanson's study did not include a comparative analysis of the findings in the respective countries. Similarly, it excluded qualitative research methods such as interviews and surveys to gather more evidence to contribute to the theories used.
Vanc, 2012	Evidentially, there is a significant study of the application of E-diplomacy tools as carried out by US Department of State.	As observed, Vanc concentrated on only a single case study, i.e. Diplopedia in the US government. This is a significant limitation since similar studies could have been conducted examining diplomacy tools across the globe, not only in the US.
Nweke, 2012	In this study, Nweke reviewed a theoretical framework that analysed the associations between ATN and international relationships. The main reason researchers use ATN theory and link it to e-diplomacy is because ATN facilitates and illustrates the interrelatedness that exists between feedback and access to foreign relations.	Through the application of ANT, Nweke demonstrated that divisions in digital technology mean that individuals and states are restricted in their use of e-diplomacy. Nweke concluded that southern countries have remained on the periphery in terms of e-diplomacy. However, no support for the results was provided; the research lacked evidence from data form survives, interviews, and the use of ICT in various governments.
Copeland, 2009	This research highlights areas that have	The results of this study are not wide

	been transformed. Revolutions in the ICT industry have led to positive changes in diplomatic practices, management of overseas ministries, and services. In addition, the researcher discusses the constraints and obstacles experienced in the transformation process.	enough to provide further explanations for the research findings. Moreover, the Canadian experience should have been compared to other countries, and more research tools could have been used to support the results, for instance, surveys and interviews. It is therefore not advisable to generalise the results of this study.
Shultz , 1997	Shultz disagrees with the idea of using IT to replace various functions conducted by diplomats and explains a further nine functions undertaken by diplomats that can never be replaced by technology. The research provides a criticism of digital diplomacy and can be used to understand some of the negative aspects of e-diplomacy. Researchers can also use the findings to make critical comparisons of the merits and establish a cooperative framework for a digital strategy.	The article lacks an in-depth exploration of the existing literature and does not cite references. From this viewpoint, the article could have included support from empirical research to support its findings.
Petrosyan, 2001	Petrosyan explores how Caucasian diplomats use ICT. He then provides answers in three simple steps that involve receiving, processing of information, and its delivery.	The study was based on a literature review. It therefore does not contain empirical evidence to support its theory. The study took into consideration countries from the Caucasian region, leading to limited resources.
Huxley, 2014	Huxley (2014) considered the impact of social media on the Finnish foreign affairs ministry. The writer of this paper researched opinions of the actors in Finland's MFA on the organisational changes that took place both within and outside the MFA. He used Actor Network Theory to explain mediations within the ministries. Interviews were also carried out to produce empirical evidence for consideration to fulfil the goals of the research.	This study makes significant findings that could have been further expounded by taking cases from a range of countries into account. However, it is limited to Finland and the results are specific to the Finnish context but could be varied if there other countries are considered.
Fong, 2010	Fong explains the roles that diplomats fulfil when it comes to different IT contexts. The research also reveals how IT affects these functions indirectly and directly.	The study was carried out in Singapore, and is a good example of how ICT can be integrated in a myriad of businesses. Many researchers will find this study useful as it provides comparisons regarding other nationalities. The research based its findings on a literature review and therefore lacks empirical evidence to support the resulting theory. Findings are specific to the Singaporean context.
Aldiplomacy, 2013	This article will enable Qatari diplomats to understand the range of benefits offered by ICT. The is the only article that represents studies from the Middle East.	Despite its usefulness for diplomats from Qatar, the article does not provide empirical evidence in support of the author's arguments.
Abbasov, 2007	This paper focused on the effects of ICT	The study turned out to be the best of

	that relate to international affairs and identifies the main challenges and benefits that result from the use of ICT in diplomacy. The author concludes that ICT is profoundly vulnerable to cyber-attack, but it can aid states to communicate cheaply and swiftly. It exploits the US experience of various programs, such as the e-diplomats program. In the end, the article offers insights into e-diplomacy strategy and indicates that the approach is in decline.	the resources since it based its arguments on reliable resources and had support from empirical evidence. It utilised interviews and analysed current literature, projects, and case studies in order to achieve its objectives. The resources used were from Australia and US departments of state and ministries of overseas affairs. Nevertheless, the researcher made only a single comparison of his results to e-diplomacy in America. Other cases and countries would improve the study.
Mediabadger, 2012	This article is an online analysis that includes a systematic review of countries regarding statistical diplomacy use via social media. The research can aid individuals seeking to gather secondary data about social media platforms used in every country.	Analysis of secondary data only, which does not enable control over the accuracy and quality of the data used.
Digital strategy of the FCO, 2012	The UK FCO produced a digital strategy that emphasised the impact of ICT on the roles of UK diplomats and internet-based services offered to British citizens living abroad. E-diplomacy researchers could learn much from this type of research.	
Chen, 2012	In this study, Chen considers soft power and smart power alongside public diplomacy. He then studied how China uses these tools in its governance strategy. The emphasis is on the participation by Chinese citizens in online platforms that help create relations between the state and society. The “Anti-Carrefour” case study was then carried out to examine the way Chinese individuals utilise smart power and online tools to affect state strategy.	This vital study produced rich findings but it does not contain empirical evidence from interviews, surveys, and other tools that could provide further information about ICT implementations and their use in digital diplomacy.
Hall, 2012	Hall discussed the main reason for China’s rise to power that saw India start working on its soft power.	In this context, Hall considered the soft power of social media but ignored several other influential factors. There is therefore a need to assess of other ICT tools that influence soft power.
Hayden, 2012	The study looked at the engagement by US diplomats with the public and the kinds of tools that they used.	Hayden considered 14 diplomats working in US embassies in Slovakia, Poland, Romania, and Hungary from 2001 to 2009. It acknowledges that the study was limited in terms of time and place.
Wichowski, 2013	In this particular research study, Wichowski studied Twitter as a main tool that influenced digital and social diplomacy.	It is evident that the only ICT tool that the study considered was Twitter. It would be important to incorporate other ICT tools and a range of social media platforms.
Straub, 2015	An outline of communication research that looks at the use of Twitter as a tool for digital diplomacy by selected embassies from the GCC region. The results show that these embassies are not fully exploiting Twitter.	

Grincheva, 2012	Within the UK political context, Grincheva focused on the purposes of digital diplomacy. He argued that some specific frameworks helped the UK realise its diplomatic goals and international priorities in terms of culture and to provide a public image of the UK.	
Cull, 2013	The researcher notes that the US does not fully utilise digital mechanisms to foster public diplomacy. Primarily, Cull's work reviewed the previous US information agency and the Department of State, which participated in ICT-based diplomacy initiatives. The work then outlined a new strategy identified by the state department to overcome institutional constraints on the use of public diplomacy.	Due to consideration of just one case study, the findings of this research cannot be generalised.
Zhong, 2013	The researcher examined how the US embassy offices practice public diplomacy in China. The paper applied two primary techniques: a case study and a structured interview. It started by analysing the blog of the US embassy and then carried out interviews with officers in the public diplomacy domain. Its aim was to identify the key characteristics of the US embassy's social media and the core messages emphasised by e-diplomacy.	
Hallams, 2010	Hallams examined the function of novel media and ICT technologies in addition to the internet in the transformation of public diplomacy. Similarly, the article argues that the internet and social media will play a key role in the influence and power, as evidenced in the US.	
Khatib, 2012	Khatib assessed the US digital outreach team and found that the team was obliged to engage directly with citizens who live in the Middle East via foreign policies of the US. Further, the author examined the strategic difficulties that public diplomacy faces.	

**Table 2.2, Profiling table of e-diplomacy studies**

According to the vast literature set out in table 2.1, above, it is clear that diplomacy has changed over the years. The remarkable changes can in part be attributed to the expansion of digital networks and electronic capacity that has led to easier and faster communications between parties. In addition, communication tools have grown impressively and their scope has broadened. Therefore, it is critical for governments and states to realise the merits and disadvantages of the digital era. They should understand the elements of digital diplomacy and recognise the various ways that they influence their decision-making processes as far as foreign services

are concerned. It is notable that some countries have embraced the digital era and are progressing to a digital future, while other governments are hesitant to embrace ICT in their diplomacy. Nonetheless, as ICT expands, there is an acute need for governments to integrate internet-based tools in their diplomacy practices. A systematic literature review contributed to achieving these results. The analysis undertaken involved 25 publications that were classified according to relevance, country of study, study methodology and then drawing a profiling table.

In fact, most of the research was undertaken in North America and Europe with some conducted in Asia, Far and Middle East. Qualitative methods took centre stage in most studies, with interviews, case studies, and literature reviews. There was no use of surveys indicating that researchers preferred qualitative methodologies.

The profiling table highlighted many results. A majority of the studies were based on a literature review, meaning that empirical evidence was missed, while some used case studies that were limited to relatively small populaces.

On the same note, recommendations intended to foster future research were grouped into four primary categories; the need for empirical evidence and use of numerous case studies to enable generalizations. Further, it involves considering several aspects of e-diplomacy and use of substantial theories to support the findings.

For example, the studies of Grench (2006) and Radunovic (2010) could have greater application if more research instruments had been used to collect enough data to support their elucidations. For example, more information in the form of tangible evidence from interviews and surveys would have given their theories greater force. Similarly, Permyakoya (2014), Petrosyan (2001), and Hanson (2012) provide important suggestions and discussions that should be applied in other contexts and validated by information from surveys and interviews. Chen (2012) provides a profound study but lacking in empirical evidence from the Chinese officials.

Vanc (2012) provides good example using the US Department of state but did not make comparisons with other e-diplomacy tools from around the world. The study focused on the US, and ignored other countries that could have provided more in-depth findings. Batora (2008) illustrated the use of IT in diplomacy, with an awareness of organisational levels but this was not supported by indicating the

primary factors that influence the adoption or implementation of e-diplomacy across countries. However, these methods could be applied in various countries, not only three nations in the whole world.

Some studies failed to consider many of the available case studies, (Copelad, 2009; Cull, 2013; Fong, 2010; Zhong, 2013; Aldiplomacy, 2013; Huxley, 2014; Hallams, 2010; Khatib, 2012). For example. The situation indicates a lack of comparison with other countries that could yield better results. Further, Hayden (2012) interviewed 14 diplomats that operated in US embassies within a specified time in nations where take-up of ICT seemed developed. In this case, the research ignored newer diplomats who tend to adopt ICT much faster than their senior colleagues.

Huxlel (2014) and Nweke (2012) utilized the ANT theory to examine interrelatedness in accessing and providing feedback in foreign relations. However, the researcher failed to associate the ANT to social theory and e-diplomacy. Furthermore, these studies never had empirical indicators and took account of only one case study.

The systematic literature review study mentioned above was conducted in 2014 and published in 2016. This led to the non-inclusion of the recent studies published between 2015-2017. A reflection of the recent e-diplomacy literature suggests that most of the e-diplomacy studies have only focused on one tool of e-diplomacy, the use of social media. (Bjola and Holmes, 2015; Manor, 2016; Cassidy and Manor, 2016; Costa, 2017; Kampf, Manor, & Segev, 2015). The research of Kampf, Manor, & Segev (2015) is based on data collected from eleven Ministries of foreign affairs (MFAs) located in the countries including Ethiopia; India; Israel; Japan; Kenya; Poland; Rwanda; Somalia; South Korea; the United Kingdom; and the United States. The countries were chosen for their extensive use of Social Networking Sites (SNS). Facebook and Twitter records of these eleven MFAs are captured for two phases of 20 days each. The posts and tweets of each day are recorded for reference and review. The results suggest that dialogic loop is a rarity when Social Networking website are taken as a part of public diplomacy mainly due to the MFAs use of broadcast model of communication which rejects or suppresses engagement with online followers. The rare case of engagement and two way communication was sought at one instance whereby Israeli spokesperson was involved in a Question/Answer session with the followers, however the scope of

discussion was limited to the topic/issue. Moreover, the author suggests that MFAs are more inclined towards posting updated information and issues on twitter rather than on Facebook since it is shorter and easier to communicate in 140 characters without any multimedia content rather than the lengthier Facebook post which is usually accompanied by a multimedia content like pictures and videos. MFAs consider Twitter as a source of immediate response or broadcasting of their stance considering the tweets that were posted right after the news of Nelson Mandela's demise. MFAs use social media as a tool to communicate with and target foreign population more than the domestic ones. The study concludes that although there is a potential in Social Network Sites to improve dialogue and communication, the same is not achieved due to lack of focus by MFAs to attract responses and develop followers' engagement (Kampf, Manor, & Segev, 2015). Bjola and Holmes (2015) conducted a research based on extensive secondary data which affirms the value of Social Networking Sites and use of social media to transform public diplomacy. The research provides three dimensions to understand the impact of social media in public diplomacy including agenda setting, presence expansion and conversation generating. As per the research, agenda setting is easily and effectively achieved by diplomats as their audience is repeatedly exposed to massive information on the issue to be raised. The presence dimension is attained by constantly upgrading their mediums and use of social platforms that are in demand. The ease of digital media and social networking also brings in the requirement to stay abreast to the latest technology and social media network commonly used. The last dimension relates to conversation generation in digital diplomacy which is rarely or occasionally achieved. The results also suggest that the digital diplomacy is mainly utilized to disseminate information or for agenda setting rather than to create engagement or relationship-building (Kampf, Manor, & Segev, 2015; Bjola and Holmes, 2015). Another study suggests that Foreign Ministries are more inclined towards using social media to attract elite population instead of bridging communication gap with foreign populations. Hence the dissemination of information and creations of dialogue with foreign population is of limited significance to the manner it is currently used in (Manor, 2016).

The study of Valentine Costa (2017) highlights the issues that are associated with social media use in public diplomacy. The questions that are raised include the right training to use social media in public diplomacy, the mode of language, the real-time



responses which may attract criticism and the plurality of channels (Twitter, Face Book, Instagram etc.). The use of digital diplomacy, however, has improved dialogues between and across populations (Costa, 2017). Good public diplomacy can no longer be monologue- but dialogue-based (Kampf, Manor, & Segev, 2015; Bjola and Holmes, 2015). The study of Cassidy and Manor (2016) exposes the myths related to digital diplomacy in terms of its effectiveness, reach, and impact. In order to attain positive outcomes from this concept, the study recommends three main steps. The first step is to acquire digital diplomacy managers that are trained to communicate during crisis with a number of mediums and ability to respond to criticisms along with monitoring the impact of such communications. Secondly, these managers need to have immediate real-time access to other diplomats in order to formulate the right digital diplomacy content and support it with factual input from real diplomats. Finally diplomats, managers and higher officials should work side by side to maintain credible information available to the audience with creative strategies to keep them engaged like Q&A sessions (Cassidy and Manor, 2016). The above mentioned recent studies is summarised in the table below: -

Study	Main findings
Kampf, Manor, & Segev, 2015	The research of Kampf, Manor, & Segev (2015) is based on data collected from eleven Ministries of foreign affairs (MFAs). The countries were chosen for their extensive use of Social Networking Sites (SNS) such as Facebook and Twitter
Bjola and Holmes, 2015	Bjola and Holmes (2015) conducted a research based on extensive secondary data which affirms the value of Social Networking Sites and use of social media to transform public diplomacy
Manor, 2016	It suggests that Foreign Ministries are more inclined towards using social media to attract elite population instead of bridging the communication gap with foreign populations (Manor, 2016)
Valentine Costa, 2017	The study of Valentine Costa (2017) highlights the issues that are associated with social media use in public diplomacy
Manor, 2016)	The study of Cassidy and Manor (2016) exposes the myths related to digital diplomacy in terms of its effectiveness, reach, and impact

**Table 2.3. recent e-diplomacy studies (2015-2017)**

## 2.8. Maturity model

Organisations want to develop and implement effective methods and processes to manage their businesses efficiently. A maturity model can facilitate organisations to improve their business operations by developing best management practices (Duffy, 2001). A maturity model defines the maturity level which the companies seek to achieve to obtain several benefits (Saco, 2008). Large corporations around the world are concerned with the quality of their work, costs,

performance, achieving timely delivery of products and services, etc. Firms are developing many new policies and plans to enhance their position in the market. Competition in different industrial segments is increasing day by day. For this reason, most companies are implementing maturity models for strengthen their business processes (Jentsch, Riedel, & Mueller, 2012). In many cases, organisations are not able to manage different organisational process effectively. A maturity model can help the business to improve its different stages of operations (Gottschalk and Solli-Sæther, 2006). The maturity level of a company depends on the business framework of the company. Both internal and external activities of the organisations can be controlled by a maturity model. Companies also implement different software to build strong relationships with customers and stakeholders (Skulmoski, 2001); this is one of the important parts of the model (Diakou & Kokkinaki, 2015). This model also helps firms to communicate different ideas and knowledge to the public. Financial, HR, administration and different other business systems can be improved by implementing this model (Jentsch, Riedel, & Mueller, 2012). Various stages are involved in the maturity model, which can facilitate a company in growing and developing different aspects of its business. Both public and private companies use this model (Duffy, 2001). Different processes of the company, such as its supply chain, as well as networking and risk management, among others, can be managed efficiently by using this model.

Multistage models, which include the human need hierarchy models among others, have driven the maturity model concepts (Kuznets, 1965). These models have resulted from organisational IT progressions that have been prompted by global economic growth. For instance, according to Nolan's (1973, 1979) stage theory, the staged hypothesis has contributed to numerous research works relating to the IS domain. The empirical validity of maturity models has been subjected to immense criticism (King and Kraemer, 1984; Prananto et al., 2003). However, according to Solli-Sæther and Gottschalk, (2010), the principles of the designed have been adopted widely, thereby forming the basis of several maturity model designs. For instance, modification of the design/concept led to the emergence of the Capability Maturity Model (CMM) in the late 1980s that has become the most popular maturity model (Paulk, 1995; Paulk et al., 1993; de Bruin et al., 2005). Notably, since the emergence of CMM, several new maturity models have emerged; it is therefore apparent that the CMM formed a critical blueprint for the integration of

maturity models; CMM Integration (CMMI) being the latest version of the maturity model. The current CMMI version is available in 1.3 versions (CMMI Product Team, 2010). The following sections illustrate some well-known maturity models.

#### *Quality Management Maturity Grid (QMMG)*

The QMMG is an organisational maturity matrix that businesses utilise as a standard to assess the level of maturity of their practices and the extent to which they are integrated within their cultures (Gaskell, 2012). Philip Crosby proposed the QMMG and it fundamentally outlines a five by six matrix that indicates the various levels of maturity of organisational quality management against six categories of quality management (Chemweno et al. 2013). The five levels of maturity, from the lowest to the highest, are uncertainty, awakening, enlightenment, as well as wisdom and certainty; the organisation is usually inexperienced at the first level. Moreover, quality management ranks lowest in organisational focuses at this first level and it is fundamentally reactive; with the improvement of quality management, organisations move upwards through subsequent levels (Gaskell, 2012).

#### *Business Process Maturity Model (BPMM)*

The BPMM is an evolutionary improvement model that assists organisations to transform undeveloped, unreliable business activities to advanced, standardised ones (Curtis & Alden, 2007). This model is designed to guide enhancement of business processes that are often more transactional and seem to be better conceptualised as workflows across organisational boundaries (OMG, 2005). The BPMM has five maturity levels, which represent the various states through which organisations become transformed following enhancements to their processes and capabilities respectively. These levels, from the lowest to the highest, include the initial, the managed, the standardised, as well as the predictable and the innovating level (OMG, 2005).

#### *Change Management Maturity Model*

The change management maturity model draws from benchmarking research and experiences of organisations undergoing change to describe the varying stages of change management capability across organisations (Prosci, 2004). The model highlights five levels of change management capability, all of which entail more attention and management of the public's side of change. At the first stage, little or no change management is applied; the second stage entails some degree of change management on isolated projects while the third stage entails the application of a

comprehensive change management approach to multiple projects (Prosci, 2004). The third and fourth stages entail the deployment of organisation-wide standards and methods of change management and the strengthening of change management competence respectively (Prosci, 2004).

#### *People Capability Maturity Model (People CMM)*

The People CMM is a framework for the implementation of workforce practices that progressively enhance the capability of a company's workforce; the People CMM is fundamentally a process-based model (Curtis, Hefley and Miller, 2003). The People CMM was designed specifically to achieve four objectives, to develop individual capability, strengthen teams and culture, to inspire and manage performance, and to shape the personnel (Curtis, Hefley and Miller, 2009).

#### *E-learning Maturity Model (eMM)*

The eMM describes a quality improvement framework specifically designed to support educational institutions that seek to improve their organisational capability to adopt technology in learning and instruction, within a dynamic and fast-changing context (Marshall, 2013). The eMM framework is a crucial tool for considering matters of quality with the intention of implementing meaningful improvements. Specifically, higher education institutions that seek to enhance their e-learning processes can find the eMM framework quite meaningful to their goals (Marshall & Mitchell, 2002).

#### *E-commerce Maturity Model*

The e-commerce maturity model, proposed by KPMG, describes the maturity level of the use of information communication systems within organisations; this model is crucial in characterising the organisation's present e-business maturity status and desirable future position (Al-Ghamdi, 2014). Like all other e-commerce maturity models, the KPMG's model assumes that organisations go through notional phases of maturity in relation to the way in which they deploy or manage their ICT systems to support and promote business operations, processes and activities (Prananto, McKay, & Marshall, 2001). The e-commerce maturity model outlines three maturity stages namely, experimentation, as well as Ad-hoc implementation, and integration. (Al- Ghamdi,2014)

The following table summarises the above maturity models:-

MODEL	DOMAIN	AIM
Quality Management Maturity Grid (QMMG)	Quality Management	Assesses the level of maturity of business practices and the extent to which they are integrated within their cultures
Business Process Maturity Model (BPMM)	Process Management	Aids organisations to transform from undeveloped, unreliable business activities to advanced, standardised ones
Change Management Maturity Model	Change management	The change management maturity model draws from benchmarking research and experiences of organisations undergoing change to describe the varying stages of change management capability across organisations
People Capability Maturity Model (People CMM)	Capability Management	Enhances the capability of a company's workforce
E-commerce Maturity Model	E-commerce	This model is crucial in characterising the organisation's present e-business maturity status and desirable future position
E-learning Maturity Model (eMM)	E-learning	Supports educational institutions that seek to improve their organisational capability to adopt technology in learning and instruction

**Table 2.4, Illustrating different maturity models**

### 2.8.1. ICT maturity within organisations

Information and communication technology (ICT) is developing at a faster rate with the improvement and innovation of technology (Birdsall, 2011). Currently, ICT is one of the most important factors in developing a company. As the requirements of the business dictate, a company will implement different functions and actions to improve the maturity of ICT (Wainwright, et al. 2005). The standard of ICT is set by the company, and this helps it to assess the functions of ICT. By this process, companies learn to understand the maturity of ICT and its effectiveness on organisational processes (Ning and Levina, 2011). The firm that improves the maturity of its use of ICT will establish the best practices of IT (Zhang, Van Donk, & Taco, 2011). In order to manage ICT, organisations develop many management strategies. These help the companies improve each stage of ICT, which is involved with the management of the company (Kenny, 2006).

The maturity model in the specific context of ICT within the organisation can help in ranking the different organisations of the levels of ICT that are used (Solar, Sabattin, & Parada, 2013). The maturity model in the context of information and communication technology with the organisation can not only help rank different organisation according to the level of information and communication technology

that is used by them but can also be used to guide the organisation as to the direction which it should pursue to further develop its use of information and communication technology (Wainwright, et al. 2005).

Thus, in the context of the development of information and communication technology within the organisation, the maturity model can function as a very important resource. The use of information and communication technology in the development of the present-day organisation is well known (Chen, Preston & Xia, 2010). It is quite clear that the organisations of today and future will only develop if they are able to use the potential of information and communication technology to the fullest. However, the problem that often arises is to find the direction in which the development can be pursued and it is in this particular respect that the maturity models can come to aid (Solar, Sabattin, & Parada, 2013).

The analysis of the Poeppelbuss's maturity literature (2011) suggests that the CMM and CMMI are the most dominant IS maturity models. The research further reveals that the CMM was commonly used in twenty-nine papers while CMMI was largely used in seven articles. Additionally, an eighth paper introduces the Nolan's (1973, 1979) stage theory. Notably, the maturity models appear in other papers, including thirteen papers that feature the Layne and Lee's (2001) e-government stage model. The next sections introduce some famous ICT maturity models.

#### *Capability Maturity Model (CMM, focusing on software development)*

The CMM refers to a framework used to develop and refine organisations' software development processes; it entails a five-step evolutionary pathway of well-organised and systematically mature processes. This methodology was initially motivated by the desire to address software engineering problems and to advance engineering methods; specifically, this model guides software firms in gaining control of their processes for establishing and maintaining software CMMI Product Team, 2010). Moreover, this model enables software companies to transform progressively and to advance towards the culture of software engineering and management excellence (ibid). Software organisations apply the CMM framework to highlight current process maturity and the pertinent issues compelling software quality and process enhancements, and to select the most appropriate process improvement strategies (Rouse, 2007).

#### *Open Source Maturity Model (for open-source software development)*

The OMM describes a methodological framework used in the assessment of open software development processes, and it was specifically designed to aid organisations in applying the so-called Free/Libre Open Source Software (FLOSS) software in both prototype and mainstream production (Petrinja & Succi, 2012). The OMM is organized into three fundamental maturity levels: basic, intermediate, and advanced; the level of sophistication increases as organisations move progressively from the basic to the advanced levels (Petrinja & Succi, 2012).

#### *Modelling Maturity Levels (for software specification)*

Modelling maturity levels refers to a classification system that characterises the function of modelling in a software project; the concept is akin to the manner in which software processes are rated using the capability maturity model (Kleppe, Warmer, & Bast, 2003).

#### *Enterprise IT Performance Maturity Model*

The enterprise IT Performance Maturity Model guides IT organisations in enhancing processes for monitoring application performance and mainframe costs; the framework is particularly effective at highlighting the skills/culture gap and closing it (Compuware, 2014). This model outlines five levels of maturity, including the *ad hoc*, the technology, internal services, external services, and the business-revenue oriented level. At each of these levels, this model outlines numerous maturity categories including application technology, mainframe attributes, organisation, as well as performance technology and process (Compuware, 2014).

#### *Software Product Management Maturity Model*

Software Product Management is a critical area for software development companies and enterprises, especially given that effective product management is needed for successful results (van de Weerd, Bekkers, and Brinkkemper, 2009). In this respect, the software product management maturity model is an effective tool for assessing the company's software process management maturity level and identifying gaps for improvement to attain higher maturity levels (Bekkers et al. 2009). All kinds of software development companies rely on this maturity model as a fundamental guide for progressively enhancing their software product management maturity levels.

#### *The SharePoint Maturity Model*

This model was developed to bring an holistic view to share point implementation as well as standardisation to the dialogue centring on functionality,

best practice and enhancement (Van Buren, 2011). This model begins at one hundred as opposed to at zero and operates fundamentally as a framework as opposed to a formula; implementation of this model enables companies to establish a roadmap toward greater business process efficiency and a more trustworthy sharePoint environment. Similarly, this model yields more satisfied and empowered users and leads to more efficiencies in terms of time savings; eventually, this framework can enable companies to establish a data model that aids in the assessment of organisation's share point maturity (Van Buren, 2011).

#### *Application Performance Management Maturity Model*

The Application Performance Management Maturity Model describes a framework through which organisations can effectively assess and progressively enhance the maturity levels of their performance management processes (Doddavula, Tiwari & Gawande, 2011). This model fundamentally outlines a six-step evolutionary process through which organisations can effectively transform and mature their performance management processes in not only an organised, but also a systematic manner. The six steps, from the lowest to the highest are the *ad hoc*, the systematic performance resolution, performance testing, as well as early performance validation and performance engineering (Doddavula, Tiwari & Gawande, 2011).

#### *ITIL Maturity Model*

The ITIL maturity model is the widely adopted framework for IT service management, particularly because of its clearly defined processes and practices (Axelos 2013). This model outlines five levels of maturity including the initial, the repeatable, the defined, as well as the managed and the optimised levels. The first step entails *ad hoc*, disorganized and chaotic processes, but they begin to take on a regular pattern in the second step. In the third step, processes are not only fully recognised, and standardised, but also documented and communicated through training. By the fourth step, functions are fully integrated throughout IT and at the fifth step, they are practically automated (Axelos, 2013).



The following table summarises the above ICT maturity models:

MODEL	DOMAIN	AIM
Capability Maturity Model	Software development	To develop and refine organisations' software development processes
Open Source Maturity Model	Software development (open source)	The OMM describes a methodological framework used in the assessment of the open software development processes
Modelling maturity levels	Software projects	Modelling maturity levels refers to a classification system that characterizes the function of modeling in a software project
The enterprise IT Performance Maturity Model	Application performance	The enterprise IT Performance Maturity Model guides IT organisations in enhancing processes for running application performance and mainframe costs
Software Product Management Maturity Model	Software development	In that respect, the software product management maturity model is an effective tool for assessing the company's software process management maturity level and identifying gaps for improvement to attain higher maturity levels
The SharePoint Maturity Model	Share point implementation	This model was developed to bring a holistic view to share point implementation as well as standardisation to the dialogue centering on functionality, best practices and enhancement
Application Performance Management Maturity Model	Application performance	Effectively asses and progressively enhance the maturity level of organisations' performance management processes
ITIL Maturity Model	IT service management	Aid organisations in defining their IT services

**Table 2.5, Illustrating different ICT maturity models**

The next section will focus on the ICT stage of growth model and theories

### 2.8.2. ICT Stage of growth theories and models

Stages of growth model are a necessary entity in the development of information systems. Experts across the globe use growth models to evaluate the efficiency of their models (King, et al. 1984). Growth models describe a vast range of phenomena from biological sciences, product life cycles and development of information systems. Many more growth models are used in development and they take the predictable form of patterns (Shiels, et al. 2003). The stages describe a step-by-step procedure of how a method will be followed to help implement the system or project. The models have been arranged in stages to make it easier and improve follow-up of the system. The grouping or development of scenes makes it

easier to identify areas that are not efficient and can be later revisited for corrections (Davenport, et al. 1990). In information technology, it is, however, essential to implement softwares and information systems in a categorical manner for accountability (Oliner, et al. 2000).

Solli-Sæther, & Gottschalk (2010) conducted a study called “the modeling process for stage of growth models”. They performed a comprehensive literature review of stage-of-growth models. In the late 1970s and 1980s, Solli-Sæther, & Gottschalk (2010) founded that a new field of research, when the stage of growth was first considered. The first stage-of-growth theory that Solli-Sæther, & Gottschalk noted (2010) is the Nolan stage of growth theory (Nolan 1973, 1979). Nolan developed a model with six stages of growth (*see discussion in the next section*). According to Solli-Sæther, & Gottschalk (2010) “several other researchers have been inspired by Nolan’s model and they have studied growth in areas such as growth of end-user computing (Huff, Munro, Martin, & Sibley, 1988)”, evolution of information centres (Magal, Carr, & Watson, 1988), and growth patterns of technology-based new ventures (Kazanjian, 1988).” In addition, King and Teo (1997) developed a stage model for the evolution of information systems planning. Earl (2000) suggested a stages-of-growth model for the evolving e-business. Several e-government maturity models have been developed as well those illustrated in subsection 3.5.1.

Since these systems involve a lot of coding, the different phases of the development model help IT specialists manage the development of the system without negatively impacting the system. The steps followed have the following characteristics:

#### *Sequential in nature*

The steps or stages involved in the phases of development models are sequential in nature. This means that they flow into each other without any step being skipped. The subsequent flow develops the system in bits which interlock with each other (Manimala, 2008). It is, however, significant to note that the sequence of the steps will also determine the efficiency of the system implementation. In most cases, experts follow the guidelines of the steps to help them make and develop their systems sequentially.

### *Hierarchical progression*

The stages occur in a hierarchical sequence that cannot be reversed. The measures have been formulated so that the development starts from the top, which is the first stage, all the way to the last stage (Oliner, et al. 2000). The stages are impossible to reverse. For instance, in almost all stages of development systems, the first stage is always research – or identification of the problem – and the last is implementation. It is not possible to start by implementing a system whose problems have not been identified or where research has not been undertaken. There would be no system to implement, since the development stage was skipped (Oliner, et al. 2000).

### *Involves a broad range of activities and structures*

Development models include a lot of activities and structures embedded in the organisation. The models cannot work on their own and must be integrated within the organisation's structures and activities. In this way, the models will be useful and will efficiently help to develop a system that is integrated with the cultures and norms of the organisation. The three characteristics *above* are the core ideas of the model's stages of growth. The characteristics of the stages will always conform to the system or project in development (Gray, 2006).

### *Challenges*

Over the years in which growth models have been developed, researchers have encountered three main problems in designing the appropriate models (Shiels, et al. 2003). The first step is to map out the number of stages of growth that will be involved. The challenge arises when there are few stages of growth, then the activities involved at each stage may congest the actual development of the project. This will contribute to making the stages less distinct and the intended purpose may be lost. The second challenge was to develop variable benchmarks which would be used to identify the steps. The variables would be the identity of each stage, and would help follow up the development progress (Shiels, et al. 2003). These variables would also make the development stages clearer to developers. The third stage that developers face is achieving a clear description of the models. The description of each step would help distinguish one model from other models (Martin, et al. 2001).

According to Poeppelbuss (2011), numerous related IS research works have been conducted on maturity models. Some of this research refers repeatedly to

maturity models as the stage or stages-of-growth models (Prananto et al., 2003) (Solli-Sæther & Gottschalk, 2010); however, in the IS domain, these models are known as IT artifacts and theories. For example, the IS domain regards Nolan's (1973, 1979) stage design as a theory since it predicts and explains concepts of IT business evolution. According to Solli-Sæther and Gottschalk (2010), it is an idea that helped in the development of stage models. Additionally, they note that Hackney et al. (1999) used its principles to develop the "state-of-growth theories". In contrast, according to IS researchers, maturity models are IT artifacts (March & Smith, 1995), (Becker et al., 2009; Donnellan & Helfert, 2010; Mettler & Rohner, 2009; Van Steenberg et al., 2010). Therefore, according to Hevner et al. (2004), the evaluation and development of maturity models can be considered to have emerged from the design of science paradigm.

The next sub-sections present three models of growth which have been used over time. The models are the Nolan model (1979), the Earl Model (1983-1989) and the Bhabuta Model (1988), which, later, shall be compared and contrasted. Many studies and models such as (Fiering, 1990; Handzic, 2008; John, 2001; King, 1984; Lederer, 1996), have been formulated, based on these models (Poeppelbuss, 2011).

### **Nolan model**

Richard Nolan came up with the model in 1973 (Nolan, 1973, 1979) when he forwarded his research of a model that described the growth of information systems within developing organisations (Galliers and Sutherland, 1991). The model had a significant impact on the information system community and was later characterised and named as an evolutionary theory which made the development of information systems easier and better. The hypothesis of the model were written in papers which were later completed in 1979 (Galliers and Sutherland, 1991). Nolan's model involved six stages which incorporated the needs of the organisation as well as the structures which will be at play through the growth of the information system. The stages represented Norman's theory that the stages of development cannot be avoided or skipped and are technology driven (Shiels, et al. 2003).

The Nolan stage model may seem old, but it is the model that has been widely used until today. The following table shows examples of models that has been developed based on Nolan model:-

PAPER	DESCRIPTION
A stage model of intranet technology implementation and management by Jan Damsgarrd and Rens Scheepers (Damsgarrd and Scheepers, 1999)	Based on Nolan theory, the author proposed a four-stage model for intranet implementation and management
The stage of growth model revisited by R D Galliers and A R Sutherland (Galliers and Sutherland, 1991)	By reviewing Nolan and other stage models, the authors developed a revised model which takes account of current thinking and past experience in the application of growth model at that time
Data warehousing stages of growth by Waston and others. (Watson, Ariyachandra and Matyska, 2001)	The authors developed a similar stage-of-growth model to Nolan's for data warehousing. It has three stages: initiation, growth and maturity. It shows how an organisation's data warehouses changes
A new ICT Maturity model for education by Julian M Bass (Bass, 2010)	Bass used Nolan's model to develop an ICT maturity model for education institution in developing countries
Growth of end user computing (Huff, Munro, Martin, & Sibley, 1988),	These authors have been inspired by Nolan theory to develop their stage-of-growth models in the year 1988
Evolution of information centers (Magal, Carr, & Watson, 1988)	
Growth patterns of technology based new ventures (Kazanjian, 1988)	

**Table 2.6, Examples of maturity models derived from Nolan theory**

According to Nolan, an organisation must go through each stage before moving to the next level. In fact, the model is a diagnostic contingency model, which helps the manager diagnose the different stages of the information systems, thus providing a set of strategies and planning formulae. Nolan's model has the following stages:

*Initiation stage*

This is the first stage of design development, according to Nolan's model. The stage involves introducing new technology to an organisation. Previously, the company was not using technology, and since its introduction, a few items, such as data, have to be computerised to jump start the process. There is a minimal number of users of the technology since they are not accustomed to it. Also, there is minimal planning at this stage. (Nolan, 1979)

*Contagion or expansion stage*

At this juncture, there is remarkable growth in the number of people using the new technology to solve some issues in the organisation. The workers of the various agencies have now become accustomed to the new technology and are quickly learning its use (King, et al..1984). Slow learning and the eventual growth of the technology help users to get accustomed to it. (Nolan.1979)

### *Control stage or formalization*

At this stage, growth of technology is taking over the company and the management has to control its usage (King, et al. 1984). At this point, the management will develop strategies, rules and standards of usage. The standards regulate the process of using technology in the organisation. Hence, the organisation can implement cost-effective measures to benefit the organisation. However, if the organisation implements many rules and regulations, they will become barriers to the development of the organisation. (Nolan, 1973)

### *Integration stage*

At this stage, the organisation is already accustomed to the new technology and has already set down rules that govern its usage (Avison, et al. 2003). All applications and software's and programs are installed to help the organisation in various departments. The software is integrated so that information can flow from one department to another without interruption. Integration of the systems makes the organisation fully automated and reliant on information systems installed. (Nolan, 1973)

### *Data administration*

Data management is the feeding of the integrated system with information and testing for any faults that need repair. At this stage, company workers are involved in testing for proper functionality. Any defects are reported to the development team, and are rectified. Data is shared across the system, and all checkpoints of the system are manned. It is at this stage that every employee is given his station to monitor, and becomes accountable for any faults that can occur (King, et al. 1984). Planning of the whole system and how it is to be operated is finalised at this stage. (Nolan, 1979)

### *Maturity*

At maturity, the system is now functioning and carrying out duties in the organisation. However, the manual that directs how the system works is left to the maintenance team who will be responsible for maintaining the system. Controls are adjusted to suit the needs of the organisations (King, et al. 1984; Nolan,1979).

## Earl growth model

Earl's model (Earl,1983) was developed from Sullivan's model and focuses more on planning and organisational maturity concerning planning (Galliers and Sutherland, 1991). Moreover, the model also tries to provide insights and directions to the organisation on what should be taking place during each phase. It was developed in 1980s and provides an in-depth focus on technology planning. In Earl's view, technology would soon dictate how people do business, and his model was the perfect instrument to guide people on how to plan for technology use and its implementation. The model was not used, however, because it lacked the standards of a simple model that could guide the development of information systems (Galliers and Sutherland, 1991) (Gurbaxani, et al..1990). The model is complicated and hard to use for ordinary business.

Earl's Model, unlike Nolan's Model, places its major focus on the various stages of the planning of information systems. The model was invented in 1983 and was revised several times, particularly in 1985, 1988 and 1989 (Earl, 1983, 1985, 1988, 1989).

According to Galliers (1987) the model recognises changes in a company during two stages of planning. The model lays emphasis on the fundamental tasks during planning. The model aims at identifying the driving forces during planning and in the methodology used in the planning context. Similarly, Galliers (1987) used his findings after much research on current information systems added to his supplementary planning. In this case, he argues that the focus of planning has changed over years to become predominantly isolated. As such, the orientation of planning practice as changed to place the organisation in a competitive environment.

Factor	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Task	Meet demands	IT audit	Business support	Detailed planning	Strategic advantages	Business- IT strategy linkage
Objective	Provide service	Limit demand	Agree priorities	Balance portfolio	IS Purse opportunities	Integrate strategies
Focus	IS department		Organisation-wide		Environment	

**Table 2.7, Earl's planning in stages model**

According to Earl (1988), organisations begin the process of planning by assessing the company's current state, as far as information technology is

concerned. In this case, the management determines the suitability of a plan by comparing it with the company's objectives. If the information system is in-line with the company's goal, it goes to the next state where the focus shifts to the capacity. In this case, the management will bring together the IT staff and the users of the new system so that a user friendly system can be generated. Lastly, the best approach is taken that is convenient and effective.( Cash & Konsynski, 1985).

### **Bhabuta model**

Bhabuta developed this model in 1988 with an aim of mapping out progress towards the strategic planning of information systems that was formal (Galliers and Sutherland, 1991). According to Bhabuta (1988), strategies based on improving products will become a dominant paradigm in competitive markets. which are expected to grow fiercely in the next decade. The contention of his argument is that the information systems are needed to provide adequate support to developing and expanding businesses. The categories used in Bhabuta model are not absolute nor distinct. The phases involved were:

#### *Phase one basic financial planning*

According to Bhabuta (1988), phase one includes basic financial planning. In this stage the budget targets are supposed to be met and delegated on the management uses it. The complete strategies at this level are based on the operational level of productivity and innovation. In this phase, information systems are used for resource management, transaction processing, exception monitoring and efficient operations. Planning and analysis are also involved in this phase. Processing of internal data is used for decision making. Managers participate in managing individual projects, technology management, and middle management responsibility (Galliers and Sutherland, 1991).

#### *Phase two-forecast based planning*

In this stage, the top and senior management should be able to predict the future of the business. To predict the future, they must have a system that can process information and project future trends. The competitive advantage of this stage is having a target and high, efficient levels of productivity. Application of the information systems ensures the effectiveness of individual operations; infrastructure will also support critical decision making by the top level management. Decision



making is based on the processing of *ad hoc* data. In phase two, management of the IT system involves formal planning of the information system, data sharing and administration of the systems. This level focuses on the infusion of IT into the organisation's systems. (Bhabuta,1988)

#### *Phase-three-externally oriented planning*

The functions of this step are to think strategically in making decisions that may affect the performance of the business. Managers come up with competitive strategies which focus on innovation and strategic productivity. Entrepreneurial managers are involved in managing all the operations at this level. The IT systems at this level are used for IT-based products and services and communication network. The systems are also used as a directly competitive tool in the market. Decision making by the top-level managers is based on systematic external data analysis. Data analysis will give them a grasp of which decisions suit the company. Management involves corporate planning, and IT planning at a corporate level to enhance the operations of the systems. It is the responsibility of the senior and top management to ensure that all systems are running efficiently (Galliers and Sutherland, 1991; Bhabuta,1988).

#### *Level four strategic management*

The contention at this level is to create the future, based on the information accumulated by the information systems. The key strategies in use are systematic innovation and productivity of new systems that will eventually change how the future will be. It largely involves the corporate employees of any organisation. Corporate employees are always engaged in information systems. Hence, they can modify them using their expertise and come up with futuristic systems. At this phase, the information system is used for various purposes which include inter-organisational information systems, communication, and transactions with suppliers, manufacturers, and consumers. More enhanced and superior information systems will be used to link operational activities to external data analysis. The linking helps in data flow and transfer, which in turn helps data analysis, since the data can be found in one location and accessed by the information system. It is the work of the senior management to provide systematic support to the organisational process and help in IT planning at higher levels. Integrity will be maintained at higher levels which

ensure an innovative approach is maintained. (Galliers and Sutherland, 1991, Bhabuta,1988)

In the three stage-of-growth theories, Nolan, Earl and Bhabuta are compared and contrasted based on their complexities and functionalities.

### *Complexity*

Nolan's model is very articulate and to the point. The model is easy to use and has been in use for a long time. It is via this model that many other models have been developed. It has been used as a source of reference by experts seeking develop new models. In today's organisations and in the development of information systems, experts no longer follow Nolan's model as it was originally developed. They have improved and modified the design to suit the day-to-day challenges that organisations face. The model is very flexible compared to the Earl or Bhabuta model. Nolan's model has passed through phases of evolution, in contrast to the other two models (Aizenbud-Reshef, et al. 2006). Nolan's model has evolved to become simpler and more understandable, and can be used by experts across the academic spectrum. It is not limited to information systems alone.

In contrast, Earl's model is too complicated to be used in the growth of the information technology (Galliers and Sutherland, 1991). It was not much used, contrary to its founder's expectations. the Bhabuta model is similarly complicated. In fact, this model is hard to comprehend. In addition, deducing the hypothesis of the required stages is a cumbersome task. The model is not self-explanatory. These factors made the model least acceptable to academics (Hu, et al..1999).

Among the three systems, Nolan's system is the easiest to use. The system is not complicated, and each phase has its objectives. Nolan states the hypothesis of each stage clearly. Many companies have used the model to develop various concepts for use. Its acceptance was motivated by the fact that it was easy to use and did not require in-depth explanation to comprehend what was needed at each stage. (Galliers and Sutherland, 1991)

Earl's development system was not well received because of its complexity. Similarly, the Bhabuta model is also complicated. It doesn't clearly state the aim of each phase. The phases have neither hypothesis nor objective by which a user can understand how it is to be used and incorporated in the growth of information systems. (Galliers and Sutherland, 1991). The model developed by Bhabuta was

useful in planning phases but its acceptance by the public was minimal. The slow acceptance was due to the complexity of the design and understanding capability of how it was supposed to be incorporated into the information system. (Aizenbud-Reshef, et al. 2006).

### *Functionality*

The three models were developed for different purposes. Each model had a solution to solve and improve corporate life. Development of the models is based on the problems being targeted. Today, any model being developed or modified is based on the problem or challenge at hand. For instance, Nolan worked in an organisation which led him to develop the model to ease up the development of information systems (Aizenbud-Reshef, et al. 2006). The primary goal of Nolan's model was to utilise and manage ICT. At that time, ICT was developing at a fast rate across the globe (Levy, et al., 2003). Organisations had started to incorporate the use of information systems and technology. However, no method could guide the making of the systems. The systems would either fail or not live up to the intended task.

In contrast, Earl's model was developed in 1983 and underwent several modifications until its last in 1989. The primary purpose of Earl's model was to provide an in-depth focus on technology planning. Earl had foreseen the growth of technology and knew that in decades to come, all organisations will use technology to handle all their tasks. Earl saw the need to create a development model that would assist agencies and companies plan for future technology. He knew that most businesses were not well conversant with IT, and they needed guidance on how to manage the systems. The model focused mainly on the development of technology and how it could be managed to benefit the company. Following the stages developed by Earl, maturity or technology planning is achieved by an information system which guides the company in all sectors of the organisation (Aizenbud-Reshef, et al. 2006). In short, Earl's aim was to help companies have information systems that would assist in managing their resources and data related to technology and other aspects of the organisation.

Bhabuta's model was developed for formal strategic planning. The model deals with planning the development of the information system (Galliers and Sutherland, 1991). Each phase has its role in the planning of the system. The four

phases involved in the development process are managed by either senior managers or entrepreneurial managers. By developing the model, Bhabuta wanted to help plan systems strategically, whether financially or via any other sector that needed planning. By following the steps, any organisation can organise itself in a manner that will avoid a failed system or financial losses (Aizenbud-Reshef, et al. 2006).

## 2.9. E-government maturity models

The Maturity model of Electronic government is incorporated for the purpose of assessment along the online portal for purpose of for e-governance. It consists of several steps of activity. The nature of each of the given activities varies according to the difficulty level and relative ease, such as that of web portal handling (Lee, 2010).

A number of past studies have been undertaken in this regard. One major study was undertaken by Faith Allah (2014). This study considered over two dozen models. Each part of the study helped acquire a better understanding of this new field. Similarly, Siau & Long performed study on same front (Siau and Long, 2005). The techniques used included meta-synthesis. As a result of all these activities, a totally new model was incorporated which helped improve the field of e-governance and its future prospects . As a result of this activity and effort, a totally fresh model resulted. Lee undertook intense research and study and assessed over a dozen models applicable to e- governance systems (Lee, 2010). All the collected results endorsed the same output.

The following sub section will illustrate different e-government models.

### 2.9.1. Illustration of different e-government Models

This part of the paper aims to provide an overall assessment of the numerous models of e-government. An overall detailed insight is assessed, and further detailed assessment is presented in the later section four. Seventeen e-government models are illustrated in this section.

**Layne and Lee:** Layne and Lee (2001) contributed by providing a recommendation for a four-stage model to help understand the overall initial developmental phases and the progress made so far in e-government models. The

four component phases suggested by them included, Cataloguing, Transaction, Vertical integration, followed by horizontal integration. The model, which is plotted against an XY grid, in which the x-axis represents the dimension of sparse against integration on the Y-axis, is relatively complicated in its outlook.

**Hiller and Belanger:** Hiller and Belanger (2006) made a similar attempt and divided their study and understanding of the entire model into five broad line phases. This particular model results in a more holistic and comprehensive understanding of the pattern and study compared to that of Layne and Lee and Henriksen. The broad line five component phases are Information, Two-way communication, Transaction, Integration And Political participation. The entire proposed model aims at making overall dealing and activities more secure in terms of privacy and protection of government of data throughout the entire digital interface.

**UN:** The United Nations organisation proposed a broad line five model. This was done after taking the variables and a study of large samples into account. The sample comprised the total number of member countries enrolled under the United Nations. It aimed at presenting a more practical model that could respond to the workings of governments and associated practical aspects (UNASPA, 2001). This model bears some resemblance to the work and efforts of Layne and Lee Model. It also resembles that of Andersen and Henriksen Model. The stages of this model include the following: Emerging presence, Enhanced presence, Interactive presence, Transactional presence, and Integrated presence. The model patterns undertaken for the study and assessment are fact-based, which should be kept in mind when the more developed and progressive countries are considered in determining governance models and effective governance patterns. (UNASPA, 2001).

**IBM:** IBM has a reputation for understanding its customers' demands, needs and situation. As a result, they proposed a multi-layered model which would provide better understanding of the governance models. The four-stages of this model of e-governance are: Automation, Enhance, Integration and On-demand availability. IBM took into account the fact that the modern times are changing fast and that people have high expectations with regard to the overall development as a whole. It suggested for making it a multi-tier process to the overall process of development.

The initial stages are proposed, in order to achieve relatively smooth process engagement (IBM,2003).

**Cisco:** Cisco has an established brand name for service delivery and customer satisfaction. It is an established name in the business of providing effective overall solutions, based on connectivity in the digital domain. This particular model is a multi-tier and multi-layered solution. The three layers the solution is based on are: Information-based interaction, Transaction-based efficiency and Gradual Transformation (CISCO IBSG, 2007).

**Accenture:** this is one of the most promising in terms of client trust. Accenture is among the front line of consultancies and is also a software development based organisation. It also presented a multi-tier policy for the e-governance-based model. The aim of this model is to assess the working of governments on electronic platform. Countries which were considered for the study assessment include: Canada, Singapore, Brazil, Mexico, etc. The model divides activities into number of steps and actions, namely: Online presence, Basic capability, Service availability, Mature delivery and Service transformation (Rohleder, 2003).

**PWC:** The PWC, PricewaterHouseCoopers, model was created to provide a broad overall assessment of the model and pattern at hand. It takes over four dozen plus systems into account in its assessments. All these systems considered for the model come from the United States. Like others this model, it is also divided into number of steps, namely: Customer service, Services organisation by events, Customisation, Diversity management, and Legitimacy (Gant and Gant, 2002)

**Ernst and Young:** Cap Gemini and Ernst & Young established this model on a proposal and suggestion by the European Commission DG Information Society (CGE&Y, 2003). As a result, a detailed undertaking and study was initiated in which as many as fifteen member countries of the union were studied for observation with regard to their working and nature of the governance model.

**Moon:** The Moon model (Moon,2002) was established in the infancy of the overall e-governance-based setup model. It also consists of multi-layered model-based steps. The subject areas assessed in this regard included five stages and

areas considered were those of municipalities in USA. The stages include the following:

- One-way communication
- Two-way communication subject to request and response
- Service and financial transactions
- Integration
- Political participation (Moon,2002).

**The World Bank:** having undertaken intense considerations and deliberations with numerous stakeholders and sampled assessment-based elements such as the member nations, a multi-tier model was produced. This model consisted of a three-layered pattern. These steps are: Publish, Interact, and Transact. (The World Bank, 2004). It is relatively easy to understand the working of this model, which works on an analogical-based pattern, in which each component is connected for the purpose of achieving a clear assessment and better understanding of the scenario and situation at hand. Other aspects taken into account include regulations and other formal methods consideration. (Bonson 2012).

**The UK national Audit:** The UK government's model was built in the early 21<sup>st</sup> century to assess government functioning in the new working environment. As many as one hundred plus organisations were assessed for their working using e-governance-based models. The working of the model is split into three components: Basic site, E-Publishing and Holistic e-govt (NAO, 2002).

**The modified UN:** This model was designed after a survey of 193 member nations to understand the manner in which e-government systems were formed, the features of the services, and the method used to reach maturity. The model has four stages: emerging information services, enhanced information services, transactional services, and connected services (Zukang, 2012).

**Alhomod & Shafi:** Alhomod & Shafi (Alhomod, 2012) proposed a model which was multi-layered, consisting of four stages: Presence on the web, Interaction among the citizens and their government, Complete transaction over web, and Integration services.

**Lee & Kwak:** This five-stage model extends e-government systems to include social media and Web 2.0 tools. The model was developed from research into the US Healthcare Administration agencies. The five stages are: Initial conditions, Data transparency, Open participation, Open collaboration, and Ubiquitous engagement (Lee & Kwak 2012).

**Chen:** The model suggested by Chen comprises of triple strategy parts. It was undertaken and assessed in real-life conditions in a Chinese, e-governance-based environment (Chen, 2011). It comprises the following three stages; Catalogue, Transaction, and Vertical integration. (Chen,2011).

**Wescott:** The model compromises of six stages. The sample study takes into account (and assesses) the Asia-Pacific region. Six phases are included included in the model: Set up an email system, Enable inter-organisational access to information, Allow 2-way communication, Allow exchange of value, and digital democracy (Wescott, 2001).

**Kim & Grant:** This model comprises five stages: web presence, interaction, transaction, integration, and continuous improvement. The model was developed after considering inputs from four sources, human capital, structural capital, relational capital, and IT investment. In determining the maturity of e-government, the model considers the combination of these sources (Kim & Grant, 2010).

Comparing the Models and Translating the Studies into one Another

### 2.9.2. Comparing the Models

MODEL	YEAR	STAGE NAMES
Layne and Lee	2001	1. Catalogue 2. Transaction 3. Vertical integration 4. Horizontal integration
Hiller and Belanger	2001	1. Information 2. 2-way communication 3. Transaction 4. Integration 5. Participation
UN eGov Maturity	2001	1. Emerging presence 2. Enhanced presence 3. Interactive presence 4. Transactional presence 5. Fully integrated presence



<b>MODEL</b>	<b>YEAR</b>	<b>STAGE NAMES</b>
IBM	2003	1. Information 2. Transaction 3. Internal integration 4. External integration
CISCO	2007	1. Information 2. Transaction 3. Transformation
Accenture	2003	1. Online presence 2. Basic capability 3. Service availability 4. Mature delivery 5. Service transformation
PWC	2002	1. Customer service 2. Service organisation 3. Customization 4. Diversity management 5. Legitimacy
Ernst & young	2003	1. Information 2. One way interaction 3. 2-way interaction 4. Transaction
Moon	2002	1. Information 2. 2-way communication 3. Service and financial transaction 4. Vertical and horizontal integration 5. Political functions
World bank model	2003	1. Publish 2. Interact 3. Transact
The UK national Audit	2002	1. Basic site 2. E-publishing 3. Holistic e-govt
The Modified UN	2012	1. Emerging information services 2. Enhanced information services 3. Transactional services 4. Connected services
Chen	2011	1. Catalogue 2. Transaction 3. Vertical integration
Alhomod	2012	1. Presence on the web 2. Interaction between the citizens and the government 3. Complete transaction over the web 4. Integration of services
Kim & grant	2010	1. Web presence 2. Interaction 3. Transaction 4. Integration 5. Continues improvement

MODEL	YEAR	STAGE NAMES
Lee & Kwak	2012	<ol style="list-style-type: none"> <li>1. Initial conditions</li> <li>2. Data transparency</li> <li>3. Open participation</li> <li>4. Open collaboration</li> <li>5. Ubiquitous engagement</li> </ol>
Wescott	2001	<ol style="list-style-type: none"> <li>1. Setting up an email system and internal network</li> <li>2. Enabling inter organisational and public access to information</li> <li>3. Allowing 2-way communication</li> <li>4. Exchange of values</li> <li>5. Digital democracy</li> <li>6. Joined up government</li> </ol>

**Table 2.8, Comparing e-gov models**

Many of the models were developed during 2002-2006, when applications such as social media and other collaborative tools had not yet evolved. Only a few models, such as Lee and Kwak's maturity model, introduced the use of new tools such as social media. A review of the models reveals several similarities – these are discussed in this section. A common pattern observed in all the models is that the initial stage is considered as the basic stage. In most of the models, the first stage is called catalogue, presence or information (e.g. IBM, CISCO, Accenture, UN, PWC, Ernst & Young, World bank, UK national Audit, The modified UN, Alhomod, Lee & Kwak, Chen, Kim and Grant). The main function of this stage considers eGov as a sort of a simple portal allowing one-way communication. Information is provided for some basic announcements and news about government plans, schemes and other aspects.

The middle stage points to more development and refinement, and captures governments' efforts to use an online portal to provide citizens with a method to carry out simple transactions. Most of the models, have more than one middle stage, depending on the level of interaction between the government and the citizens. These include Moon, Hiller & Belanger, UN, IBM, CISCO, Accenture, PWC, Ernst & Young, World bank, and UK national Audit

The last stage, seen in all models is that of integration of services. Three models (e.g. Moon, PWC and Wescot), go beyond an integration stage to introduce a political function stage, in which citizens are allowed to e-vote and engage into the political system (e-participation).

From the above comparison of e-government models, the following conclusions can be drawn:

- There is a considerable resemblance and clear similarity between many of the models. On average, each has three to four stages and focuses on bringing units together and achieving good communications between them.
- More focus on variables such as complexity-level determination and evaluation can be seen along with the overall internal levels of interaction.
- A common, consistent pattern that can be seen is that as soon as a new level emerges, a previous model is halted and work is started on another. This tends to obscure the picture as a whole. A more gradual sequencing needs to be implemented and incorporated between the components and stages in this regard.
- The models establish that the governments themselves believe in the worth of system upgrades to digital and electronic models.

In summary, a model can be assessed and studied through the intense research and study undertaken here. It is clear that, for a model to be created, as many as four to five levels of stages would suffice. Along with the resemblance index, most of the focus is on the information and integration components. While the names used may be distinct and individual, the aim is the same for nearly all of the tasks and activities in the different groups and activities undertaken. (Fath-Allah et al., 2014). Broadly, the stages and levels are defined a number of times in the different parts of the research study. Each stage has its own distinct role with some promoting specialisation, others going for common familiarity and the final stage leading to some kind of conclusion or deduction as a whole.

## 2.10. Maturity Models: Criticism and limitations to be considered

According to Lasrado (2015) maturity models have been swamped with criticisms with Nolan's evolutionary model facing the bulk of it with famously questioning the lack of empirical validity, factually mistaken structural assumptions and for being too simplistic to be useful (see King and Kraemer, 1984). Core assumption of stage models is that predictable patterns exist and unfold as discrete time periods best thought of as stages. The main criticism by King (1984) was the evolutionist approach that made Nolan's model closer to have a lifecycle approach without having enough historical evidence to make such predictions. Lasrado (2015)

summarized three major criticisms with regards to maturity models: 1) Lack of theoretical foundations with the development of the new models (Maturity levels, dimensions, etc.) (Plattfaut, 2011; Renken, 2004); 2) Lack of strong empirical validation in selection of dimensions or variables (Lahrmann, 2011) 3) Lack of operationalising maturity measurement (Back and Haager, 2011). Solli-Sæther and Gottschalk (2010) mentioned that the research work related to stages of growth has to a large extent been conceptual while the debate over existence of stages itself has suffered from a lack of empirical evidence.

Despite their high relevance for both IS research and practice, the development and adoption of maturity models is still beset with several problems. Very few maturity models have acknowledged and addressed these challenges (Lasrado, 2015). For example, Damsgaard, and Scheepers (1999) addressed the criticism on evolutionist approach, while (Raber, 2014) proposed an inductive way of structuring dimensions and levels, while most of the literature has been conceptual and poorly grounded in theory.

In response, IS researchers have become increasingly interested in the development of guidelines that are intended to support more rigorous design processes of maturity models (Becker et al., 2009; de Bruin et al., 2005; Solli-Sæther and Gottschalk, 2010). Notwithstanding these endeavors, further research is still needed to establish maturity models as a field of IS research that is not only of high practical relevance but also of theoretical value.

E-Government models have been also criticized by IS scholars (Lee & Kwak, 2012; Lee 2001; Janssen & Van Veenstra, 2005) . The following are some of the e-government drawback:-

- The models fail to represent aspects and the concerns of people that are relatively less represented in their existence in the society or do not have an active voice as such
- Hardly any model represents improvement-based effort required to create IT awareness
- Components which are an essential part of good governance, such as managing waste and misuses of power are not addressed.

- Social media as a factor of variable determination has been ignored in the given models.
- Lastly, the models studied emphasise knowledge-based and transactional features of other processes which meet the basic needs of stakeholders in the organisation. Their relevance may be accounted for more effectively in the case of the health-care sector.

In summary, IS researchers criticized maturity models for being “step-by-step recipes” that oversimplify reality and lack empirical foundation (Benbasat et al., 1987); de Bruin et al., 2005). Despite this critique, maturity models still prosper in IS practice ( King and Kraemer, 1984).

### 2.11. Chapter conclusions

The research reported in this study has sought to understand, dissect, and analyse trends identified in the limited normative literature on e-diplomacy. Much of the existing limited research in this emerging area is anecdotal and verbose, with limited empirical evidence, perhaps given the sensitive and political underpinning of diplomacy in its simplest and advanced form; some used case studies do exist but these were limited to small populaces (see Table 2.3). In recent times, MFAs have undergone significant changes in the way they handle foreign affairs as governments have adopted different tools to interact and engage with foreign countries (Hanson, 2012). It has been reported that foreign ministries have made exemplary use of the potential of technology when seeking to establish and maintain lines of communication with missions, domestically and overseas (Ehiane et al, 2013; Hockings & Mellisen. 2015). ICT has penetrated all societal aspects and become an indispensable tool for delivering government services for reasons around privacy, speed, audit etc. Ministries of Foreign Affairs have used ICT frameworks to reduce the complexity of overall operations and technical infrastructures have been continuously updated to improve the efficiency levels of foreign ministries’ computing networks. More recently, there are also an increasing number of studies emerging in this field that discuss the uses of social media in diplomacy (Bjola and Holmes, 2015; Manor, 2016; Cassidy and Manor, 2016; Costa, 2017; Kampf, Manor, & Segev, 2015).

The first subsection, shows the gaps in the normative literature of e-diplomacy and through doing so provides a list of the constructs necessary to develop a conceptual framework of e-diplomacy maturity, which is a void in the literature and therefore will represent as an essential contribution to knowledge as well as offering itself as a meaningful scholarly challenge. The second sub-section identifies the main conclusion of the literature review and their contributions to underpinning the proposed conceptual framework.

### **Gaps in the literature of e-diplomacy**

The use of ICT in foreign ministries has been largely focused on internal operations until recently, and in the last few years the concept of e-diplomacy has started to replace traditional methods of diplomacy to support the multiple function of diplomats. E-diplomacy has had limited definitions and current definitions fail to cover its apparent scope that continues to emerge given advancements in technology and scope of imagination. For instance, the current definitions neglect internal electronic processes, major mobile applications, and the various novel technologies that can be applied in within the realms of diplomacy. The unique field of digital diplomacy has been largely neglected in academic research, with most scholars focusing on the diplomatist literature, which emphasise the diplomatic function, negotiation, mediation and others. In practice, this area has been evolving slowly compared to other areas of public services, such as e-government, e-commerce and e-health. Therefore, it is important and timely to investigate the variables that impact this important field of e-diplomacy

More specifically, very few studies explore factors affecting the implementation and diffusion of digital diplomacy. In this study, the author seeks to evaluate the use of inter-organisational and intra-organisational uses of digital diplomacy within foreign ministries and embassies. The study will focus on formulating a model of digital diplomacy that encapsulates ICT use across inter- and intra-organisational contexts.

The following highlight the gaps in the literature and thus helps illustrate the research needed, and focus of this study:

- The ever-changing technology environment and the effects of fast-paced globalisation, international diplomacy and foreign affairs have changed the way of operating diplomatic tasks. Advanced information and technologies offer a range of important services to ministries to help achieve their three core functions: negotiation, representation and communication such as social media channels, e-visa system and many others. A focus on effective stage-based integration of these technologies is needed to ensure all barriers and factors are eliminated and a successful digital diplomacy for foreign affairs is implemented without impediment.
- A practical and applicable framework that shows the stages of e-diplomacy maturity and the different ICT tools incorporated within these stages is required to assist in supporting the advancement and being able to embrace e-diplomacy.
- To develop an e-diplomacy maturity framework, different factors that affect the implementation of such framework should be incorporated and validated to ensure the robustness of such an offering.
- Review of the literature clearly highlights a lack of extensive empirical data within which to develop or test such an offering within the digital diplomacy sphere. The profiling table (table 2.3) highlighted that the majority of the e-diplomacy studies were based on a literature review and not empirically grounded.

## **Conclusions and literature contribution**

This chapter offered a literature review in the area of diplomacy, e-diplomacy, ICT revolution and e-government. Such a critical evaluation should pave a way for the development of a research framework that focuses on *how ICT can best be deployed to undertake diplomatic and foreign affairs functions*. According to the literature presented, foreign ministers perform their works according to the norms and procedures of their states in rather a prescribed way and underpinned through political rhetoric. Different countries use various titles for their foreign ministers. In the process of diplomacy, different representatives perform their duties according to foreign policies designed by the government of the state. As ICT has improved, public services have developed significantly. The ICT revolution was outlined in detail also in this chapter, through showing how ICT has developed from mainframe

computing applications to the use of smart phones and cloud computing. This chapter also showed that ICT enhances the knowledge and skills of people, and, as a result of this, governments strategies can be made more effective which strengthens relationships with foreign nations. Government use of the internet has become extensive. The establishment of e-government facilitates governments to maintain good relationships with their citizens. With the help of ICT, better services can be provided by governments to citizens. Today, foreign minister can exploit the advantages of e-government platforms that are making a contribution to diplomacy.

The first two sections of the chapter (2.2, and 2.3) highlighted how different authors explained the functions of ministries of foreign affairs and diplomacy. Foreign ministers perform different diplomatic duties such as bilateral relations, consular services, public engagement, image bulging & PR and management of different foreign missions. Section 2.4, explained the evolution of ICT from the use of mainframe computing to the use of PC to Web 2.0 technologies such as social media and the use of smart hand-held devices. The product life-cycle concept and the technology-acceptance model were discussed too as they are significant to understand the changing stages of technological development. Section 2.5 explored the latest developments in the use of technology for business government and public services. Governments, multinational, and financial agencies integrate the latest ICT systems to improve the effectiveness of their operations. Despite a void in the normative studies and literature of e-diplomacy, section 2.6 and 2.7 provided analysis of some relevant reports, white papers, journal papers, studies, and articles (look at table 2.3, and table 2.4). The last two subsections of the chapter (2.8,2.9) discussed existing maturity models. Six well-known maturity models such as CCMI and QMMG were evaluated. Also, eight ICT maturity model such as CMM, ITIL and the OMM were discussed. Sections 2.8 and 2.9, introduced ICT maturity within organisations by a discussion of three ICT stage-of-growth models (theories): Nolan, Eral, and Bhabuta. The three models were compared and contrasted in which their stages of maturity and the tasks involved within these stages where clearly identified. Finally, 17 e-government maturity models were presented and critically assessed

The following list illustrates the contribution of the background literature.

- 2.2 and 2.3 added to the development of the conceptual framework to develop maturity stages and impact factors that reflect the discussed functions that define diplomacy.



- ICT history presented in section 2.4 offered an understanding of how ICT has evolved. In doing so, explaining how ICT can contribute to the development of the different ICT tools of e-diplomacy which can be incorporated within the stages of the proposed conceptual model
- Section 2.5 showed that ICT used within foreign ministries was ignored in the discussion of ICT and government. Therefore, this research will fill a significant gap in the field of ICT and public services. Understanding the roles of ICT in providing effective public service, which was discussed in this section, will also contribute to the development of the conceptual framework.
- Both section 2.6 and section 2.7 helped to conceptualise the concept of e-diplomacy and contribute to the EDMF development.
- Section 2.8 and 2.9 conceptualised ICT maturity and hence contributed to the foundation and proffering of a conceptual model. The focal theory presented at the end of this chapter, the stage of growth model and the e-government models, is essential to formulate the stages of the conceptual research framework, i.e. the stages of maturity of the e-diplomacy maturity framework.

While this chapter presented the relevant background theories, such as diplomacy and e-government, as well as focal theory in which different types of maturity models and theories are discussed. This information should offer the basis in which the development of a theoretical and conceptual research framework is developed and presented (chapter 3).

Chapter 4 then illustrate the research methodology that is used to empirically validate and evaluate the proposed framework where the results are presented and discussed in chapter 5, 6, 7 and 8.

# Chapter 3: The Conceptual Model

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## **Abstract**

Most organisations that have implemented e-diplomacy have done so to achieve growth and develop their business. Digital diplomacy can be implemented by following different models, theories and processes as shown in chapter 2 . The main aim of this chapter is to illustrate the proposed e-diplomacy maturity framework. The literature in chapter 2 should fill the gap and hence help formulate the e-diplomacy maturity formwork.

## Chapter 3: The conceptual model

### 3.1. Introduction

The review of the literature in chapter 2 has identified the need for broader discussion to understand e-diplomacy. As previously examined, e-diplomacy signifies a more complicated phenomenon than other fields of the public sector as it contains many functions such as bilateral engagement, consular services public engagement and so on. In consequence, the implementation of e-diplomacy can be a challenging task due to several factors such as the variability of its target global audience, the secrecy nature of the diplomatic information and the Socio-cultural factors. The fast changing nature of ICT means that new technologies such are continually being developed. The advent of new technology has generated a tremendous increase in the diffusion of information to a wider spectrum. Corporate, education and government sectors have been the beneficiaries of this transformative technology. With strong ICT base supported by available technological platforms such as laptops, smartphones and tablets; the spread of information has been made easier. The government sector uses a technological interface for administrative purposes. e-Government enables citizens to become involved in e-communication with the government. Nonetheless, the adoption of new systems in diplomacy has changed the way in which diplomats undertake their business. Branding these systems 'e-diplomacy' or 'digital diplomacy', the outlook encourages ambassadors, consulates, and high commissioners to exploit existing ICT platforms to disseminate information. ICT infrastructures have been structured in such a way to utilise existing bases, such as network connectivity and Wi-Fi, and available ICT items such as computers, tablets, and smartphones. The literature in particular proposes that it is essential to understand the maturity of e-diplomacy implementation as well as to understand the potential factors that impact this concept of e-diplomacy. It is therefore essential to evaluate maturity of e-diplomacy and the factors that impact its implementation.

This discussion focusses on the influence of new communication technologies and their impact on change in both domestic and international diplomatic policy. Similarly, model theories and processes are generated in the discussion. Factors that influence the models together with their benefits are also outlined. This chapter

aims to contribute towards this study by proposing a conceptual framework of e-diplomacy maturity and implementation. The research conjectures are proposed too in this chapter based on the proposed conceptual model. These conjectures are then used to develop the methodology and the agenda of this research which will be discussed in chapter 4.

### 3.2. The conceptual model - e-diplomacy maturity framework (EDMF)

A conceptual framework for measuring e-diplomacy maturity is proposed in this section. The framework is formulated by adopting a conceptualised research approach; it will use a literature review and maturity model comparisons, that will be supported by empirical case studies and interviews, which will be discussed in chapter 4,5,6 and 8.

As mentioned in chapter 2, theory development within research on the field of e-diplomacy is limited and fragmented. Therefore, there was a motivation toward the development of a conceptual framework of e-diplomacy maturity that includes many significant aspects from the normative literature using the prior research available on ICT evolution, diplomatic studies, ICT uses in public services and theory of maturity models. As mentioned previously, the conceptual framework seeks to develop maturity model of e-diplomacy as well as factors that impact its implementation. It uses a *holistic approach* to combine all the discussed literature which have been illustrated in chapter 2.

The proposed 4-stage of conceptual e-diplomacy maturity framework (shown in figure 3.1) is derived from the following literature:

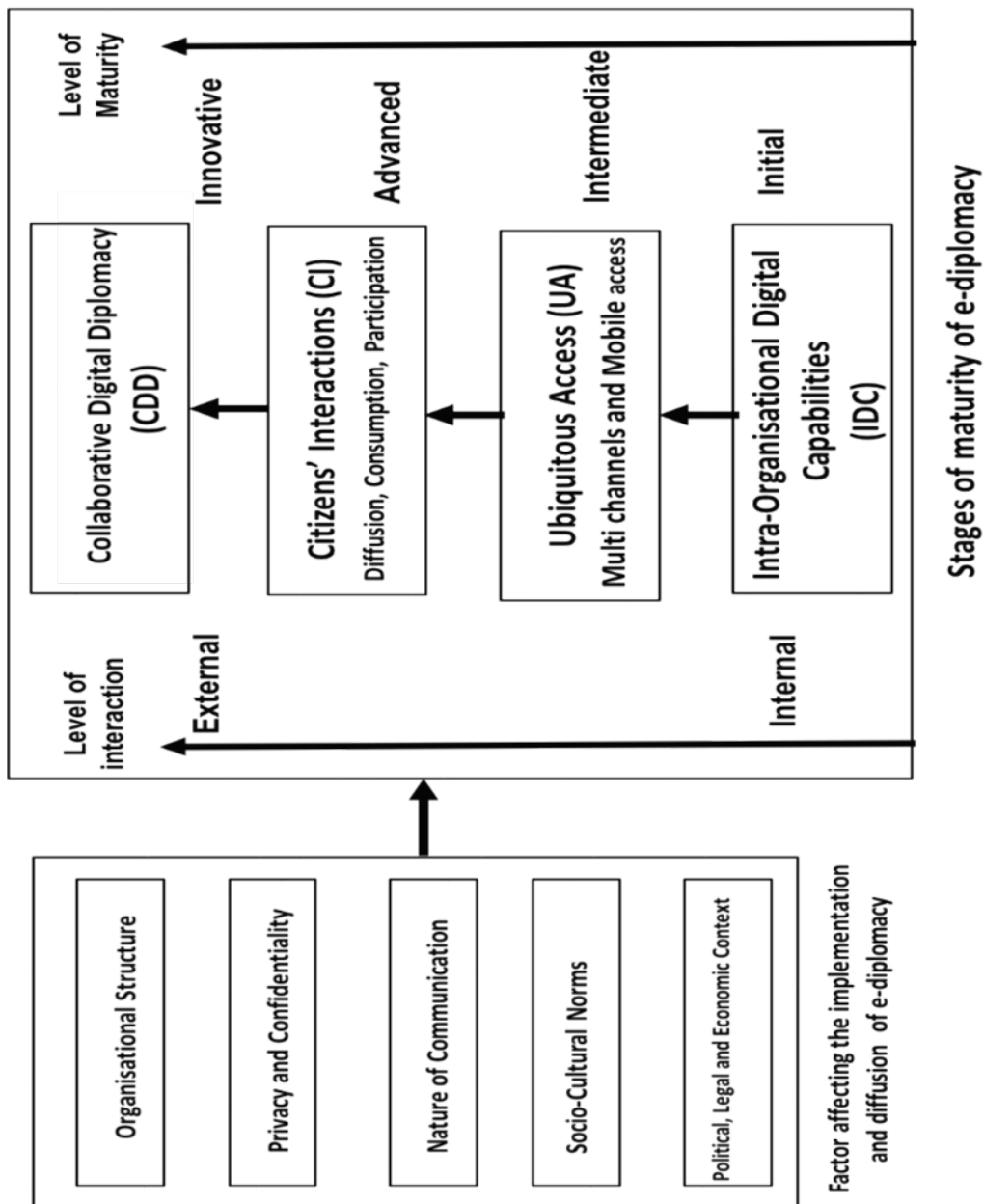
- a) The theory and practice of both diplomacy and e-diplomacy
- b) The theory of ICT evolution and ICT uses in public sector
- c) Analysis of the ICT-stage of growth models and theories
- d) Analysis of the e-government maturity model
- e) The factors that affect e-diplomacy implementation

A review of the existing literature as presented in Chapter 2 on the above-mentioned concepts shows that there is an absence of a comprehensive framework that illustrate e-diplomacy. Therefore, this research study grants a novel conceptual

framework which incorporates significant elements derived from existing research discussed in chapter 2.

As the conceptual framework, *figure 3.1*, illustrates, this research uses two main themes to study the maturity and implementation of e-diplomacy. The themes are shown as follow:-

- The proposed stages of maturity of the e-diplomacy implementation that are the intra-organisational digital capabilities, ubiquitous access, Citizens' interaction, and collaborative digital diplomacy.
- The factors that impact the implementations that are organisational structure, privacy & confidentiality, nature of communication, socio-cultural norms, and political, legal & economic context.



**Figure 3.1, Conceptual framework of e-diplomacy maturity**

As mentioned previously the conceptual framework represents two main themes. Within these two main themes, this research presents nine conjectures to study maturity of e-diplomacy, with the aim of validating this formwork in the practical arena. The research conjectures are as follows:

- **(C1, C2, C3, C4):** validation the four stages of the maturity of e-diplomacy that are:- intra-organisational digital capabilities (C1), ubiquitous access (C2), Citizens' interaction (C3), and collaborative digital diplomacy (C4)

- **(C5, C6, C7, C8, C9):** Exploring and validating factors that impact on e-diplomacy implementations which are organisational structure (C5), privacy & confidentiality (C6), nature of communication (C7), socio-cultural norms (C8), and political, legal & economic context (C9).

These conjectures (C1-C9) should present as a frame of reference that articulates these themes, which will then be used to plan the research methodology and the interview agenda discussed in detail in chapter 4. The conceptual framework offers itself as a frame of reference that articulates descriptive stages of maturity and impact factors that may need to be considered when adopting e-diplomacy.

The following three sections will discuss the components of the EDMF. First, the maturity-level variables are discussed. Next, the proposed stages of e-diplomacy maturity is presented. Finally, the factors that impact the maturity are discussed.

### 3.3. Maturity Framework Stages

Before discussing the stages of maturity of the framework it is worth mentioning the variables of the maturity of these stages. Emphasis on maturity levels is one aspects among the framework to be built. Achieving full maturity is not something all countries are expected to do at an equal pace when it comes to maturity levels (Al-Muftah and Sivarajah,2016). As a result, some will be novices while others are mature. Three major maturity level variables can be identified. These are: The Level of interaction, the Level of maturity and the Level of complexity.

The level of complexity has been explained as the extent to which the level of difficulty increases with the advances in ICT stages (Nolan 1973; Earl 2000). For example, the last stage of any model, (i.e. full integration) is designed to be the most complex stage as it involves advanced services and integration between all departments (Layne and Lee, 2001).

The second aspect is the level of interaction. In terms of e-government, the level of interaction can be generally explained as the extent to which interactions between citizens and government increases with the advance of e-government stages (Moon 2002; IBM, 2003; CISCO, 2007). For instance, the first stage, presence, requires no interaction while the middle stage requires interaction between the citizens and the government. In term of diplomacy, it can be viewed as the ability of the foreign

affairs ministry to reach out to individuals who have something to do with its activities. The interaction can be internal or external, depending on the level of maturity. For instance, unlike the first stage of maturity, the final stage requires interaction with stakeholders from outside the organisation (Layne and Lee, 2001; Earl, 2000), which will be explained in details in the next section.

Finally, the level of maturity which can be defined as the level of development when moving from one stage to the other (Saco, 2008). For instance, in the Nolan model, the first stage, Initiation, assumes that the level of maturity is very low as this stage is concerned with the initial introduction of technology into the organisation (Nolan, 1973). On the other hand, in the final stage of the Nolan theory, Maturity, all systems within an organisation are advanced to their optimal state and can be said to have reach full maturity (Nolan, 1978). The same applies to the other stage-of-growth models and e-government models discussed in the previous section.

The researcher has defined four levels of maturity for the conceptual e-diplomacy framework:

- Stage 1 (C1) : Initial: where the ICT maturity lays in its early stages
- Stage 2 (C2) : Intermediate: where there is some development of the ICT system
- Stage 3 (C3) : Advanced: where progressive ICT services are introduced
- Stage 4 (C4): Innovative: where highly sophisticated and novel ICT services are applied

The description of the stages as well as the level of maturity are presented in this section.

The original stages and aspects of the e-diplomacy framework have been formulated, based on the three stage-of-growth theories and models discussed earlier, i.e. the Nolan model (1979), the Earl Model (1983-1989) and the Bhabuta Model (1988), as well as from the comparison of the 17 e-government maturity models. The table below illustrates the stages of the stage-of-growth models:



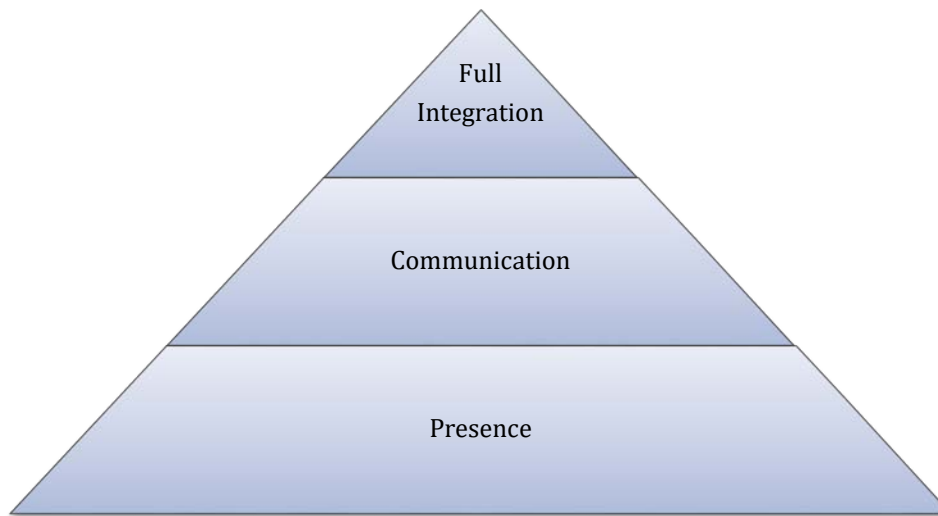
Model	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6
Nolan (1973)	Initiation	Contagion	Control	Integration	Data Administration	Maturity
Earl (1983)	Meet demands	IT audit	Business support	Detailed planning	Strategic advantages	Business- IT strategy linkage
Bhabuta (1988)	Basic Financial planning	Forecast based planning	Externally oriented planning	Strategic management		

**Table 3.1, Maturity Stages of Nolan, Earl, and Bhabuta**

It can be noted from the table *above* that the three stage-of-growth models have commonalities among them in terms of developing their stages. For instance, in all the models, the first stage is the initiation stage where basic tasks are accomplished such as meeting the users demands (Earl, 1983), first introducing the technology (Nolan, 1973) and basic planning (Bhabuta, 1988). The final stages in all models require advanced and complex features and there are mainly focused on full maturity and strategic integration. The middle stages focus on aspects such as control, audit, detailed planning, and providing advanced functions. It can be also noted that the communication between the organisation and users are established at these middle stages, such as contagion stage in case of Nolan, and external planning in case of Bhabuta.

In addition, the comparison of the 17 e-government models discussed in the previous section, showed that most of the models have four or five stages. Only Westcott's model has six stages. In addition, almost all the models have many common features and similarities among them. Although the e-government maturity model stage's names are different, their contents are very similar. It can be concluded that for most of the models the first stage is always the presence or the information stage in which the availability of the ICT services and the online portal is considered. The middle stages focus mainly on interactions between citizens and the government, ranging from the level of interaction from one stage to the other, although they have different names (e.g. interaction, transaction, two-way communication, open transparency, etc.) Finally, for most of the models, the last stage in which a full maturity can be achieved, is mainly concerned with advanced features that enable information sharing among all agencies and some political

functions (e.g. integration, joined up government, connected services, etc.) that allow citizens to interact and participate in various functions performed by government. The three main stages of the e-government models are shown in the figure below:



**Figure 3.2, The main three stages among the e-government models**

The next subsections illustrate the four stages of the proposed e-diplomacy maturity framework.

### **3.3.1. Stage 1 (Initial): Intra-organisational digital capabilities (IDC)**

As mentioned earlier, all the above-mentioned theories start their first stage with the initiation stages, Nolan: initiation; Earl: Meeting the demands; and Bhabuta: basic financial planning. In these first stages, basic ICT capabilities are first introduced into the organisation to meet the organisation's requirements, such as providing required services (Earl, 1983), and providing basic hardware and software (Nolan, 1973).

Likewise, in the proposed e-diplomacy maturity framework, the first stage is defined as Intra-organisational digital capabilities (IDC). In this stage, the foreign ministry develops an advanced computer system with a common suite of software as well as an identical configuration of that software (Chen, 2012). This kind of software is installed in every machine of foreign ministry departments. In addition, the foreign ministry has used the technology in an efficient manner for maintaining an internal as well as an external global network (Batora , 2008)

At this level, ICT should be implemented in all the organisation's departments such as HR, Accounting, media and so on. Also in this first stage, the level of interaction between the organisation and employees is minimal and very simple, concerned mainly with initiating ICT into the organisation's departments that require simple (compared to the other stages) ICT implementation. Achieving this initial level of maturity is mandatory in order to move to the next level (Wescot, 2001).

*Provide internal ICT infrastructure*

Internal ICT infrastructure is one of the most important components of the initial stage of the maturity model (Wescot, 2001; Jayaram, 2007). With the help of Wide Area Network (WAN), intranets, data centres, IT equipment, installed software, mobile phones, tablets and other devices, intra organisational capabilities can be used by the foreign officers to establish government-wide contracts, in recoding governmental inventory and procurement and in managing effective content-sharing systems (Abbasov, 2007; Van, 2012). Social networks-based infrastructure can also help foreign ministry staff to make strong connections among different departments (Chen, 2012). PC workstations and servers are connected with each other through internet and ultimately all of these are connected with the main server of the headquarters of the ministry (Olivier, 2014). These capabilities can be used by the government's foreign ministry to leverage government data in a more effective and efficient ways that increase service quality. Similarly, ICT infrastructure can provide governmental institutions and agencies seamless communication between the public officers working in the different ministry departments to develop realistic foreign policy, bilateral relations with other countries and other trade and investment issues effectively (Ndimbwa & Emanuel, 2013; Grech, 2006).

*Enhance learning and knowledge transfer (e-learning)*

Secondly, through a wide range of intra-organisational capabilities, the foreign ministry can communicate better with its officers working in different international embassies across the globe (Vincenti, Bucciero, & Carvalho, 2014)(Grech,2006). Through distance-learning programs, government can help the ministry officers reach their goals. Online training can be offered to officers about emerging international relations issues, such as peace support, humanitarian relief and security. Digital platforms can be used for training, such as online seminars, videoconferencing, lectures and workshops (Alonso, López, Manrique, & Viñes,

2005; Randunovie, 2010). These e-learning opportunities help embassies, special diplomatic delegations, consular offices and cultural institutes around the world provide continuous training and online learning (ibid; Van, 2012). This has simplified the process of teaching new ideas to diplomats at the location of their choice. In addition to e-learning, digital electronic technology has the potential to enhance the participation of the nation by inputting the provision mechanism of the foreign policy that handles the challengers of a state and satisfies the interest of the diplomats (Hall, 2012).

#### *Modern, Internet and web access based applications*

The organisation will implement different modern technologies to make its work processes more effective. The internet and various associated applications helps the company develop and implement the functions and activities properly (Batora, 2006). According to Cull (2013), diplomatic governments around the world also use a variety of innovative and novel web-based applications for instant communication and to manage different areas of diplomatic work. These ministries are transforming their static registry-based approach into more interactive, web-based applications (Westcott, 2008). In addition to electronic mails, structured mobile applications can help embassy employees obtain information on demand and develop crowd-sourced intelligence. Similarly, the integration of the customer-centric web applications has eased the service delivery process of embassies across the world (Randunovie, 2010; Copeland, 2009). Major examples of such customer-centric applications are trade and investment support, travel advice, passport and visa applications (Westcott, 2008). These swift and easy-to-use applications can offer a unique platform for dealing with officers' distress during times of tension (Khatib, 2012).

#### *Improve financial, HR and Electronic archiving system*

An important benefit of modern and advanced intra-organisational digital capabilities is related to improvements in managing financial and human resource records of the foreign affairs ministry as well as electronic archiving systems (Permyakova, 2010). The ministry of foreign affairs can improve its financial operations and system by proper management of its financial department . The organisation will collect important financial information from the necessary sources

by implementing ICT-based financial and accounting system (Chen, 2012; Luftman & Kempaiah, 2007). For example, in order to maintain business processes, technological assistance is used to prepare electronic pay roll, electronic bill paying system as well as travel vouchers and many similar services. At the present time, the ministry of foreign affairs may use different modern electronic devices to archive information. Electronic archiving will benefit the organisation by developing the effective work process which help establish effective foreign policies. Also, electronic archiving can be used to retrieve any document easily and swiftly which contributes to the efficiency of the work (Greach, 2006; Radunovie, 2010).

HR and payroll applications can be processed and stored easily in comparison to physical storage systems. Different embassies can easily share their financial or HR needs, facilitating improved information sharing through the foreign affairs department ( Luftman & Kempaiah, 2007Hanson, 2012).

### **3.3.2. Stage 2 (intermediate): Ubiquitous Access (UA): Multi channel and mobile access**

The middle stages in the growth of stage models such as Nolan's, Earl's and Bhabuta's, involve provision of advanced functions to organisational users, such as contagion and control in the case of the Nolan model (Nolan, 1973) and business support and planning in case of Earl (Earl, 1983). In addition, some e-government maturity models' second stages entail supporting users and the organisation with advanced ICT facilities. For instance, in the case of the Wescott model, the first stage requires setting up an email system and internal network whereas the second stage involves advanced functions such as enabling inter-organisational and public access to the information (Wescot, 2001).

Likewise, in the case of the proposed e-diplomacy maturity framework, the second stage involves advanced functions that provide ubiquitous access in the form of multi-channel and mobile access. As discussed in the literature in chapter 2 (Devay, 2010; Avram, 2014; Pratt, 2013), ubiquitous access represents the ability for a server to be widely accessible, which requires support for a range of devices. The activities of the diplomat are currently supported by Internet tools. Most diplomats today depend on the internet for research and communication with family and colleagues via email (Chen, 2012; Grant, 2004). Furthermore, diplomats negotiate

texts that are drafted in electronic format at the same time. Increasingly, diplomats use new social networking tools such as Facebook and blogs. The use of such advanced ICT tools enables diplomats to easily address their audiences with the specific message they seek to convey (Greach, 2006; Radunovic, 2010). This means that diplomats need not to travel to connect with their audiences or to deliver message, hence reducing mobility requirements (Gaida Jeanette, 2013).

Even though the revolution in technology has not affected the core components of traditional diplomacy such as the personal meeting, it has nevertheless affected the way business is done by departments of state and foreign ministries (Vanc, 2012). The use of phones, social media, tablets and smart phones have greatly affected the mode and speed of communication, and that has been efficient and very fast (Straub, 2015; Wichowshi, 2013; Free, 2013). These technologies have made communication and sharing between diplomats much easier.

In this second stage, there is a level of interaction between the organisation and its employees (i.e: the diplomats) by providing and supporting an extra median of mobility. This stage also requires quite simple ICT implementation, and can therefore be depicted as having an intermediate stage of maturity

*Provide wireless infrastructure with a range of mobile devices for both personal and department uses*

With the help advanced wireless technology, the ministry of foreign affairs can provide WIFI facilities in the different locations of the ministry of foreign affairs, which will help employees remain connected anytime and anywhere (Batora, 2008; Hayden, 2012; Radunovic, 2010). The ministry will also try to provide wireless infrastructure to different overseas locations, so that diplomats can access information from their remote locations and from their mobile devices that can make foreign policy development processes more effective (Molla & Licker, 2005; Radunovic, 2010).

ICT, specifically mobile devices and applications, can empower individuals and groups in the case of rapidly-unfolding events. At present, nearly all diplomatic ministries in the different countries of the world are planning to offer a more efficient and effective digital environment to all the end users (Abbasov, 2007). Diplomats use

mobile computing servers, such as Blackberry Enterprise Server (BES), Global OpenNet and Secure Dial-in services to send and receive data from their officers and diplomats continuously when they are working in the office as well as when travelling (Westcott, 2008). Wireless streaming also allows the diplomats to use social media, such as Twitter, Facebook and Instagram, for their personal use. Wi-Fi and regional wireless networks can also be used to connect a range of mobile devices to share the knowledge about the type of diplomatic and consular missions overseas (Straub, 2015; Wichowshi, 2013). It would not be wrong to state that, in future, wireless mobile infrastructures will help the government transform their diplomats into wireless diplomats (State Government, 2016). However, it is necessary to offer a wide choice of mobile devices to government personnel for easy access to all IT systems and resources available to the countries' diplomats and officers.

#### *Support secure Mobile and desktop computing*

With increased wireless connectivity, diplomats and foreign affair officers are very concerned about the security of their data and information. Modern ICTs aim to provide ubiquitous access in the form of secure mobile and desktop computing to their individuals (Gupta, Chaturvedi & Joshi, 2004; Straub, 2015). Central identity and access management systems can be used to restrict the authorised access to high-level diplomats only. Security of sensitive data is not now an issue for people (Copeland, 2014). Emergency and security information can be easily shared with the necessary diplomats and officials through digital signatures, encryption keys and other security components (Kiso, 2010). Security should be taken to the highest level. Departments must take advantage of secure mobile applications (Kurbalija, 1999). Diplomatic rivals, including both state and non-state actors, can attempt to hack government systems and steal the private and confidential data of the country (Moghadam, 2014). Security solutions should be designed, using innovative solutions after to remain ahead of the hackers, fraudsters and cyber saboteurs. At present, a range of secure services are available that offer secure voice and teleconferencing services to diplomats (Weiss, 2013). VPNs can be used to connect mobile devices and desktops, ultimately making them safe from intentional attacks (Kear, 2001). The organisation will support employees in using advanced mobile phones which support different functions. With the help of these devices, the work

process of the company can become quicker and efficient (Becker, Knackstedt & Pöppelbuß, 2009).

### *Integration of all the enterprise applications into mobile devices*

IT applications can support and streamline administrative applications to mobile devices through the development of a ministry app store. These applications may be accessed by visiting the ministry store from anywhere and at anytime, but only by authorized individuals (Bollier, 2002). The gateway to the application store can be routed through the official website, requiring a password, user ID, or digital signature from the user and actors trying to access these applications (Innovation Diplomacy, 2013). Applications may include HR-related apps, financial service apps, data storage, backup-up apps and Office Suite (ICTQ, 2011). Currently, different governments have started offering mobile apps to their citizens, to facilitate completion of passport and visa application procedures. However, the integration of applications at the employee level is also necessary for complete and successful integration. Additionally, compatibility of these enterprise applications must be achieved before their deployment. They must be capable of functioning on wide range of mobile devices (European Union, 2015).

The goal of e-diplomacy cannot be achieved successful without considering the optimised access to the regional devices. At present, some diplomatic ministries offer mobile telephony and mobility services to staff members who are equipped with the ministries' mobile phones. However, future needs will require seamless access by all organisational personnel, and access to enterprise applications using their own mobile phone (Ministry of Foreign Affairs of Denmark, 2013; ICTQ, 2011; Digital strategy of the FCO, 2012).

### **3.3.3. Stage 3 (Advanced): Citizens' Interaction (CI)**

Unfortunately, although the stage-of-growth theories do not clearly illustrate the interaction between an organisation and its outside stakeholders, it does help explain some aspects of external interaction. For instance, Bhabuta phase three addresses some aspects of externally oriented planning. The function of this step is to strategically plan for making decisions that may affect the performance of the business (Bhabuta, 1988). The Earl model (Earl, 1983) also discussed some aspects of external communications. Earl suggests that the company needs to establish its



external connection and needs to know with whom it has been communicating, and for how long (Oliner, et al. 2000). External communication will involve communication with suppliers and customers. Communication must be established with these parties. In integrating technology, the way in which communications between these players take place is an essential consideration (Galliers and Sutherland, 1991).

On the other hand, a comparison of the 17 e-government models concluded that, for most of the models, the middle stages involve interactions between the citizens and government, ranging from the level of interaction from one stage to the other. Similarly, in the e-diplomacy maturity model's third stage, the level of interaction between the organisation and the citizens is introduced.

A key function of any country's foreign affairs ministry's is to offer excellent services to the country's citizen's abroad. For example, "To have a distinguished foreign policy for the State of Qatar at both regional and international levels, and care for the interests of citizens abroad" (MOFAQ), is the mission statement for Qatar's foreign affairs ministry. Presently, the consular affairs department has put a lot of effort toward technology utilisation (Armstrong, 1999). Among the key functions of a country's foreign ministry/embassy's consular departments is communication with citizens, and their protection, as well as taking care of the interests of citizens in a foreign country. ICT can facilitate as well as enhance the tasks of the consular affairs (Digital Strategy of the FCO, 2012). Tools such as social media, online services, websites, as well as applications, enable embassies to contact their citizens quickly and effectively (International Treaties & Diplomacy, 2009; Kloby & Dagostino, 2012).

The foreign affairs ministry can now work together with foreign countries through sharing of information with different embassies as well as the public via online communities. All that the organisation need do to effectively connect with people is to develop some communities as well as a website (Sandre, 2015). The foreign affairs ministry will be able to convey its policies to the people with the assistance of the website and the online communities (Grech, 2006).

In this advanced stage of maturity, the level of interactions between the organisation and citizens is notable and the level of complexity is significantly higher, since it involves interactions with people from outside the organisational boundary.

### *Utilise social media*

Social media is regarded as a key driver in developing e-diplomacy (Hare, 2016). Ambassadors and other foreign office officials use this medium to communicate with citizens around the globe (Wichowski, 2013; Strub, 2015). Moreover, they offer assistance in matters where citizens need their help. Some of the most commonly used social media platforms are Facebook; Twitter; Linked-in; Instagram; and YouTube (Slavik, 2004). The invention of Web 2.0 technology was the main force behind the development of these platforms (Kopper, 2013). Diplomats and the governors have been empowered by social media, which have facilitated improvements in communication, transparency, efficiency and better engagement. Some refer to this as social-media diplomacy, digital diplomacy, or Twiplomacy (Wichowski, 2013; Strub, 2015; Kunstein, 2013). No matter the name given to it, it is known as e-diplomacy (Sandre, 2012). Currently, more than eighty ministries of foreign affairs from all over the globe run official pages and accounts on Facebook, Twitter and YouTube (Mediabadger, 2014). One of the key elements in promotion of e-diplomacy via social media is to enable people to directly interact with government officials; they can present their own opinion, or ask them about government's agenda (Permyakova, RIAC).

### *Enhancing consular affairs services*

ICT made a major contribution to improving the consular services provided by the embassies, leading to greater quality of work and improved performance (Permyakova, 2014; Radunovie, 2010; Digital strategy of the FCO, 2012). It will assist people in understanding its different rules and regulations. In any time of crisis, the organisation will take effective measures to respond to the crisis and will improve the situation of citizens. While developing any foreign policies, the ministry of foreign affairs will obtain feedback from its citizens to better understand their opinions and views regarding the policy in question (Radunovie, 2010; Almuftah and Sivarajah, 2016)

Provision of online services is another tool regularly used by embassies to enhance consular services. Visa information and other associated documents can be delivered online by citizens from any part of the world (Radunovie, 2010). Thus, the processing of visa documents has been simplified by e-diplomacy tools. Furthermore, it has facilitated contact with citizens who are in different countries (IRM's *Office of eDiplomacy, n.d*). In case of an emergency occurring, e-diplomacy

provided citizens in a foreign country a chance to communicate with their respective consuls or state embassies. Smartphone apps enable citizens to access information on passport norms and foreign policy initiatives (IRM's *Office of eDiplomacy, n.d*; ICTQ, 2011). ICT is also used for the intergovernmental exchange of documents, from one headquarters to another. For instance, the identification of illegal migrants can be made by sharing information about individuals who have either an expired visa, or who have entered the borders without permission. By sharing such information with head offices via the internet, embassies can improve efficiency by several times (IRM's *Office of eDiplomacy, n.d*)

### *Interacting with the public*

ICT will help the organisation reach and interact with people of the host country. By this process, the ministry of foreign affairs will be able to communicate its various objectives and functions to the general public (Huxley, 2014; Chen, 2012; Hall, 2012; Wichowski, 2013; Strub, 2015).

Online conference calls and webinars are widely used by diplomats all around the world to address their target audiences. For instance, at the recent United Nation Climate Change conference in Copenhagen (Dimitrov, 2010), it was ironic that negotiators had to travel long distances in a high-emission aircraft to find a solution to the problem of reducing the emission of these gases, instead of using available communication technologies that are adequately advanced for these purposes. Online webinars are used by diplomats as a means of sharing their views with the general public, and to promote calm in states of emergency, when visuals become more important than words (Copeland, 2009; Permyakova, RIAC). The use of e-diplomacy tools has enabled people in remote locations to understand the position of government. For example, if the country is faced with drought or hunger in a particular region, e-diplomacy can be used to inform people affected about government plans to solve the crises.

### *Promoting and image building*

Strong connections with the public can help the ministry of foreign affairs build a good image and reputation among the people (Fong, 2010; Grincheva, 2012; Wiseman, 2011). Communicating effectively with the public can facilitate the firm to promote its different functions and policies. Embassies use internet as a tool for cultural exchange and promoting the home country; it offers a range of texts,

documents, videos and other sources to promote cultural exchange (Fong, 2010; Grincheva, 2012; Permyakova, RIAC). E-diplomacy also provides an additional medium for publicity; by utilising ICT tools, diplomats can reach a larger public and therefore can influence their audience directly and promote the home country. This can enhance bilateral relations between the home and host countries (Marshall, 2015; Hallams, 2010). Bilateralism includes political, economic, and cultural relations between two independent states, and contrasts with unilateralism as well as multilateralism in terms of how the relations are conducted and the number of parties involved (Thompson and Verdier, 2013)

#### **3.3.4. Stage 4 (Innovative): Collaborative Digital Diplomacy (ODD)**

The final stage of the e-diplomacy maturity model entails full integration and maturity. In the Nolan theory's integration stage, the organisation is already accustomed to the new technology and has set down rules to govern its usage (Avison, et al. 2003). All necessary applications, software and programs are installed to help the organisation's various departments (Batora, 2006). The software is integrated so information can flow without interruption from one department to another. Integration of systems makes the organisation fully automated but reliant on the information systems installed. Phase 4 of the Bhabuta model involves creating future systems innovation and linking all stakeholders, such as buyers, suppliers, and manufacturers (Bhabuta, 1988). Earl's final stage require business IT strategy linkage with an objective of integrating strategies and achieving mature collaboration (Earl, 1983).

In contrast, e-diplomacy's final stage (collaborative digital diplomacy) entails full integration and maturity. This is an innovative stage, as it requires a very high level of complexity as well as interaction among all stakeholders of diplomacy. The availability of evolving networking technologies, such as virtual private networks, remote access technologies and computer security encryption, makes it possible to achieve full integration among stakeholders as well as departments, enabling all missions to be linked with the public as well as with the headquarters (Greach, 2006; Radunovic, 2010; ICTQ, 2013). In summary, this innovative stage requires high levels of complex ICT implementation, as well as high levels of interaction.

### *Provide internal infrastructure for all the foreign missions to support full integration*

In order to achieve full integration, all diplomatic missions and embassies, should be supported by the appropriate ICT infrastructure, such as advanced networking's hardware and software (ICTQ, 2011). There are ranges of diplomatic missions operated and administered by ministries of foreign affairs. Currently, few OECD governments are pursuing this approach of global diplomacy (Hocking & Melissen, 2015). Such infrastructural integration reduces the travel cost for officials allowing them to access the same information easily via internal IT service platforms, intranet and web-enabled citizen services (Copeland, 2009). The available modern computer hardware, workstations, networking devices and connections should be integrated on a large scale to support multiple missions at one time (Ministry of Foreign Affairs of Denmark, 2013)

### *Secure the communication of officials and diplomats*

Thanks to advanced computer security technologies, communications of diplomats and officers can be secured, at the same time that communications operate efficiently (Gupta, Chaturvedi & Joshi, 2004). Officials and diplomats may also communicate with the public to know and understand their opinions about different foreign policies. There are many ICT security tools and methods that can be used to guarantee high level of security. Official correspondence between the receiving and sending states can now be easily carried out in secure virtual environments (Bjola & Holmes, 2015). Firewall-protected and virus-protected software applications may be used to secure communications between diplomats and officials. The development of secure and password-protected portals can be used to allow the officials share and download important documents, letters, model, petitions, legal arguments and other relevant data easily (Fulton, 2002). Several tools can be integrated within the system to ensure the security of official images as well as other visual and non-visual data sets. The Estonian government's e-Cabinet system can be considered as an example. This is used to create online efficiencies between diplomats and officials working in the ministry of foreign affairs (Christodoulides, 2005). Such systems have had measurable impacts on political processes, including shorter meeting times, greater protection exchanging data, and tax returns returned more rapidly (European Union, 2015).

### *Linking all stakeholders including foreign missions*

Through effective networking systems, such as VPN, the foreign minister can set up a secure global communication process (Batora, 2008). For instance, phone, fax, email and online video sharing are recognised as some of the most innovative as well as useful technological inventions in modern society. The implementation of advanced technology by the foreign ministry has enabled better communication processes among large numbers of significant elements, such as headquarters as well as embassies. These technologies have also enabled better communications between a large numbers of embassies within same region (ibid).

Networking can also reach down to other government departments. This will enable all activities of the administration to be brought together in a relationship that is external both at the decision-making and the preparatory levels, and when policies are being implemented such as by acts carried out abroad. An additional circle may be added by extending the network to non-governmental bodies and to the private sector of all types having a stake in the relation that is external (Kappler, 1998).

These ICT networks are capable of flattening hierarchies and may initiate cooperation and collaboration. Private enterprises, NGOs, voluntary organisations, civil societies as well as citizens are all able to link their public missions for better economic, social and political development. These networks can offer greater transparency and inclusion advantages to embassies, diplomats and officials (Deos, 2014). Where communication is highly critical for diplomatic activity, advanced ICT and networking tools could help the ministries in providing active engagement to all the internal and external stakeholders for better working in pressured environments. This is why, during international crisis, foreign affairs ministries consult with other stakeholders for fast and responses to the issue. It would not be exaggerating to state that by linking mission of internal and external participants, ICT has been helping and could help more foreign affairs ministry in accelerating their international relations (Bollier, 2002).

### **3.3.5 Summary**

Section 3.3 has taken the left segment of figure 3.1 which shows the four proposed stages of e-diplomacy maturity. Identifying the full range of tasks when

each stage was presented as well. Following on from the discussions above, the maturity framework stages can be shown in table 3.2 below:

Stage Number	1 (C1)	2 (C2)	3 (C3)	4 (C4)
Stage Name	Intra-organisational digital capabilities	Ubiquitous access	Citizens' Interaction	Collaborative Digital Diplomacy
Level of complexity	Simple	Quite simple	Complex	Very complex
Level of Maturity	Initial	Intermediate	Advanced	Innovative
Means of interaction/ communication	Within the organisation	Between the organisation and the employees	Between the organisation and the public	Among all the stakeholders
Tasks involved	<ul style="list-style-type: none"> <li>- Provide internal ICT infrastructure</li> <li>- Modern, internet and web-based applications</li> <li>- Provide information to decision makers</li> <li>- Improve financial, HR and archiving systems</li> <li>- E-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Support secure mobile and desktop computing</li> <li>- Provide range of wireless devices and wireless infrastructure</li> <li>- Integrate whole-enterprise applications into mobile devices</li> </ul>	<ul style="list-style-type: none"> <li>- Utilising social media use</li> <li>- Improve consular services</li> <li>- Interact with the public</li> <li>- Promotion and image building</li> </ul>	<ul style="list-style-type: none"> <li>- Provide internal infrastructure for all missions to support full integration</li> <li>- Secure communications of officials and diplomats</li> <li>- Link all stakeholders including foreign missions.</li> </ul>

**Table 3.2, The e-diplomacy maturity framework stages**

### 3.4. Factors affect the implementation of ICT in diplomacy

Chapter 2 discussed many challenges to e-diplomacy such as privacy, political, legal, economic, cultural, organizational and many others. This section should present these main factors that impact e-diplomacy implementation that are also presented in the proposed conceptual framework shown in figure 3.1.

#### 3.4.1. Hierarchy and organisational structure

Organisational factors refers to those factors that are within its control, and include the culture of an organisation, employee training, structure and power

distribution. These factors affect the implementation of ICT in diplomacy as they influence the day-to-day running of an organisation (Batora, 2008). Organisational structure refers to the way activities and tasks are coordinated to achieve the organisational goal (Stoltzfus, 2008). If, for instance, a group uses a horizontal team structure in the running of its day-to-day operations, it means employees are empowered in the decision-making process. Therefore, this kind of structure acts as a motivating factor since employees feel valued and represented, they can, therefore, participate fully in the implementation of e-diplomacy in the organisation (Abbasove, 2007). The organisational culture also has a large impact on the adoption of ICT in diplomacy (Song, 2004). Organisational culture is a system of shared values that dictate how employees behave in an organisation. When it comes to decision making, these values and beliefs play a critical role. There are organisations in which employees do not readily accept change. In such cases, the implementation and adoption of digital diplomacy is discouraged. On the other hand, an organisational culture that accepts change easily means that employees will not be reluctant to accept and participate in the adoption of digital diplomacy (Batora, 2008).

With the recognition of sovereignty as the primary constitutive logic of Europe's political order, diplomats were appointed to represent the various sovereigns as the direct impersonations of these countries, and were bestowed with the same divine authority as the sovereign (Bátora, 2006). As such, these individuals were duly ranked as occupying a higher hierarchical position above all other officials in the service of the sovereign (Bátora, 2006).

Bátora (2008) outlined two levels of operational hierarchy: bureaucratic hierarchy and hierarchy between headquarters and missions abroad. Today, bureaucratic hierarchy is observed to still be an integral organising principle that enables foreign ministries to successfully produce unified negotiation positions as well as unified foreign policies in some specific situations. Diplomats in these foreign ministries are therefore able to successfully live up to the various expectations that relate to their intrinsic role of serving as the ultimate source of authoritative information pertaining to the various foreign affairs of their respective states. (Smith et al., 2014). The classic Weberian model of bureaucracy is used when every department of the ministry is constituted by sets of written files and clear divisions among departments (Bátora, 2008). Bátora (2008) also outlined that in the hierarchy



between headquarters and missions abroad, the “traditional pattern has been for the embassies to gather and report information and for the headquarters to perform analysis and issue instructions.”

The characteristic hierarchy feature can greatly limit the use of ICT tools in the diplomatic function (ibid). This is because bureaucracy can have a slowing the effect on the flow of important information across the various boundaries of organisational units, as well as across the authority line levels (Kettani and Moulin, 2014). It can take a considerable amount of time for information to be approved for sharing by the bureaucratic system. As such, it can be surmised that, in spite of the implementation of ICT tools in diplomacy, the existing bureaucracy can still create considerable challenges for the inclusion of shared databases and information-sharing systems within the foreign affairs community (ibid).

While the use of ICT tools in the diplomatic function can help improve the integration of the organisational actors in a country’s foreign service across the globe, this potential has been observed to be impeded by the fact that foreign ministries tend to cling to the traditional hierarchical relationships that exists between embassies and headquarters (Nweke, 2012)(Cornago, 2013). Although the use of ICT tools can allow embassies and their headquarters to all perform on the a level playing field, diplomats are still seen to cling to the traditional hierarchal relationships, in which information must first be forwarded to their headquarters for approval before it can be disseminated to other embassies (Cornago, 2013). This tendency has been observed to limit the effectiveness of the use of ICT tools in diplomacy.

#### **3.4.2. Secrecy, privacy and confidentiality**

Biham (2003) highlights the fact that the desire to protect information exchanged between permanent ambassadors or diplomatic envoys during diplomatic negotiations is a key aspect of all diplomatic negotiations. Also, Bátorá (2008, p. 66), mentioned that “secrecy has been a central norm in organising foreign ministries.” Soll (2009) points out that, since the middle ages, the most common method by which diplomatic communications could be successfully protected was via the use of cyphers. The French foreign ministry became the first diplomatic ministry to establish a cypher bureau (Biham, 2003), since when, the practice has grown to become a

standard feature in nearly all foreign ministries of today as they strive to ensure that their diplomats enjoy secure diplomatic communications (Biham, 2003).

According to Grigorescu (2015), it is the process of bureaucratisation that ensured that secrecy in bureaucracy was finally formalised in the procedures and rules of foreign ministries. It is through the bureaucratic process that matters pertaining to official foreign policy came to finally be formalised as the main area of technical expertise that foreign ministries were required to control. Bátorá (2006) lends credence to the observations that today, foreign ministries are essentially guardians of the 'knowledge growing out of expertise'. They are the store of large amounts of classified knowledge pertaining to the intricate details of the international treaties that their countries have entered into, as well as other foreign matters that happen to affect their respective states. This sensitive information is, for the most part, stored in internal archives to which the general public has relatively limited access (ibid).

Secrecy has for years been a central norm in the organisation of diplomatic establishments (Abbasov, 2007; Kurizaki, 2007). As the use of ICT tools has become more prevalent in the communication of foreign policy and in the diplomatic information exchange, a number of concerns have been raised pertaining to the application of proper security standards by foreign ministries (Permyakova, 2014; Radunovie, 2010; Kurizaki, 2007). This is because most ICT tools tend to be designed with the objective of helping government systems to be open in the spirit of democracy. According to Shultz (2014), the use of open ICT tools in diplomacy should be encouraged, since secrecy in diplomacy and government has historically been linked to rampant abuses of power, human and civil rights. Critics of secrecy in diplomacy and government systems also argue that the use of secrecy greatly undermines global peace as evidenced by the circumstances that led to World War I (ibid). However, this position is countered by arguments that, while secrecy in diplomatic and government systems can serve to greatly undermine democracy, the essential truth is that, when utilised in an effective manner, secrecy can be of great service to a country's people. It is essential for governments to sometimes enter into secret negotiations, have secrets, as well as set up intelligence services. Secrets are sometimes required in the interest of the greater good (Radunovie, 2010).

Certain state information need not be disclosed and must remain private and confidential (Nocetti, 2016). Through the internet, certain information that should not

be disclosed to third parties can be safely sent or received by state and non-state actors. The users of digital technology are therefore expected to perceive its introduction and implementation positively since it guarantees both security and privacy of critical data (Hathaway & Klimburg, 2012). Additionally, states consider certain data private and confidential, as stated in this paper. They can therefore be expected to implement ICT in their diplomatic relations since it is liable to protecting state data from destructive forces and unauthorized access (Nocetti, 2016) (Radunovic, 2010). The fact that data is securely stored and information confidentially communicated, will make state and non-state actors more likely to seek to implement the use of ICT in diplomacy (Almuftah & Sivarajah, 2016).

In summary, according to the above discussions, it can be noticed that the secrecy and the confidentiality of the diplomatic information imposes a significant limit to the use of ICT.

### **3.4.3. Nature of Communication**

In their capacities as mediators of official and authoritative information pertaining to the foreign affairs of their states, diplomats have traditionally been required to exchange information, not only with their diplomatic counterparts located in other countries, but also their own heads of state (Huxley, 2014). However, Ghosh (2013) points out that the public was not involved at first in this exchange of information. In the late 19<sup>th</sup> Century, when democratic participation and public opinion started playing a more central role in politics, most foreign ministries created press departments in addition to publishing information detailing information about their organisation and staff. In addition to this, these foreign ministries also undertook the task of publishing highlights of earlier diplomatic correspondence concerning some specific foreign policy matters (Schattle, 2012). Bergeijk et al., (2011) notes that the traditional norm that is observed in the communication between the general public and the foreign ministries is a one-way provision of information in the form of a press release conducted in an *ex-post* fashion. Even today, most foreign ministries are observed to use this format, as they consider it to be the legitimate way to release of information on official foreign policies (Bergeijk et al., 2011).

Both Dhia (2006) and Bátorá (2008) observe that, in their communications with the public, most foreign ministries traditionally employed one-way and *ex-post*

models of communication to provide the public with information on the decisions that have been made affecting foreign policy. Bátorá (2008) also defined a level of centralisation of public communications, in which a designated centralised unit, such as a press department or a spokesperson, is used to communicate with the public and the media. The use of ICT tools, such as chat-rooms, e-mail, social media and interactive websites has been observed to result in a greater involvement of a country's citizens in the formulation of foreign policy (Huxley, 2014). However, the involvement of a country's general public in *ex-ante* discussions affecting the priorities of foreign policy or a particular proposal on government initiatives affecting foreign policy has been unusual in diplomacy and this factor can serve as a significant hindrance to the use of ICT tools in the diplomatic function.

This has led to the situation where it has become essential for foreign ministries to look into the adoption of the use of some ICT tools in conducting their activities, as has been achieved in the case of the Virtual Embassy of the United States to Teheran, Iran (Cucos, 2012). Whereas hierarchy, secrecy and one-way communication have been observed at one time to promote ICT tools in the diplomatic function, these three features of traditional diplomacy can sometimes serve to severely limit the use of these tools.

#### **3.4.4. Socio-cultural norms**

Culture and tradition refer to the way of life of a people. Culture and beliefs contribute to the behavior of individuals and may exert a significant effect on the adoption of e-diplomacy (Fong, 2010). For instance, certain cultures are known to avoid change while others accept change more readily. Implementation of e-diplomacy in a culture that is reluctant to accept change becomes a problem (Song, 2004). Individuals from such cultures are likely to remain opposed to the implementation process. In contrast, people from a culture that accepts change are likely to participate in the adoption of digital diplomacy actively. Individuals who do not understand the advantages of e-diplomacy are likely to retain traditional practices (Mármol & Pérez, 2016). Cultural values and beliefs may potentially reduce communication and active participation during the implementation process (Stoltzfus, 2008). There are also individuals whose beliefs promote isolation, which will impact negatively on the implementation process.

One of the main tasks of diplomacy is to form relationships with government and citizens within states with various cultures and traditions (Langholtz & Stout, 2004). The development of communication technologies should be done in a manner that accommodates users from countries that use different languages (Melissen & Fernandez, 2011). Such technologies should combine various languages to facilitate the ability of different users to read and understand instructions contained in the manuals. Certain communities approach changes with fear, especially where ICTs are concerned, mainly due to transparency as well as exposure (Nowotny, 2011). This way, promotion of growth by MFA ministers is discouraged.

Dettori and Persico (2011) observed that human beings are social beings and therefore integrating new technologies that would facilitate their modes of communication from one place to another is manageable. Implementation of ICT at the diplomatic and foreign ministry level is not possible without support and engagement from the society and prevailing culture (Hicks, 2011). It can be shown that social engagement of innovation is not easy specifically in environments that prefer traditional and conservative infrastructures (Abbasov, 2007). Furthermore, some countries, due to high-level security concerns, do not prefer online- and wireless-based networks. Social inclusion can only be improved through effective engagement and information (Archetti, 2010). Additionally, since digital ICT infrastructure shares a common language, working norms and data-sharing culture, personnel from different cultures and languages may resist its implementation (Cooper, Heine & Thakur, 2013).

For the diplomats working in different parts of the world, it is very difficult to communicate through a shared-language basis, thus the development of multi-lingual ICT infrastructure and networks can end up as a significant cost for the government ministries (Stauffacher, 2005). They therefore try to avoid the cost of training their diplomats and officials. Not only officials, but many uneducated citizens also resist forces of change and consider digital networks to function against their security interests and harmful to the privacy of their confidential information (Shultz, 2014). For this purpose, ministries need to ensure additional security measures are taken to reduce the influence of such thinking and norms.

In its summary report, the European Union, (2015) gave consideration to cultural norms in digital diplomacy, in its discussion of conflicts among the differently-aged diplomats. Therefore, an ICT platform with all the stages intact should be

concerned with the cultural and social norms, this appears to be highly necessary for a successful implementation.

#### **3.4.5. Political, Legal and Economic Context**

Hanna (2010) argues that promoting adoption of ICT in diplomatic functions requires both long-term as well as large-scale investments. However, most governments are not willing to invest significantly in ICT tools for such functions, and this may be a real challenge, especially now, in the era of limited budgets Eyob (2004). At times, a country's foreign ministry heads could show interest in implementing such tools for diplomatic functions. Different countries' economies impact their capacity to incorporate new technologies in their MFAs (Cooper, Hocking & Maley, 2008). In addition, the severe restrictions put in place by one country could bar other countries from establishing new technologies. Foreign policies could be controlled by heads of state who make decisions about the kinds of technologies the organisation is to incorporate (Brousseau, Marzouki & Meadel, 2012).

Political, legal and economic factors can also impact the implementation of ICT in ministries of foreign affairs. A shortage of staff with skills to use advanced ICT services and a lack of funds can have a critical impact. A high-level of skills is required to exploit advanced ICT efficiently. The inability of diplomats and lower level officials to use these tools and services can impede their delivery across different missions, making implementation complex, demanding and difficult (Bjola & Holmes, 2015). For example, a super-infrastructure-based wireless network cannot be implemented without significant set-up costs. This is the main reason why many developing states avoid implementing high-cost ICT infrastructure, despite knowing that this is one-time expense with lifetime benefits for the physical diplomacy structure (Hurn, 2016). Inadequate resourcing, cultural barriers and conflicts of interest may also impede the successful ICT implementation (Ndimbwa & Emanuel, 2013).

It can be shown that the economic and social forces that lead globalisation have increased. Non-governmental organisations, civil societies and other non-state actors are keenly focused on specific international issues. Some influential political leaders are an obstacle to organisational change in MFAs, forcing ministers to abide by laws and wait for permission to improve technologies in their organisations

(Baxter & Stewart, 2008). The diffusion of power can play a vital role in this context (Sabic & Drulák, 2012). Diplomats and officials may perceive that adopting internet and ICT at a global level can further weaken their diplomacy and the power of the traditional nation state actor. A consideration of legal factors impeding the application of ICT technologies leads to the conclusion that ICT implementation requires adequate legal procedures, security policies, data ownership guidance, privacy, copyright policies, and clear liability and claim procedures (Roberts, 2009) (Abbasove, 2007). The relative complexities of such legal process may cause some governmental officials to resist. *“Measures include physical, technical and administrative controls, including policy, regulations, procedures and governing legislation [these] could also act as impeding factors”* (Ministry of Foreign Affairs of Denmark, 2013).

### 3.4.6. Summary

This section has developed the rationale for the right side of figure 3.1 that is the factors that impact e-diplomacy. According to Batora, (2008), traditional diplomacy is observed to have three main features; these are: hierarchy, one-way communication with the public and secrecy. In this section, the discussion showed that these features can limit the use of ICT in diplomacy. Other factors, such as political, legal, economic, social and cultural issues were also discussed (Abbasove, 2007) (Radunovic, 2010) (Shultz, 2014). The main factors are shown in the table below: -

Factors that impact e-diplomacy Implementation
Organisational structure (C5)
Secrecy, privacy and confidentiality (C6)
Nature of Communication (C7)
Socio-cultural norms (C8)
Political, Legal and Economic Context (C9)

**Table 3.3, Factors that impact e-diplomacy implementation**

### 3.5. Chapter conclusions and contributions

The e-diplomacy maturity framework formwork outlines four basic stages. At the initial stage, foreign-affairs agencies of the government are cloud-linked by an ICT framework which facilitates coordination of activities in the embassies of those countries, thereby enabling intra-organisational digital capabilities. An intermediate stage outlines ubiquitous internet access to diplomats and other staff within

embassies. They therefore have access to internet connectivity for research and may use it for social networking and to disseminate important information. At the advanced stage, citizen interaction may be witnessed as the result of the diffusion and consumption of ideas. Citizens abroad can communicate with their governments about foreign issues that can be addressed by their own government, via its diplomats. Foreign affairs ministries oversee these developments. The fourth stage is the innovative platform, Collaborative Digital Diplomacy. The EDMF holistic model proposed in this chapter makes an important contribution to the emerging literature of e-diplomacy by presenting a discussion of impact factors from the normative literature. The combination of these factors together in one framework contribute to the both the academic and practical arena of e-diplomacy. These Factors that influence the adoption of e-diplomacy must be considered when implementing e-diplomacy. The structure of the organisation, the communications culture, socio-cultural norms and political, legal and economic factors should be assessed before the ICT frameworks are adopted. Moreover, privacy and confidentiality factors need to be analysed. Failure to carry out these needs assessments may lead to failure in the workability of the system. The development of this model is significant because there have not been clear articulation of the implications of e-diplomacy present in the literature. The main contribution of the formwork presented in this chapter is to identify how to incorporate ICT tools to evaluate a technology such as e-diplomacy.

The next chapter describes the methodology which is used to validate and evaluate the proposed conceptual framework. As mentioned previously, the conceptual framework shown in figure 3.1 should present as a frame of reference that articulates the research themes, which will then be used to plan the research methodology and the interview agenda. It will be validated and evaluated by applying a qualitative approach with multiple case studies. The strategy of the methodology will be discussed in chapter 4 and the results will be shown and analysed in chapter 5, 6, 7 and 8.



# Chapter 4: Research Methodology- data theory

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## **Abstract**

An explanation of the overall research design is presented in this chapter. Descriptions of the research methodology and the strategy chosen for the study are outlined with justification for the choices made.

## Chapter 4: Research methodology – data theory

### 4.1. Introduction

Methodology is a systematic and logical analysis of relevant and appropriate research methods being applied to wide arrays of research studies and fields (Yin, 2014). Methodology encompasses concepts such as the research paradigm, hypotheses, theoretical models, empirical analysis, qualitative analysis, and quantitative analysis (Bernard, 2002). Furthermore, a methodology is not intended to offer solutions but the theoretical underpinning for understanding which research methods can be used and applied to garner relevant results and outcomes (Cavaye, 1996). A number of researchers believe that a methodology is a general research strategy outlining the way in which research can be initiated and completed while highlighting relevant solutions and results based on reason and logic (Babbie, 2010). The dimension and scope of research methodology is wider than that of research methods as it not only includes the research methods but also the logic behind using them in a well-defined manner (Yin, 2014). Research methodology further defines the relevance of each chosen research methods in the context of the study (ibid).

Research design characterises the choice of research goals that the researcher needs to accomplish in the study. The bulk of the study and the basis for the determination of the study expresses its significance and the motivation behind why it is directed (Schutt, 2006). Selecting study subjects that fit with the requirements of the study should lead to exact and predictable results from the research. All study subjects must be screened with the end goal in mind to ensure the exactness of the information and to avert negative or conflicting results (Yin, 2014). Selecting suitable research instruments when leading the research, such as planning questionnaires, composing interview addresses, and giving efficient recording and keeping of information must be all considered so as to give positive results (Creswell 2007). All data accumulated from subjects from the study must be assessed exceptionally. (according to the type of research; for example, the use of measurable mathematical statements for quantitative strategies and observation for qualitative techniques) (Myers, 2009).

The major purpose of this chapter is to highlight and showcase the importance of the selected method and to discuss its components and effectiveness in terms of benefits, usefulness, and appropriateness in underpinning the research

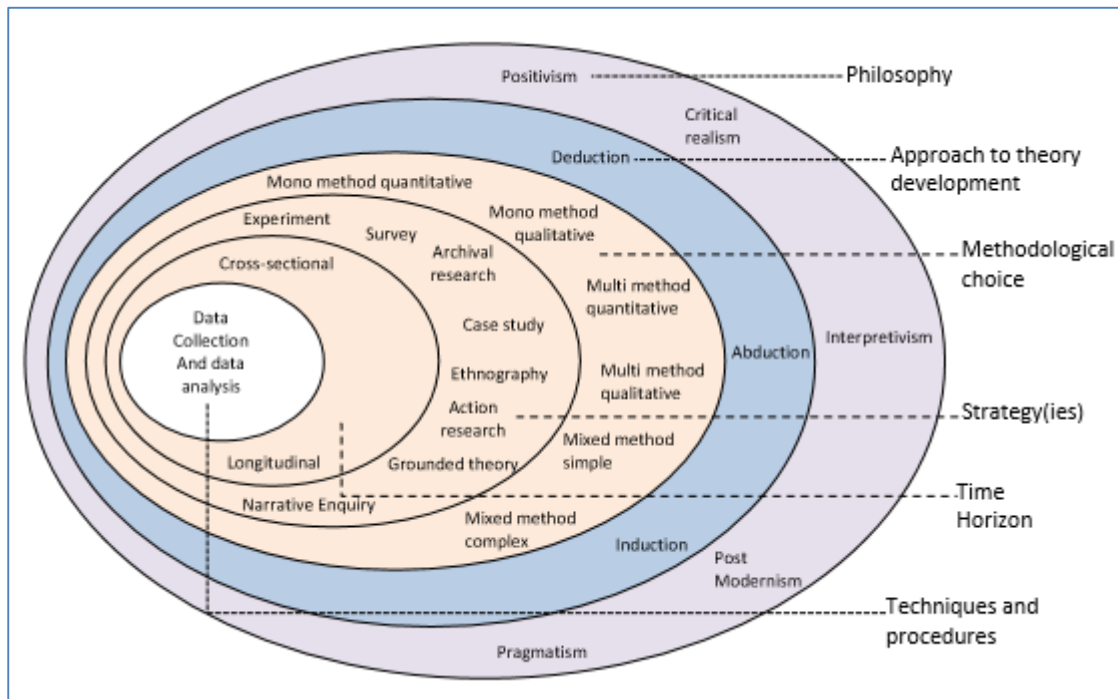
questions, paradigm, and hypotheses. The researcher will discuss the research approach, research design, data collection methods in a clear and critical manner (Booth, 2008). This will further help explain the significance of the objectives of the present chapter.

## 4.2. Philosophical Views of the research and the theory development

Creswell (2007) stated that research approaches are a systematic plan and procedures for conducting research revolving around a broad set of assumptions to a number of data collection methods, analysis, and interpretation. Bernard (2002) further added that research approaches help in signifying decisions to be taken in order to achieve the objectives of the research through the use of effective research design and data collection methods. There is a historical evolution associated with both the approaches (ibid). The quantitative approach dominated the period between late 19<sup>th</sup> century to the mid-20<sup>th</sup> century while there had been an increased interest in qualitative and mixed approaches in the latter half of the 20<sup>th</sup> century (Yin, 2014). Babbie (2010) illustrated three different kinds of research approach; qualitative, quantitative, and mixed methods. Often, several researchers created a distinction between the qualitative and quantitative approach by using words and numbers respectively (Feldman, 2003).

However, other researchers pointed that the distinction should be based on philosophical assumptions (qualitative case studies or quantitative experiments) (Hennink, 2011). The importance of research approaches in conducting any kind of research is well known within the research and academic environment. An ideal research approach helps in selecting appropriate research methods and designs that are useful in garnering key solutions and outcomes of the study in a significant manner (Johnson, 2005). Several researchers believed that a broad research approach is the plan or proposal that involves the logical intersection of research designs, philosophy, and specific methods (Kindon, 2007). In other words, to offer a systematic overview of the research approach, it is important to ascertain and analyse these three important intersections. This will help in analysing the importance of the research approach in a critical, illustrative manner, and will lead to a better understanding (ibid).

The following diagram represents what is known as the research onion as described by Saunders et al (2016): -



**Figure 4.1, The Research Onion (Saunders et al, 2012)**

The following subsections describe aspects of the above diagram.

### **Philosophical Views**

Although, philosophical ideas are mainly hidden in the research field, they affect research practices in a significant manner (Collis and Hussey, 2003). A philosophical view is often considered as a set of beliefs guiding actions (ibid). A number of researchers have considered a philosophical set of ideologies as paradigms, epistemology and ontologies, or simply research methodologies. There are four general philosophical views, in the form of: post positivism, constructivism, transformative, and pragmatism (Johnson 2012). It is important to have fair degree of understanding of these philosophies as they have a significant effect over the research approach.

From the philosophical point of view, post positivism is based on empirical observations and theory verification in contrast to constructivism (interpretivism), which is based on social and historical constructions with theory generation (Yin, 2014). Transformative philosophy is based on collaboration and a power and justice-oriented approach, while pragmatism philosophy is based on identifying problems and the consequences of actions. (Johnson 2012) (Johnson 2005)

### *Selecting Interpretive Research Approach*

For this research, the interpretivist approach is chosen because of the following reasons:

- The research is concerned with public administrators (e-diplomacy) and requires much thought on the complex nature of organisational problems in relation to structure and culture. According to Bendix (1968) and Wood-Harper and Wood (2005), this complexity is brought about by the ambiguity of interrelationships. It also takes into consideration a relational set of connections from several technologies and social contexts. There was therefore a need for a research approach that would give the researcher room to acquire an understanding of the outlooks, experiences, information and processes that are a part of and have major power on e-diplomacy implementation.
- By following an interpretivist approach, the researcher could study the trends of the e-diplomacy from an empirical point, and be able to completely appreciate the problems facing the organisations that were part of the study. The researcher used research instruments that varied from observation and investigation to having one-on-one contacts. These research instruments were important in helping the researcher to investigate e-diplomacy maturity and implementation.
- Since this research is an empirical investigation of public administration units, much complexity surrounds it. This is because the social organisations being researched are multifaceted and their administration and control is in the hands of different administrators thus making the research challenging. The use of an interpretivist approach is idyllic for a maximum appreciation of the execution of e-diplomacy.
- This research is predominantly of a qualitative nature and thus the use of an interpretivist approach is an exceptional epistemological choice for these purposes. It uses observation and personal experience, which are the foundation on which qualitative methods are laid. (Irani, 1999).

### 4.3. Approaches to theory development

By definition, a theory is a supposition or a collection of facts designed to explain something, based on certain principles or a concept that is yet to be explained (Yin, 2014). The use of theory in research is paramount, but the process must be defined by three approaches: deductive, inductive and abductive.

A deductive tactic constitutes the expansion of theories, mainly propositions and testing of the research. As pointed out by Overmars and Verburg (2007), a deductive concept requires the testing of hypotheses by matching the relationship between an existing theory and a future knowledge, after which, data may be examined to come up with either a positive or a negative result (Schutt, 2006) (Collis and Hussey, 2003). An inductive approach involves research that commenced with data collection to investigate an event to get to the root of a problem and then use the idea to establish a theory in the form of a conceptual framework (Cavaye, 1996). Therefore, an argument may become the possible result of a study (Cheong, Hallihan and Shu, 2014). Finally, an abductive approach is characterised by a collection of data to explore a phenomenon, ascertain subjects and clarify the existence of certain patterns in the research. According to Bryman (2015), the abduction approach employs the back-and-forth technique by combining both inductive and deductive approaches, whereby data is transferred to theory and vice versa (Bryman 2015).

This research will apply the inductive approach. Inductive research usually starts out with a more specific idea, typically addressing a specific problem. This idea is then compared to specific theories. Any comparison between the idea and the theories may lead researchers to come up with hypotheses that look deeper into the problem or question that is being addressed. Exploring such an idea and comparing it to specific theories may end with a conceptual model being developed. (Cavaye, 1996) (Trochim, 2001). Inductive approaches are normally used in data collection and in the development of a theory by analysing that same data (Saunders et al., 2003). An inductive approach has been used by the researcher in this study to empirically investigate the stage of maturity of e-diplomacy and the factors that impact its implementation that have been proposed in the conceptual model in Chapter 3. This is by applying an appropriate validation method set out above and then the model is reconceptualised.

#### 4.4. Methodological choice

Booth, et al (2008) believe research designs are based on the inquiry within the qualitative, quantitative and mixed methods which provide specific directions for using research designs in an effective manner. Creswell (2007) stated that the quantitative design includes true experiments with applied behavioural analysis and single subject experiments. Non-experimental quantitative research is based on causal-comparative research, in which two or more groups are compared, based on an analysis of the dependent and independent variables (ibid).

Qualitative design involves narrative research, based on the illustrative studies of certain events and phenomena (Flick, 2009). Phenomenological design is also a preferred design of inquiry, where the lived experiences of people are analysed. (Galliers and Huang, 2012). This design is based on philosophical underpinnings involving interviews. (Johnson 2012)

In order to assess the benefits and challenges of these research methods, it is important to compare qualitative and quantitative methods. This will help in assessing and analysing the usefulness and benefits of these methods along with challenges. The table below shows the comparisons: -

QUALITATIVE METHOD	QUANTITATIVE METHOD
Emerging Method	Pre-determined method
Open ended questions	Close-ended, instrument-based questions
Interview data, observational data, document and audio-visual data	Performance data, observational data, and census data
Text and image analysis	Statistical analysis
Theme and pattern interpretation	Statistical interpretation of data
Facts are value laded and biased	Facts are value free and unbiased
Reasoning is inductive	Reasoning is deductive and logical
Discovery, understanding, sharing, and interpretation	Reduction, control, and precision
Subjective and Interpretative	Objective and measurable

**Table 4.1, Comparing research methods**

Based on the above information, it is important to compare both these methods in a critical manner. Qualitative method is an emerging method based on open ended questions using interview data and observational data to seek relevant findings (Yin, 2013). On the other hand, the quantitative method is based on pre-determined method using close ended questions supported by observational and

census data offering statistical results and outcomes (ibid). These results are often specific in nature offering clear set of information over the subject matter. Furthermore, the quantitative analysis is based on the use of statistical tools and analysis. (Johnson 2005). Qualitative data analysis is an ongoing interplay between theory and analysis seeking different patterns and links between variables. Furthermore, qualitative data analysis is subjective in nature, highlighting the fact that it is the static realities that are ascertained and underpinned in the hope of developing universal laws (Myers, 2009). In contrast, quantitative analysis is based on deductive reasoning and logic, offering value-free facts that are often unbiased in nature (Yin, 2014). Quantitative data can be further measured and analysed according to the scientific and statistical tools, offering a clear and precise set of information in a more defined and succinct manner (Saunders et al, 2016). A number of researchers considering the usefulness and relevance of these methods stated that the most appropriate methods should be selected after an assessment and analysis of the research topic and of the specific environment in which the research needs to be conducted. (Johnson 2012).

There are several reasons as to why the qualitative approach works best for this thesis:

- Core research questions make use of the word 'what', which is best answered by qualitative methods and not quantitative methods (Yin, 2014).
- Qualitative research is more suitable when applied in environments that need more exploration (Creswell, 1998). The use of qualitative research is also apposite in areas where the agenda for the research is still blossoming and research pieces and ideas that can be used as a comparison are limited.
- Qualitative research is more appropriate where the research is one in-depth study, instead of research components that are of a more abstract nature (Dyer and Wilkins, 1991).
- Lastly, the impartiality of qualitative research is not contested. The researcher in this case has therefore embraced the role of participant-observer, or observant participant (Myers, 2009). For that reason, a qualitative analysis was the most suitable approach that could be adopted for this research. The main data gathering tools for this research included a face to face approach which went hand in hand with interviews.



#### 4.5. Using Case Studies as a research strategy

According to Bishop (1999), case studies are an important element of social science research. In order to carry out research, it supported from some case studies or use-case studies are needed as a point of reference. The author describes case studies as a descriptive and explanatory analysis of a particular case (ibid). According to Thomas (2011), case studies are analyses of persons, or of any particular and important event, detailed discussion and analysis of a person, time period, project, or it could also be a detailed analysis of policies or institutions which have historical significance. Case studies form one of the most important components of a research paper and supports the paper with relevant examples (Benbasat et al., 1987). Case studies for a paper can also help by illustrating examples which could corroborate views and opinions which the researcher is trying to establish. (Best, 2004). However, it is also very important to check the validity of the case studies used (Yin, 2013). If a case study used is found to have negligible to no relevance for a particular paper then it could cause havoc for the paper and the entire purpose of the research. (Thomas, 2011)

##### *Types of case studies*

According to Leedy and Ormond (2005) the number of case studies depends upon the nature of the research paper and is dictated by the subject of the paper. The first type of case study is the explanatory case study, which explore and describe the phenomena through examination. At the same time, the explanatory case study is used to explain causal relationships which helps to further develop a relative theory (Yin, 2014), and strengthen the theoretical base of the paper. The author mentions exploratory case study second, (ibid). Exploratory case studies investigate distinct phenomena for which the required preliminary research has not been undertaken, and for which a developed hypothesis could be tested, or a specific research environment which limits the choice of methodology (Berg, 2004). Thirdly, there are multiple case studies. This type of case study makes it suitable for the researcher to explore the differences between and within cases with the intention of replicating the findings across different cases. (Leedy and Ormond, 2005)

The fourth type of case study is the intrinsic case study. In this form of case study, the case itself is the prime interest of the researcher in his/her explorations,

investigations and research (Benbasat et al, 1987). The entire process of research is driven by the desire of the researcher to know more about the case and its uniqueness, rather than by the desire to develop theories and explain how the case represents other cases (Yin, 2013). The fifth form of case study is the instrumental case study. This particular case study is used to provide an insight into a particular issue, draw generalisations or build associated theories (ibid). Lastly, collective case studies are those which aim to study more than one case at a time. They may be conducted at one particular site where different departments and their respective units could be examined. (Leedy and Ormond, 2005)

Benbasat et al. (1987) give the following reasons why case studies are more convenient for IS research:

- It is easier to generate a theory by studying the natural settings of phenomena, as is the case with case studies.
- Case studies try to explain the “how” and “why” of a research and can therefore generate an understanding of the nature and intricacy of a problem.
- Case studies are apposite for research in areas where little or no research has been done, for example, on developing countries” problems.

The case studies used in this research can be classified as exploratory because:

- By carrying out an exploratory case study, the researcher is able to identify the problem, propose a new model, and obtain an understanding of the challenges of e-diplomacy.
- Exploratory case studies look to answer the question “what”, which was relevant in this study to help identify the factors that influence e-diplomacy implementation.

In deciding between adopting a single or multiple case-study approach, the decision largely depends on the question or research topic being addressed (Yin, 2014). Yin (2014) said “*the same study may contain more than a single case. When this occurs, the study has used a multiple-case design, and such designs have increased in frequency in recent years.*” This research will be based on multiple case studies (three case studies, i.e. the foreign ministries of the US, the UK and the state of Qatar).

As illustrated in Chapter 1, the US and the UK are leaders in both e-diplomacy practice and academic research. According to Al-muftah (2016) “*most of the e-diplomacy research was done in North America and Europe (particularly in the US and the UK) with a few conducted in Asia, Far and Middle East*”. The office of e-diplomacy was founded in the US of State in the year 2003. The UK is ranked second after the US in its use of advanced tools for public diplomacy. (Digital strategy of the FCO, 2012). The choice of the state of Qatar can be viewed as an example of an emerging economy. In addition, the Qatari government was among the first to implement e-government. In addition, the MOFAQ developed a standard model for the region to be applied to e-transformation and optimising the use of electronic networks. In its 2008-2010 ICT plan, the Ministry deployed many projects that contributed to achieving e-diplomacy. Therefore, the researcher believes that the use of these three cases strongly supports the theoretical framework.

Benbasat et al. (1987) and Yin (2006) suggest it is possible for a single case to be followed by a multiple case study. Furthermore, multiple case studies have been described by many researchers, including Yin (2014) and Bayman and Bell (2007), as a widespread way of comparing different aspects of two or more case studies.

The following are some reasons of why multiple case studies have been deployed in this research:

- As mentioned earlier, e-diplomacy is a mature field which needs many cases to support its theoretical aspects. Generally, multiple case studies provide the researchers with the freedom to compare and contrast the findings of one case to another, to conduct cross-cases analyses that identify understandings that may be both unique and common to the situation at hand, and to empirically assess phenomena (Bayman and Bell, 2007).
- According to Herriott and Firestone (1983), the evidence from multiple cases is often more compelling and the study becomes more robust.
- Selecting the multiple cases raises new sets of questions as well as a variety of empirical findings that can support the theoretical and the conceptual assumption (Yin, 2014). In general, the single case study has been criticised as providing a single set of unique findings rather than generalised findings (ibid).

Additionally, Yin (2013) has identified six sources of data for case study researchers: documentation, archival records, direct observation, interviews, participant observation and physical artefacts. This research will deploy the face-to-face interview as a tool for collecting the case studies evidence for two main reasons (Yin, 2016):

- The interview process is targeted. It focuses directly on the case study topic.
- The interview process is insightful. It provides explanations as well as personal views of the participants.

The following sections describe the interview process adopted in this study.

#### 4.6. Using Interviews as a tool for the case study

Clough (2002) stated that the interview is a managed verbal exchange of words and thoughts often insights over the beliefs and emotions of individuals. The effectiveness of interviews is totally dependent on the effective communication of interviewers. Cohen (2007) believed that questions play an important and crucial role in determining the purpose and significance of interviews. Furthermore, it is very important to have interpersonal skills such as the ability to establish a rapport along with attracting the interest of participants. Cresswell (2007) added that any particular interview can be located on a scale between structured and unstructured. Unstructured interviews are often based on observations whilst structured interviews are characterised by the use of close-ended questions, based on the views and opinions of others. Clough (2002) further added that the purposeful meaning of interviews is based on relevant conversations in which one person (interviewer) asks questions that are answered by others (respondents). As stated above, interviews may be thought of as primarily categorised between the structured (close ended questionnaires) or unstructured (open-ended questionnaires).

Babbie (2010) stated that open-ended or unstructured interviews are informal interviews whose questions are not structured. Open-ended or unstructured questions are not limited by any rules and questions can be asked in any series. Furthermore, interviewers can use questions according to their wishes and interests (Yin, 2014). Open-ended questions also allow interviewers to probe more deeply to obtain more information over several different questions. Fink (2006) believed that the richness of data and information is entirely dependent on interviewers and their

skills. An open-ended and unstructured design offers the liberty to seek more information than might otherwise be expected, resulting in a better set of information (ibid). However, this requires great interpersonal skills in terms of enhancing the overall level of communication, as well as a compassionate and amicable personality (Yin, 2014).

Ritchie (2003) further stated that closed or structured interviews offer wide arrays of answers to each question known in advance. Furthermore, possible answers are clearly stated so that interviewees can simply select from the available set of answers. This approach is pretty organised and systematic in nature, offering little freedom for flexibility mainly because of the fixed list of answers. Each individual is offered same set of questions and answers that makes analysis simple but mitigates the scope of new findings and results (ibid). Fink (2006) stated that there is little room for anticipated discoveries where people may feel that their responses do not fit into any category. On the basis of this discussion, it can be said that the significance of structured and unstructured interviews is totally based on the nature and scope of the research that needs to be ascertained by the researchers only (Yin 1994, 2006).

#### 4.7. The Research case study process: Using interviews as a tool

As discussed in Chapter 1, most current studies of e-diplomacy employ a qualitative approach methodology, based on case studies and interviews. The literature review showed that a majority of e-government researchers apply a qualitative methodology when it comes to implementation issues.

From Poepelbuss's e-government maturity literature analysis in 2011, it was clear that thirty-nine papers applied empirical methods; seventeen papers were purely conceptual while nineteen articles combined both empirical and conceptual concepts. For instance, the qualitative case study augmented the design of the conceptual maturity model. The other fifty-eight empirical papers used both qualitative and quantitative methods with qualitative concentrating on case studies, but with limited expert interviews and few action research studies. In contrast, the quantitative studies mainly applied research methodologies that included surveys. Several studies also used conceptual that involving literature reviews.

It should be noted that a significant relationship between stages of growth and conceptual concepts (Solli-Sæther and Gottschalk, 2010). However, according to

Poeppelbuss (2011), the underlying relationship applies particularly to the development of new maturity models. The Poeppelbuss (2011) findings indicated a number of conceptual works that are complemented by empirical principles or elements. Notably, he mainly used case studies to prove concepts in his work. Similarly, this study aims at adopting a conceptualized research approach; it too employs a literature review together with maturity-model comparisons (shown in chapter 3) supported by case studies (discussed in this chapter). In this respect, this research will be conducted and validated through a qualitative research method, as described by Walsham (1995).

The researcher chose qualitative design approach initially because it incorporates a valid and in-depth data process which leads to an in-depth understanding of the results and outcomes, whereas a quantitative design focusses on the generalisation of data to determine the cause-and-effect relationship in a statistical and analytical manner (Johnson, 2015). Seidman (2006) stated that there are two basic kinds of interviews that can be used to collect data. These are the personal/intensive interview and the group interview. Personal interviews are used in this research. These interviews last for hours and focus on open ended questions. Respondents are free to share their views and opinions freely. Questions are not arranged in any series and answers are very much dependent on the nature and knowledge of respondents (Yin, 2013). The interview approach is mainly flexible, which allows a great amount of freedom to interviewees and interviewers (ibid). Information is often gained without directly asking for it but requires a considerable amount of time. The time-consuming nature of this approach means that it can be costly, and that can affect the overall research purpose (Collis and Hussey, 2003). Furthermore, results cannot be generalised if the scale of the interview is large and extensive. Nevertheless, this kind of interview approach is widely used in social and business research (ibid).

The overall qualitative research section comprised the pilot and main phases. The first phase (pilot phase) involves a qualitative approach in which the researcher uses simple personal interview-based cases. On the other hand, the second phase (main phase) employs a semi-structured interview. In semi-structured interview style, some key questions can be omitted while others can be added depending on the nature of the flow of the interview. (Saunders, Lewis & Thornhill, 2016)

The aim of pilot study is to contextualise the framework with senior level people in order to understand whether the proposed framework actually makes sense when applied to the field of e-diplomacy, to better understand the high-level issues that are faced, and how this kind of maturity framework fits within the diplomatic context. The main reason for conducting these pilot interviews is the lack of theory concerning the implementation and maturity of e-diplomacy. By doing so, a significant research gap can be filled.

The two-fold aim of the main interviews is (i) to validate and understand the implementation and challenges of e-diplomacy in more depth by speaking to practitioners and operational-level staff and (ii) to check the validity and originality of the proposed framework.

Details of these two phases are discussed in the two sub-sections below.

#### **4.7.1. Phase 1: Pilot Study**

Yin (2016:96) mentions that “*a pilot case study will help you to refine our data collection plans with respect to both the content of the data and the procedures to be followed*”. As mentioned previously, the purpose of the pilot interviews (shown in appendix A) is to explore the professional opinions of selected professionals on the use of ICT in diplomatic services. Moreover, the practical information gathered from the interviewees aimed to help contextualise the conceptual framework and to explore the practice of e-diplomacy. The aim of the pilot interviews was to explore the participants’ thoughts on the essential components of the proposed e-diplomacy framework discussed in Chapter 3.

The interview contains the following:

- 1- A general overview of the study and the following aims:
  - A definition of e-diplomacy’s (digital diplomacy)
  - An explanation of how ICT tools could be used within diplomatic functions
  
- 2- General questions such as the following:
  - ICT usage within the interviewee’s department
  - The interviewee’s thoughts about the proposed stages of the e-diplomacy maturity model

- The interviewee’s opinions about some of the factors and challenges that may impact the implementation and diffusion of e-diplomacy.

Six participants, were considered in this phase that are illustrated in Table 4.2 below.

PLACE	INTERVIEWS
The Ministry of Foreign Affairs of Qatar	<ul style="list-style-type: none"> <li>• Senior staff at the information technology department (QA)</li> <li>• Senior staff at the telecommunication and network unit (part of the IT department) (QB)</li> <li>• Senior staff at the information department (QC)</li> </ul>
The American Embassy in Qatar	<ul style="list-style-type: none"> <li>• Senior staff at the press attaché’s office (USAA)</li> <li>• Senior staff at the press attaché’s office (USAB)</li> </ul>
The British Embassy in Qatar	<ul style="list-style-type: none"> <li>• Senior staff at the digital outreach department (UKA)</li> </ul>

**Table 4.2, Pilot study participants**

During the interview, a discussion of the proposed stages in the e-diplomacy maturity framework was held and all interviewees offered feedback on the proposed stages. Several outcomes became apparent after the pilot stage interviews had been conducted, which are outlined in Chapter 5.

These outcomes were used to formulated the next phase of the empirical research as outlined in the next section.

#### 4.7.2. Phase 2: Case studies

The purpose of the second-phase interview (shown in appendix D) is to explore in depth the opinions of selected professionals on the use and implementation of ICT in diplomatic services, as well as the factors affecting the implementation of e-diplomacy. Detailed questions will be asked to help validate the research conjectures (C1-C9) shown in chapter 3. Certain sets of questions have been raised to validate these conjectures (Look at appendix D). Each interview will contain the following questions articulated from the themes of the conceptual framework discussed in chapter 3:

1. Interview Guide:

- Give participants an overview of the study and its aims
- Define e-diplomacy (digital diplomacy)
- Explain the uses of ICT in diplomatic functions

2. General interviewee information:



Name, age, education, contact, etc.

3. Questions about the benefits and implementation of ICT tools in diplomacy:
  - How ICT can contribute to the facilitation of diplomacy functions?
  - The use of e-diplomacy within the interviewee's workplace.
  - E-diplomacy strategy within the interviewee's organisation
4. Stages and uses of ICT within diplomatic functions (C1-C4):
  - General questions about the stage of ICT implementation (e-diplomacy maturity)
  - Identifying intra-organisational digital capabilities within the interviewees' organisations (C1)
  - How to achieve ubiquitous access stage (C2)
  - Interactions with the citizens and public (C3)
  - Questions about collaborative digital diplomacy (C4)
5. Questions about potential factors and challenges influencing the implementation of e-diplomacy and its diffusion, such as (C5-C9):
  - Hierarchy and organisational factors (C5)
  - Privacy and confidentiality (C6)
  - Nature of communication (C7)
  - Socio-Cultural Norms (C8)
  - Political, legal, and economic (C9)
6. Closing Questions

Three countries were chosen to conduct the secondary interviews: the US, the UK and the state of Qatar. Many participants, were considered in this phase. The cases and the interviewees are illustrated in Table 4.3 below.

CASES	INTERVIEWS
The Ministry of Foreign Affairs of Qatar (MOFAQ)	<ul style="list-style-type: none"> <li>• A Senior Qatari ambassador (Q1)</li> <li>• A public diplomacy officer at the Qatari embassy in London (Q2)</li> <li>• An Ambassador and a former ICT manager (Q3)</li> <li>• A senior IT staffer at the Qatari embassy in London (Q4)</li> <li>• A senior diplomat and a former IT staffer (Q5)</li> </ul>
USA	<ul style="list-style-type: none"> <li>• A senior manager in the e-diplomacy office, US State dept (US1)</li> <li>• A senior diplomat and IT professional at US embassy in London (US2)</li> </ul>
UK	<ul style="list-style-type: none"> <li>• A senior staffer at the Digital Outreach Dept, FCO, UK (UK1)</li> <li>• A senior manager at the Digital Outreach Dept, FCO, UK (UK2)</li> </ul>

### **Table 4.3, Main interview participants**

The interviewees were selected carefully based on their experience and involvement with e-diplomacy in their respective foreign missions. The data collection process started with the US embassy (as the leading country for e-diplomacy) by interviewing two key officials and moved on to the UK FCO to repeat the process. Finally, the interviewees from the MOFAQ was consulted as the emerging country in the use of e-diplomacy. Similar to the US and the UK, the process started by consulting two senior officials who were involved in e-diplomacy implementation in Qatar (Q2 and Q4). However, with a view of eliminating any bias from the interviewees at MOFAQ (as e-diplomacy is relatively new to Qatar), two former senior diplomats and a current ambassador was interviewed. This allowed to triangulate the key issues uncovered across the three countries.

For both phases of the interviews, the researcher began the interviews by submitting two forms to the respondents: the consent form (shown in Appendix B) and the participant information sheet (shown in Appendix C). These forms contained information about the research aims, risks, benefits and future directions. The researcher then informed the interviewees that any information gathered will be treated in strict confidence and shall only be used for this research. To obtain ethical approval for the data collection methods and the mode of collection, the interview protocol was submitted and approved by the standard university process in which the author considered many factors to ensure the data collection process was not contaminated by data bias. As part of the research design, an approach similar to that used by Molla et al. (2006) was used for data collection, analysis and checking while conducting the initial exploratory research.

Finally, the researcher presented an overview of the research and began to ask the questions. The interviews were conducted through two-way dialogue and in an open-communication atmosphere. The researcher requested a signed permission from all interviewees to allow the use of a tape recorder. Each interview took approximately one hour, and the interviews were conducted at the interviewees' offices, where a quiet environment was guaranteed.

Names of individuals involved will not be identified in any work that is published and their personal information will remain strictly anonymous. If the names

of specific organisations are identified, then permission will be sought from the authorised person(s) from those organisations. The data collected will be treated in the strictest of confidence and will be stored securely.

#### **4.7.3. Case study Validity and data bias**

During interviews, the researcher tried to ensure, as Sarantakos (2005) recommends, that the results obtained were bore credible and transferable as this makes it easier for researchers to produce findings that are in agreement with theoretical or conceptual values discussed in the literature (Sarantakos, 2005). One of the main concerns in undertaking this research was to gather and collect data that could reasonably be applied to obtain an understanding of facts and issues gleaned from case studies (Irani et al., 2005). For more than five hours, the researcher conducted interviews and ensured that the data collected answered the research questions, in terms of the various factors impacting e-diplomacy maturity and implementation. This meant the aims of the first and second phases were achieved.

Because the research used interview a tool, it tended to have some interview bias. Interview bias in a research is the tendency of the researcher to become the unprejudiced and partial in the consideration of research question. Interview bias can be affected by myriad of factors which includes impression on the respondent, commonality with the respondent, attractiveness of the respondent and preconceived belief about the research at hand (Pan and Tan, 2011)..

Some of interview bias can be shown as below (Common Interviewing Biases, 2017):-

- Confirmation bias, where the researcher already has a preconceived notion about the research and uses the respondent's reply or information to confirm such preconceived notion. The researcher managed confirmation bias by adopting an open mind about the subject of inquiry and taking into account all the information and replies provided by respondents including those who do not fit the belief of the researcher.
- Question-order bias which occure by priming the respondent with the words used in the questions that would influence their answers and attitudes towards the succeeding questions. Question-order was avoided and overcome by using random questions that are unrelated in the succeeding questions.

- Halo effect which is the tendency of the researcher to see the respondents in a positive light because of a certain characteristic or impression that makes the respondent look favourable to the researcher. Or, the respondent has provided some response that sound favourable to the researcher which affected the researcher's attitude towards the respondent. The halo effect was overcome by reflecting on each question that they will ask to make sure that it is not motivated by his or her impression of the respondent. In qualitative research where it would rely heavily on interviews, researcher can minimize the halo effect by knowing the information needed in the research and asking quality questions at the right time (Cresswell, 2007).

Two additional validation techniques helped to overcome interview bias and to establish the quality of the research: triangulation and participant validation (Saunders, Lewia & Thornhill, 2016). Participant validation involves sending research data back to participants to allow them to confirm the accuracy of the data. Employing the use of interviews and documentary sources provides an indication that there is a need to conduct internal validity and to address the same process. A recording and transcription of each interview was performed. These were to enable the interviewer to undertake an inspection and resolve any discrepancies that arose and help eliminate any interview bias (Irani et al., 2005). The entire amount of gathered evidence was subject to inspection by the researcher as a measure of guaranteeing that both primary and secondary data were subjected to collection in a manner that conforms with similar issues and facts (Jick, 1979) ( Irani et al., 2005).

A triangulation validation technique was also considered in this research. It involves the use of more than one source of data and one method of collection to confirm the validity, credibility and authenticity of the research, such as employing a multi-method qualitative study, a multi-method quantitative study or a mixed method. (Saunders, Lewia & Thornhill, 2016). In this research, to achieve the validity and credibility of the research data, a multi method qualitative study is deployed, as mentioned in section 4.6 earlier.

#### 4.7.4. Output format

Yin (2013) argues that when performing the collection of the production format for the case study, the researcher needs to focus on the interviewees. The researcher thus goes ahead to present an empirical data analysis and decides the format of the output of the empirical results. (these details are presented in chapter 5)

#### 4.7.5. Finalising the data collection process

According to Hartley (2004), after one has collected sufficient data, one has to leave. Additionally, Glaser & Strauss (1967) note that one can reach a saturation point when conducting research at the time that one thinks that everything is complete, and a feeling may develop that less information will be obtained by continuing (Glaser and Strauss, 1967).

The researcher was responsible for spending the maximum time as possible until a point of satisfaction was reached, which found answers to all research questions related to e-diplomacy maturity, as part of the process of achieving the objective of the study.

Upon shifting attention to data analysis, Yin (2013) argues that investigators in most cases do search for formulas, recipes, or even for tools (such as Atlas and NVivo) with the hope that familiarity with these devices would produce the required analytic results. However, Yin (2013) goes on to warn that even though these tools may be of use and significant, they will still be unable to perform data analysis without help from human interaction and consideration. Perhaps even more importantly, these tools would be of no use on occasions when words and verbal reports are the representations of verbatim records and part of the case study evidence, or on in cases of collecting extensive data.

Throughout this research, the strategy employed in conducting the analysis of data was to follow a traditional technique without using any computerised tools. The researcher also had to develop an individual style or rigorous form of empirical thinking, giving weight to considerations of the evidence gathered and of alternative

interpretations, while at the same time developing an effective analytical strategy. The author chose to follow a strategy that helped treat the evidence fairly, and also applied this to the production of compelling analytic conclusions, at the same time ruling out alternate interpretations (Yin, 2013). Through this platform, the overall approach to data analysis was to follow a thematic analysis process. The process is particularly concerned with the manner of encoding qualitative information to identify a specific theme with the information; i.e. to try to determine whether some form of arrangement within the information would be of value to the research area (Boyatzis, 1998).

#### 4.8 ISM Modelling

A solution integration strategy founded on ISM (Interpretive Structural Modelling) for determining factors impacting e-diplomacy will be outlined after all the interviews have been conducted to establish these factors. The correlations between these factors is explored using the ISM technique. The details of the process and the results are presented in Chapter 7.

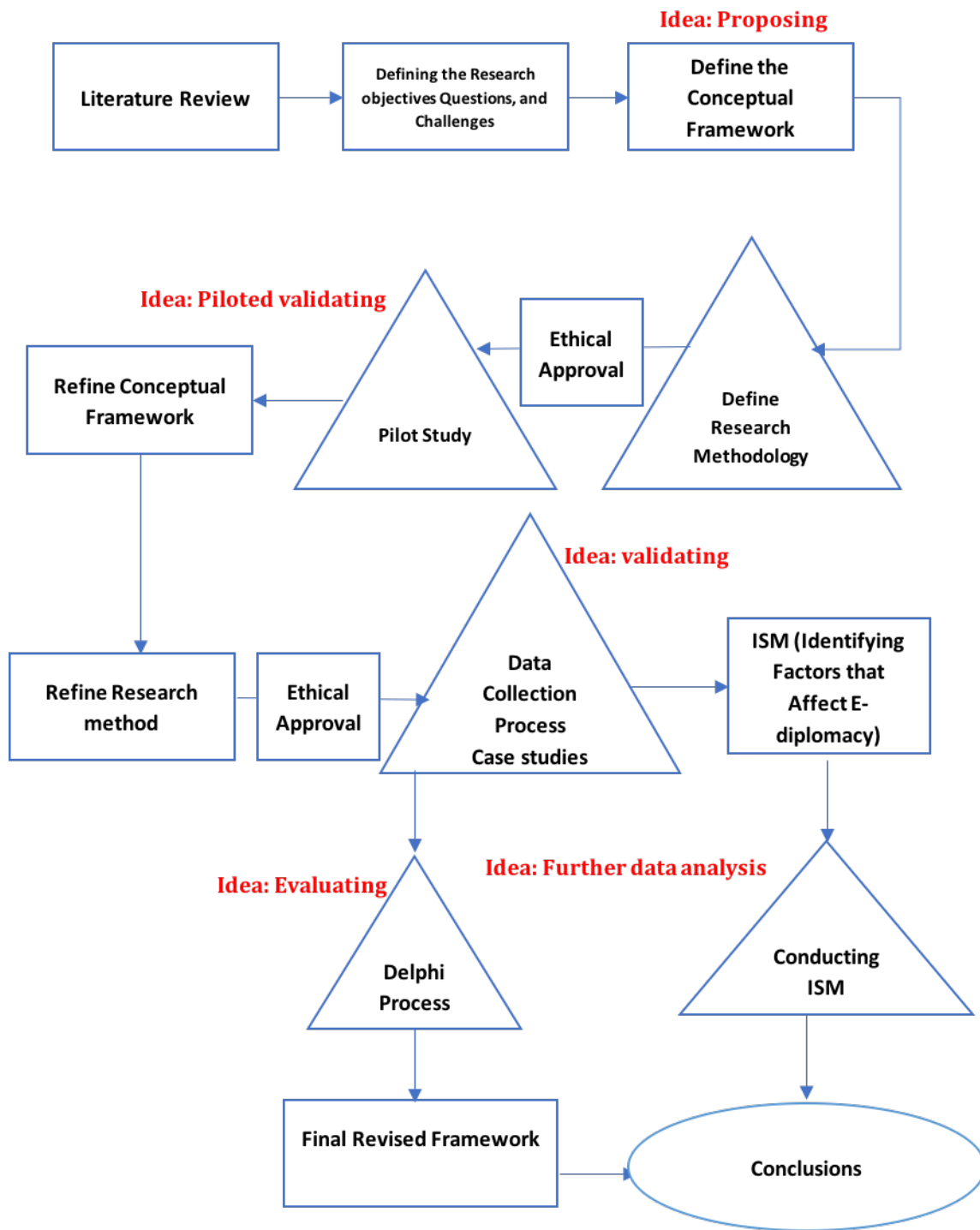
#### 4.9. Evaluating the Framework- using Delphi process

The Delphi method is often used as a suitable problem-solving method, based on experts' opinions. The Delphi method can therefore be defined as a process that is often used for scientific research, where the sample population are the experts on the particular field (Avella, 2016) (Mengual-Andrés *et.al.*, 2016) (Guzys *et.al.*, 2015) (Willis, 2008). Based on the application of this method in different research undertaken in the past decades, it is evident that the process is largely effective in extracting specific information on the subject area from different perspectives represented by the group of experts. (Hanafin, 2004). In this research, the researcher aims to use the Delphi technique in order to evaluate the proposed framework and to overcome any interview bias . The Delphi process protocol as well as the results of the evaluation are presented in chapter 8.

#### 4.10 Conclusion: The overall research strategy and design

Figure 4.2 below outlines the overall strategy adopted by this research. As mentioned previously and shown in the figure, the overall research philosophy follows interpretivism with inductive approach. This approach comprises both

conceptual research, (which consists of a literature review of diplomacy, e-diplomacy, comparing and contrasting both stage-of-growth models and e-government models, as well as the factors affect the implementation of e-diplomacy), and empirical research (in the form of multiple case studies that are supported by interviews and focus groups methodology). Additionally, figure 4.2 outlines how the overall research passed through interlinked stages, i.e.: proposing, pilot validation, validation and evaluation.



**Figure 4.2, The research design**

The table below summarises the overall research approach: -



APPROACH	TYPE OF APPROACH	RESEARCH APPROACH	JUSTIFICATIONS FOR THE DECISION
Stances Philosophy	Critical, interpretivism, positivism, post- positivism	Interpretivism	Need to understand: <ul style="list-style-type: none"> <li>- the effects of ICT on the organisational contexts of foreign ministries from the participants' points of view, especially when implementing digital diplomacy,</li> <li>- key factors that influence digital diplomacy implementation</li> <li>- stages of maturity in the implementation and diffusion of digital diplomacy</li> </ul>
Approach to theory developments	Deduction, Abduction, Induction	Induction	An inductive approach has been used by the researcher in this study which allow empirically examining the stage of maturity of e-diplomacy and the factors that impact its implementations.
Research Methods	Quantitative, qualitative, mix	Qualitative	<ul style="list-style-type: none"> <li>- The research focuses on challenges that impact the implementation and stages of maturity in the implementation of e-diplomacy, in which individual experiences require investigation.</li> <li>- Qualitative method allows exploring an area that has been little researched.</li> <li>- The significant research gap in the field of e-diplomacy, makes qualitative methods are suitable in this research case as it allows detailed exploration of the phenomenon .</li> </ul>

Strategies	Case study, grounded theory, ethnography, etc...	Case study	<ul style="list-style-type: none"> <li>- Few studies have explored the effect of ICT on diplomacy and e-diplomacy in general (i.e. there is a research gap).</li> <li>- The case study is an important area of a research paper which supports the paper with examples of relevance. Case studies for a paper also help illustrate the views and opinions which the researcher is trying to establish</li> <li>- The case study allows the researcher to understand contexts in-depth of the technical and organisational challenges faces e-diplomacy in a natural setting thus exploring and answering the research questions.</li> </ul>
	Single or multiple	Multiple	It enables the researcher to crosscheck and examine research findings through analysis of data across different foreign ministries and different countries (e.g. US, UK and Qatar)
Collecting case study evidence	Documentation, archival records, direct observation, interviews, participant observation and physical artefacts	Interviews	<p>The interview process is targeted. It focusses directly on the case study topic.</p> <p>The interview process is insightful. It provides explanations as well as personal views of the participants.</p>
Other methodology approaches used to enhance research findings (Data analysis)		ISM	<p>“Interpretive structural modelling (ISM) is a well-established methodology for identifying relationships among specific items, which define a problem or an issue. This approach has been increasingly used by various researchers to represent the interrelationships among various elements related to the issue” (Attri, Dev &amp; Sharma 2013, p.3). Therefore, it is used in this research to define variables that impact e-diplomacy implementation and to establish relationships among them.</p>

Evaluation method		Delphi process	“ The Delphi method has proven a popular tool in information systems research for identifying and prioritising issues for managerial decision-making”( Okoli and Pawlowski, 2004, P. 15-29). Thus this method was chosen to be used to evaluate the framework.
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**Table 4.4, The research approach**

The next chapters, 5,6,7 the pilot study, the case studies, the ISM process and the Delphi process are shown in detail.

# Chapter 5: Presenting the findings of the pilot interviews - Data theory

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## **Abstract**

The previous chapter discussed the research approach and methodology. As mentioned in the previous chapter, the interviews are conducted in two phases, pilot and main. This chapter presents the findings of the pilot interviews and illustrates how these findings contribute to the second phase interviews which will be presented in chapter 6

## Chapter 5: Findings

### 5.1. Introduction

The conceptual framework formulated in chapter 3 provided a frame of reference for undertaking the pilot study, and offered key themes to explore in practice - motivation of e-diplomacy, stages of e-diplomacy maturity, and factors that impact e-diplomacy, such as the security, organisational, political and legal issues.

To contextualize and explore the practical issues in formulating the conceptual e-diplomacy framework, pilot interviews were undertaken with the key people responsible for ICT implementation and digital outreach at (a) the Ministry Of Foreign Affairs of Qatar (MOFAQ), (b) the embassy of the USA in Qatar, and (c) the embassy of the United Kingdom in Qatar. These key people include a senior manager from the ICT department at MOFAQ (QA) , a senior manager in the network unit at MOFAQ (QB), a senior manager from the media and information department at MOFAQ (QC), a senior manager in the press attaché at the US embassy in Qatar (USAA), a junior manager in the press attaché at the US embassy in Qatar (USAB), and a senior manager from the digital outreach department at the embassy of the UK in Qatar (UKA).

This chapter aims to answer the following three key questions: a) what are the motivations of ICT in diplomacy; b) what are the stages of development and maturity of ICT implementation within the context of diplomacy; c) what factors might impact e-diplomacy implementation. The answers to these questions are expected to support the proposed conceptual framework (see chapter 3) and draw propositions and focused questions for conducting the second phase in-depth interviews.

### 5.2. Motivations of e-diplomacy

The literature review in chapter 2 suggests that ICT adds ICT enables diplomats to carry out their functions effectively. Advanced countries like USA have established the IRM office of e-diplomacy, which ensures the effective utilization of ICT tools to assist diplomats in their tasks. Others countries like the UK recognize a digital diplomacy strategy that guides diplomats and officials to use ICT tools like social media (Digital Strategy of the FCO, 2012). The MOFAQ has recently allocated many resources to implement new ICT projects. One of the most advanced projects is about

electronically connecting the diplomatic missions abroad to the MOFA headquarters (ICTQ, 2016). The first question for all interviewees from Qatar, US, and the UK was - how can ICT contribute towards enhancing the functions of diplomacy within their departments? All interviewees agreed that ICT could improve diplomacy. For example, QC from MOFAQ mentioned: *“I think ICT can enhance the function of diplomats only if security is provided and the team is well trained”* Also, QB said *“of course ICT can enhance the function of diplomats, as we need to keep up with the advancement in technology in a fast and efficient way. We do utilize ICT at a percentage of 60 – 70%, and we are aiming to reach 90-95% utilization by the end of 2017.”* In addition, the senior manager of the ICT department at the Qatari foreign ministry commented that they understand that ICT can add great values to diplomat tasks, and they are working very hard in the IT department to accomplish more IT projects. The three of them also mentioned that many new projects are in progress, and they are aiming at achieving diplomatic excellence through full utilization of ICT at the foreign ministry.

From the American embassy in Qatar, both participants mentioned that the US department of state is taking e-diplomacy to new levels to enhance traditional forms of diplomacy, and the US embassy in Qatar is a great example of that. They also said, *“We very much use ICT to promote our foreign policy objectives, especially in Qatar, where the Internet penetration rate is very high”*

Finally, the senior staff in the outreach department at the embassy of the UK in Qatar commented, *“ICT can enhance the function of diplomacy in this modern age. For example, we can get so many messages out to people in a fast and efficient way”* He also stressed that the Foreign and Commonwealth Office (FCO), has established new ICT strategies to encourage ICT deployment.

### 5.3. Tasks involved in e-diplomacy

The literature review in chapter 2 suggests that the foreign ministry is reliant upon the usage of ICT technologies for daily activities. A comprehensive system of planning, maintaining, and development based procedures are undertaken by the ministries of foreign affairs in this regard. by incorporating ICT, the ministry finds itself in a better position to entertain large number of requests it receives on a daily basis.

Further, it maintains regular and active communication channels with the other entities, which include the headquarters and other embassies. This makes up for the standard operating procedures of the foreign ministry. Ease of work and speed of execution are critical for undertaking the primary roles at the ministry of foreign affairs, and are also the salient features of information technology based communications.

The aim of this section is to investigate practitioners' thoughts on the stages and tasks involved in e-diplomacy implementation, which was reflected in the proposed e-diplomacy maturity conceptual framework (chapter 3). The proposed e-diplomacy maturity framework evolves through four stages, with each stage involving several roles. In this section, the researcher will explore the ICT tasks and projects implemented at the ministry of foreign affairs of Qatar, the embassy of the US in Qatar, and the embassy of the UK in Qatar, to support the proposed framework with empirical and practitioner data.

Everyone agreed that there are stages of maturity when deploying e-diplomacy. For instance, QB defined the stages of ICT development as basic IT services, advanced IT services, and integration. He also added, *"We have developed many ICT projects internally, such as administration, HR, and finance applications, consular service system, websites, and a system for the political and international development departments."* He also added, *"We use a strategy called BYOD, bring your own device,"* which allows employees to use their smartphones to access various applications at the ministry. The senior manager in the network unit mentioned that the first stage of ICT deployment at any organisation should be building the right IT infrastructure, ranging from the internal wired network and core application to advanced features, such as remote access and wireless network deployment. He also added, *"we have established new ICT infrastructure for wired network, IP telephony, video conferencing, servers for all purposes, new administration software, and new- archiving system. We have also deployed a full wireless infrastructure inside the ministry that is supported by advanced security features."* He then defined the second level of ICT development at the ministry as providing ICT tools that facilitate smooth interaction with the public, such as e-service tools, social media, and consular services. Finally, he spoke about achieving integration. With regards to the four stages of e-diplomacy maturity, both suggested that

stages two and three should be merged, as they require advanced features, means of interactions, and they can occur at the same time once the initial intra-organisational digital capabilities are completed. They also stress that the completion of first, second, and third stages leads to the final stage, which requires full integration and collaboration with all stakeholders.

Interviewees from both the US and UK embassies, did not define any stages of ICT development. However, they acknowledged the steps proposed by the researcher. For instance, the USAA mentioned that they have established excellent ICT infrastructure, advanced wireless services, and ICT tools to enhance communication with the public. However, he believed that the concept of collaborative digital diplomacy is presently far from attainment. Likewise, senior staff from the outreach team at the UK embassy of Qatar stated that they are using many internal e-services and applications to enhance productivity at work, as well as online tools such as social media, to communicate with their citizens in Qatar, and the Qatari public. He also mentioned that the embassy now has WIFI access and, remote access services. In addition, the employees at the embassy are provided with smartphones (Blackberry), to encourage remote access and communication, especially for accessing emails.

#### *Maturity level variables*

The focal theory in chapter 3 emphasized that maturity levels are an integral part of e-diplomacy. By comparing and contrasting, both the stage of growth models and the e-government maturity models, three significant maturity level variables can be found. These are the levels of interaction, maturity, and complexity. To support this argument, the following question was directed at the ICT senior management at MOFAQ:-

*“Do you notice any variables when moving between stages of ICT developments?”*

They suggested that the main variable is the level of ICT complexity. Advanced stages of ICT development require complicated ICT implementation. They also mentioned that some of their embassies are very advanced, while others are at a basic level when it comes to e-diplomacy. For instance, unlike the Qatari embassy in Kenya, the embassy in London uses advanced tools to enhance the internal functions of the embassy, and also develop means of online communication with other stakeholders, such as the UK public. The next question was- *“do you think the level of communication*



*varies between each stage of ICT development? To this, QB answered, “Absolutely, we deal with the different level of individuals, such as the MOFA employees, the public and citizens, governmental officials, and other departments. We also deal with the global community through our foreign missions, abroad.”*

#### 5.4. Implementation of e-diplomacy

The aim of this section is to explore practitioners' thoughts on the factors and obstacles that impact e-diplomacy execution and diffusion. The literature review in chapter 2 suggests three factors that can commonly affect e-diplomacy implementations: order of chain of command (hierarchy), communication flow, and maintaining privacy of information and stats provided by the people. However, given the nature of technology, certain complications have been observed in this regard. According to the available literature, other factors that can affect e-diplomacy implementation are political, legal, economic, cultural and financial. The following discussion will provide empirical support for these factors.

The two participants from the embassy of the USA in Qatar defined three principal factors: security, organisational challenges, and culture. Concerning security, USAA mentioned, *“Sometimes, safety, and confidentiality of the diplomatic information add restriction and the uses of social digital diplomacy tools such as social media”* He also said, *“We need to be 100% cautious of what we post online, which sometimes add some fear of using online tools.”* Also, the team added that the bureaucracy of the organisation slows down the decision-making process, especially when it comes to implementing new technologies. Moreover, the two-way communication with the citizens is not fully deployed and accepted by the organisation. Finally, they mentioned, *“although the Qatari culture encourages us to use ICT, there is still some restriction. For example, most of the time, during film production, we are not allowed to film Qatari women.”*

The senior staff from the UK digital outreach team at the UK embassy in Qatar reflected that most challenges are organisational and related to security factors. Organisational challenges include bureaucracy, slow decision-making process, and

limited trained human resources. With security, there are concerns around hacking and confidentiality of diplomatic information.

From MOFAQ, the QC said, *“unlike the UK and the USA, we have some cultural difficulties that restrict the use of social media.”* He includes limited ICT budget, lack of ICT leadership, lack of education and awareness, and bureaucracy to the list of significant difficulties, when it comes to the e-diplomacy implementation. Finally, he mentions that sensitivity of diplomatic information was the primary concern of e-diplomacy deployment. Comparably, the ICT team at MOFAQ had similar thoughts. They believed that change management and security were the main hindrances. For instance, QB said, *“the change management is the biggest obstacle of ICT deployments, as there is a huge gap between people and technology. At least 40% of the users can't cope with the advancement of the technology.”* He also mentioned, *“Security might be a great challenge because of the confidentiality nature of the diplomatic functions”* The team also defined some organisational, political, and financial issues, such as budget limitation, bureaucracy, awareness and training, HR limitations, and the lack of support from top managements.

All interviewees commented on the fact that the factors have different impacts at each stage. For instance, the head of the network unit at MOFAQ said that *“legal issues can cause more impact in the last stage, rather than the first stage, as it involves high levels of interaction”*. The staff from the press attaché also mentioned that *“culture can be an obstacle when implementing the interaction stage, and has no effect at all on the initial stage”*. In response, QA advised the researcher to add some amendments to the framework to show the impact of each factor on each stage, as they tend to have unequal effects at different stages.

## 5.5. Summaries and Contributions of the pilot interviews

The main outcomes of the pilot interviews are outlined below: -

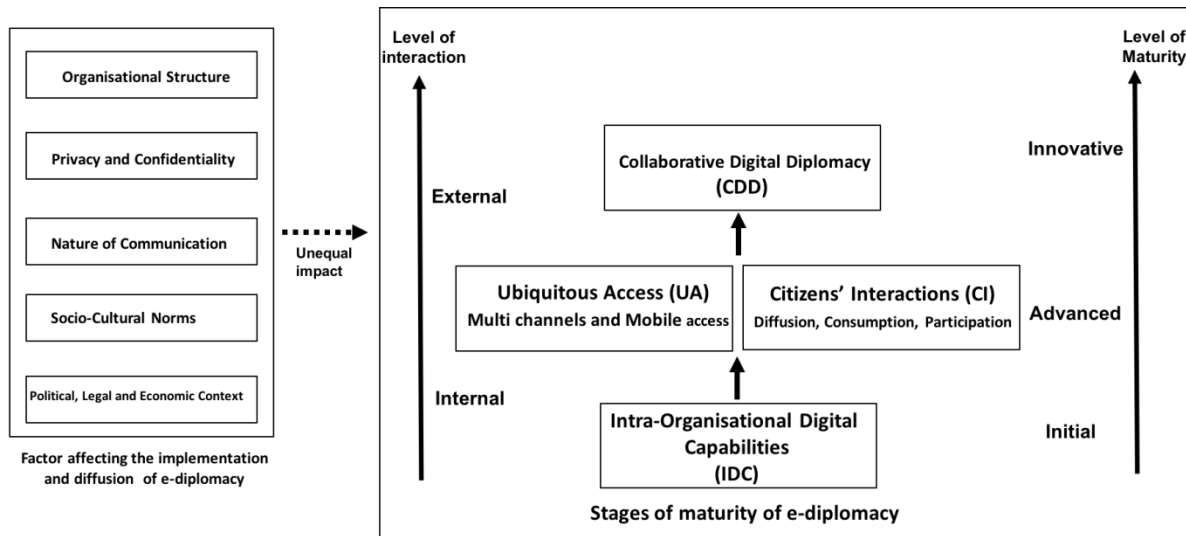
- a) Supporting the proposed e-diplomacy maturity framework with opinions from practitioners, for instance, stages and variables.
- b) Filling the theoretical gap with practical issues to help contextualize the framework.

- c) Allowing the researcher to observe e-diplomacy implementations to help gain an in-depth understanding of the field.
- d) To form more focused questions that can help validate and evaluate the framework with empirical evidence for conducting the phase 2 interviews (the phase 2 questions are illustrated in appendix D)

The two main observations made by the interviewees regarding the proposed E-Diplomacy Maturity Framework (EDMF) are summarized here -

- As suggested by some interviewees, there are three stages to e-diplomacy maturity: basic IT services, advanced IT services, and integration. The proposed EDMF has four stages: initial, intermediate, advanced, and innovative. Some interviews advised that the second and the third stages of the framework (ubiquitous access and citizen interaction) could take place at the same time, once the initial stage is complete (i.e. once the intra organisational digital capabilities are ready). The completion of these three stages will lead to the final stage (collaborative digital diplomacy).
- All Interviewees identified the following challenges in e-diplomacy: security, organisational, political, legal, social, financial, and cultural aspects. However, it was acknowledged that some of these factors have different effects for each stage. For instance, legal issues can have more impact in the last stage, as it involves high levels of interaction.

Based on the above discussions, two amendments have been made to the proposed EDMF as outlined in figure 5.1 below: -



**Figure 5.1: Revised EDMF framework**

- It can be seen from figure 5.1 that stages 2 and 3 are merged to represent a single level, instead of two different levels. Therefore, the new levels are:
  - 1) Initial level: stage 1 (intra organisational digital capabilities)
  - 2) Advanced level: stages 2 and 3 (ubiquitous access and citizen interactions)
  - 3) Innovative level: stage 4 (collaborative digital diplomacy)
- It can also be noticed that the dotted arrow represents different effects of the factors on different stages. .

*These two issues will be investigated further while conducting the main in-depth interviews and other observations (chapter 6). The next chapter will focus on discussing the case study results.*

# Chapter 6: The case study and the research findings- Data theory

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## **Abstract**

In order to explore the practical issues influencing implementation of the e-diplomacy, interviews were conducted with key government employees responsible for e-diplomacy and ambassadors in three places that are the US state department, the UK FCO and the MOFA in Qatar. The results of these interviews are outlined in this chapter. The following sub-sections aim to: a) identify the stages and challenges of e-diplomacy that are covered in Chapter 3, b) explore and identify the other issues and challenges that were not included in the proposed conceptual model in Chapter 3. The conceptual model formulated in Chapter 3 and the revised framework offered in chapter 5 provided a frame of reference to conduct the case studies, and offered the key themes to explore in practice.

## Chapter 6: The case study and the research findings –data theory

### 6.1. Introduction

Chapter 5 presented the results from the pilot interviews to pre-validate and contextualize the theoretical framework. This chapter, on the other hand, covers the results from the main interviews, as described in chapter 4, to validate the conceptual framework presented in chapter 3. To explore the maturity of e-diplomacy and the practical issues impacting its implementation, interviews were conducted with key government employees and ambassadors responsible for e-diplomacy. This section presents findings and outcomes of these main interviews with participants from three different countries (see table below). These countries are the three cases for this research: the USA, the UK and Qatar. As mentioned previously in chapter 4, a multiple case study strategy has been used in this research. The ministries of foreign affairs of these three countries have been considered as individual cases.

CASES	INTERVIEWS
MOFAQ	<ul style="list-style-type: none"><li>• A Senior Qatari ambassador (Q1)</li><li>• A public diplomacy officer at the Qatari embassy in London (Q2)</li><li>• An Ambassador and a former ICT manager (Q3)</li><li>• A senior IT professional at a Qatari embassy in London (Q4)</li><li>• A senior diplomat and a former IT professional (Q5)</li></ul>
USA	<ul style="list-style-type: none"><li>• A senior manager at the e-diplomacy office, State department USA (US1)</li><li>• A senior diplomat and an IT professional at the USA embassy in London (US2)</li></ul>
UK	<ul style="list-style-type: none"><li>• A senior member at the digital outreach department, FCO, UK (UK1)</li><li>• A senior manager at the digital outreach department, FCO, UK (UK2)</li></ul>

**Table 6.1: Case studies and the participants**

The three cases, therefore, are: 1) the ministry of foreign affairs of Qatar; 2) the foreign and commonwealth office of the UK; and 3) the state department of the US. Participants from different departments, such as ICT, media, consular, digital diplomacy and outreach, were interviewed.

The interviews were conducted in two phases (chapter 4). The aim of the first phase (pilot interviews) was to (a) contextualize the framework by interviewing high-ranking diplomats to better understand the high-level issues, and (b) understand how this kind of maturity framework fits within the diplomatic context. The main reason behind conducting the first phase interviews was the lack of theory for e-diplomacy implementation and maturity. On the other hand, the aim of the second phase interviews was to explore the opinions of selected professionals on the usage and implementation of ICT in diplomatic services, alongside the factors that affect the implementation of e-diplomacy.

As illustrated in the conceptual framework previously, this research offers nine conjecture which were proposed to study the maturity and implementation of e-diplomacy, which are shown in the table below:

	Stages of e-diplomacy maturity
C1	Stage 1: intra-organisational digital capabilities
C2,C3	Stage 2:3: Ubiquitous access and Citizen interactions
C4	Stage 4: Collaborative digital diplomacy
	Factors impacting the implementations of E-diplomacy
C5	Hierarchy and organisational structures
C6	Secrecy, privacy and confidentiality
C7	Nature of Communication
C8	Socio-cultural norms
C9	Political, Legal, and Economic Context

**Table 6.2: The conceptual framework conjectures**

The conceptual framework presents itself as a frame of reference that articulates the above mentioned conjectures to be validated in this chapter. Based on the research conjectures (chapter 3), and results from the pilot study (chapter 5), an interview agenda containing detailed questions was designed (see appendix D) to validate the proposed e-diplomacy maturity framework (EDMF). The findings are grouped under the following subsections: motivation of e-diplomacy, EDMF stages of development, and the factors that impact EDMF. The findings of the interviews presents empirical data related to the stages and challenges of e-diplomacy maturity covered in chapters 2 and 3, as well as other issues and challenges that were not included in the proposed conceptual framework.

The remaining subsections outline findings from the three cases.

## 6.2. Case 1: The USA state department

### 6.2.1. Background

The United States Department of State, also referred to as the State Department, is the executive body responsible for coordinating international relations of the country (US Department of State, 2008). The State Department manages America's relationship with other foreign governments, citizens of other countries, and international organisations (US Department of State, 2008). Diplomats from the State Department are the bearers of president's foreign policy, and they implement these policies to maintain good relationships with other government and non-government bodies outside the US. The State Department plays one of the most fundamental roles in the government due to the responsibilities placed upon them by the state. For example, it negotiates the legal and policy standing of the US government in agreements and treaties on some of the fundamental issues such as commerce, drugs and nuclear weapons. It also leads the coordination of agencies in the government, whilst also managing the resources for foreign relations (US Department of State, 2008).

The US state department has a global presence in the world through its wide networks spread across the globe. It has 294 physical embassies and consulates across the world with a large concentration in the Middle East and North African region (US Department of State, 2008). These consulates are used to maintain international ties with other nations while also fostering the interests of the country. The state Department has about 13,000 Foreign Service employees, 11,000 employees in the civil service, and 45,000 local employees in these regional consulates that work for the State Department (US Department of State, 2008). With about 65.9 billion dollars annually, the State department is capable of achieving its objectives and fostering its country's interests abroad.

#### *E-diplomacy office of the State Department*

While it is difficult to define e-diplomacy, it can simply be defined as the use of web and ICT tools to carry out diplomatic functions (Hanson, 2012). According to



Hanson (2012), foreign ministries such as the State Department have undergone various technologically driven communication revolutions. Some of these revolutions include the telegraph, email, international broadcasting houses, and Internet (Hanson, 2012). While some of these ministries are still adjusting to some of the radical changes that they face, another wave of change is targeting them, e-diplomacy. Most of the knowledge and information that diplomats produce is in the digital format, and these pieces of information can be compiled and distributed globally to achieve certain objectives (Hanson, 2012). Boly (2010) asserts that the use of technology and the Internet in diplomacy has been referred to as Diplomacy 2.0.

E-diplomacy has a number of transformative goals that it seeks to achieve through the use of technology and the Internet; one of this is knowledge management (Hanson, 2012). The State Department seeks to harness each department's knowledge in a bid to retain and share it with all the concerned departments, both locally and abroad (Hanson, 2012). The use of this knowledge can also be optimized to pursue national interests, internationally. Public diplomacy is a fundamental objective of the State Department in using e-diplomacy. It helps to establish and maintain contact with various online audiences, as they use new communication tools to create a rapport with their online base (Hanson, 2012). They also target their audiences with important information while seeking to influence public perception and knowledge about a variety of issues.

The use of e-diplomacy to manage information at the global front is also a key objective of the State Department. They aggregate the massive flow of information and use it to create informed policies. The flow of information is also useful in anticipating and responding to some of the political and social movements that arise globally (Bohnen and Kallmorgen, 2014). Being able to keep up with such information has proven to be quite useful for the State Department. The State Department also uses new communication channels to communicate with various consular offices across the globe (Cull, 2009). These channels create a direct and personal means of communication with citizens living abroad, and are especially useful for managing times of crisis in a particular country (Cull, 2009).

Hanson (2012) asserts that the ability to establish direct and personal communication with the US citizens living abroad has enabled the department to create effective disaster response management systems. The use of new communication and technological outlets, such as the Internet has also been effective in harnessing external resources (IRM's Office of eDiplomacy, n.d). The State Department can use their online presence to look for external expertise in a bid to advance national interests, internationally. One of the main themes that stand out in all of these objectives of e-diplomacy is the ability to create and improve foreign policies. The State Department uses e-diplomacy to ensure the effective oversight and planning of international policies across the government (IRM's Office of eDiplomacy, n.d).

The office of e-diplomacy is the primary knowledge management and e-diplomacy hub of the State Department (IRM's Office of eDiplomacy, n.d). Hanson (2012) argues that one of the main reasons that prompted the creation of this office was the realization that the US did not have efficient communication tools with its citizens, both internally and externally. The analysis of the 1998 attacks of the US embassy in East Africa by a blue ribbon panel concluded that the state did not have effective mechanisms of communicating with itself, abroad (Hanson, 2012). The attack on 9/11 also revealed the necessity to institute a knowledge management system in the country, since the intelligence community had information on the attack, but was not able to stop it due to poor communication with other agencies (Cull, 2013). The office of diplomacy created a number of tools that have been useful in realizing some of the e-diplomacy goals (IRM's Office of eDiplomacy, n.d).

Corridor is one such platform that was created as an e-diplomatic tool (Hanson, 2012). This professional networking site has the feel of a social media site, where people can exchange information in the State Department, locally and internationally, freely and seek expertise among employees. The platform is an open site where everything is visible including messages and interactions (Hanson, 2012). Corridor has a variety of features, such as the ability to form groups. These groups have been useful in passing interdepartmental information, posting of meeting minutes, and making action points. People can also share information and internal documents with those in similar

departments. This networking site has been one of the successful e-diplomatic platforms in the State Department (ibid)

The Diplopedia, created in 2006, is the internal Wiki of the State Department (IRM's Office of eDiplomacy, n.d). The site has been useful in deploying information within the State Department that may be new and unfamiliar to most employees. It has also been a useful reporting space, where a number of posts on a particular subject can be posted for final compilation of data. The establishment of communities is also a tool of e-diplomacy that the State Department uses. Communities are blogs that deal with specific issues and offer a chance for State Department officials to engage on matters concerning foreign policies, management and other social interests. Other tools include search, the sounding board and the social media hub (Hanson, 2012). These tools help in passing knowledge amongst agencies within the State Department.

### 6.2.2. Empirical Findings

To ensure reliability of the information recorded in the interviews, respondents with credible experience of digital diplomacy and its applications were targeted. Digital diplomacy revealed the motivation the country has for employing e-diplomacy, stages of the framework, and factors that affect its implementation. Two interviews were conducted here. One of the interviewees worked with the US Embassy, and had over 11 years of experience in handling Foreign Services. The other interviewee worked under the State Department, and was directly engaged with e-diplomacy related roles.

#### **Motivation behind using e-diplomacy**

According to the interviews, various motivations influence the use of e-diplomacy. The first interviewee asserts that the motivation for digital diplomacy comes from its ability to create a situation similar to face-to-face interactions. The interviewee stated *“huge leverage in engaging audiences that you usually cannot meet face to face”* was the motivation behind the use of digital diplomacy. He also stressed that the implementation of e-diplomacy is influenced by the increasing development of technology that has increased connectivity between people. The need for diplomats to interact at a face-to-face level is catered for by this technology, which in turn increases its effectiveness. It results in cost savings; for instance, one does not have to travel to

the destination country of a diplomat to interact with them. An Internet connection is sufficient to achieve this, helping countries to cut down costs related to diplomatic activities.

The interviewee also touches on the essence of “brick and water diplomacy” which reflects the importance of traditional approaches in diplomacy. *“I still believe in brick and water diplomacy. You know, diplomats should have face-to-face contact, but for other audiences we invested a lot of resources in virtual engagement. So, my honest opinion is we need to do both, and we need to continue with the traditional diplomatic route, but also the audiences we cannot reach like in different parts of the world”*

In their view, the essence of face-to-face interactions in diplomatic interactions affect the approaches used, limiting any person involved to apply a method that will enhance this form of interaction. The difficulty with the traditional approach rests on the costs and challenges involved in getting the diplomats to interact at a face-to-face level. The interviewee also added that the simplicity introduced by the digital platform improves the ease of handling diplomatic responsibilities. Face-to-face mode of communication makes it the future of diplomacy. A challenge for digital diplomacy is the level of resources needed for making it possible. In this regard, the interviewee states that a balance between traditional and digital diplomacy approaches will increase the level of efficiency and effectiveness. *“I do believe it’s a complement believing that the prioritization between the two should focus on the brick and water approach”* Digital diplomacy has created similarity between the two approaches, allowing people to interact like in the traditional face-to-face interaction, considering it occurs as the main way of communication. The time saving element in the digital diplomacy approach offers a higher advantage over the traditional approaches, making it the best selection.

### **Stages of the framework**

One of the interviewees (US1) regarded the framework employed for handling e-diplomacy as good, considering it provides the relevant support in reorganizing the parties involved in diplomacy. In their words, *“we have a big public diplomacy team that focus on that exclusively.”* The presence of this team is meant to ensure that the

framework employed in the digital diplomacy approach is effective and yields positive results. The team aids in handling any challenges arising in the process, or addressing any possible failures in the system. The interviewee also mentions the role of public officers in engaging the public, which indicates the presence of both digital and traditional diplomacy approaches. The ease of applying traditional approach with the public located closer to the diplomats increases its application, while the difficulties and costs involved in meeting diplomats or performing diplomatic duties at distant destinations influences the application of the digital approach.

The interviewees approved the existence of different stages in a framework. For instance, the senior manager from the e-diplomacy office said that they have established a strong ICT core that enabled them to move to the next stage of advanced interaction, although they are concerned about the old technology that they are using. *“I would say we are into the advanced stage and maybe moving towards the innovative though it is a little bit spotty, for instances, even on our mobile access, we are not quite where we want to be. There is quite a bit of mobile access but some of it is on older technology, we are still using a lot of blackberries, for example. Although a lot of people do have iPhones now as they have more flexibility, though some of them are restricted a bit too”*

They also stressed that each of these stages plays a significant role in the implementation of digital diplomacy. These stages are further discussed below:

### ***Stage 1: Initial stage***

Both interviewees agreed that this stage is the core stage for building a robust e-diplomacy system. US2 mentioned that the first stage focuses on organizing the required features that will support the implementation of e-diplomacy platforms. These include development of the infrastructure that will contribute to the implementation of the digital diplomacy approach. Similarly, US1 said *“The organisation stage involves the development of the space for operations including the acquisition of the hardware, and requisite software, which makes this stage the most essential.”* The respondent also affirmed that poor preparation may result in crisis in times of abrupt decisions, including the need to layoff or replace some employees. In an example, the respondent discusses the Clinton situation in which the Deputy Secretary of State, Niyes, aided the

development of the econ portal aimed at ensuring information security that updated new entrants in the field. Interviewee US2 says *"We have had infrastructure for quite a while"* indicating the presence of an infrastructure useful for handling the development of an e-diplomatic approach. The presence of infrastructure includes the presence of a system through which development of personnel occurs. They also mentioned that changes in diplomacy since the introduction of technology includes acquisition of PCs and desktops to aid personnel in serving their roles within the organisations

In some cases, US2 mentioned that the limitation of time for educating new employees on the progress or a starting point may affect their ability to deliver quality work. It is therefore essential to have a system that trains them on each of these elements, as explained by the senior staff from the e-diplomacy office.

The US state department and its embassy network have developed an e-archiving system to ease the follow-up of information and the decision-making process, despite its synchronization problems. For instance, US2 said *"we have e-archiving at the state department as well as the embassy, the question we are dealing with is basically, when we are trying to deal with the strategic planning for the state department, we realized our biggest flaw was that it's not synchronized or standardized around the organisation"*. Also, US2 mentioned *that* the departments handling IT for the diplomatic organisations have developed a system through which data archiving is possible, increasing accessibility when the need arises. Questions arising during the recent interrogation of the Secretary of State, Clinton, were based on email communications that the government body had archived. The occurrence of this provides evidence that diplomatic responsibility charges them with a need to archive the collected data, or communications between the diplomatic personnel.

Implementation of a digital approach stretches into other departments of an organisation, including the HR and finance departments. US2 said *"We do have a financial and a HR system, we have one at the embassy and that synchronizes well with the financial and the HR system at the department of state"* However, the senior manager at the e-diplomacy office (US1) mentioned that the HR and financial systems are not fully integrated with the embassies. *"I wouldn't say they are fully integrated, but*

*there are some links. There are some parts that are still not fully available overseas, but there are linkages back to the main office, but not fully functional at this point”*

The embassy also employs this approach in e-learning, which targets educating the employees on the processes, conduct and procedures involved in handling responsibilities at the embassy. For example, US2 said that *“we have something known as the foreign services institute where we get our diplomatic training. They have a whole suite of programs, which you can access online and you can also engage them digitally through video conferences, diplomats can access webinars, there is a special speaker which is invited to those classes.”*

### **Stages 2 and 3: Interaction stages**

The second stage of this framework is focused on the provision of a multichannel approach capable of increasing the mobility of the diplomats. In this stage, advancement of the existing systems into mobile systems is undertaken. It also creates a multichannel that increases accessibility and effectiveness of the systems employed by the diplomatic institutions. According to the interviewee in the US e-diplomacy office, diplomatic work involves *“working with partners, external partners, essentially”* which makes the multichannel and mobility factors the essential ingredients for achieving diplomatic goals of the US state department. He also stressed that new technology can enhance face-to-face communication, and maybe replace it one day. *“I think face-to-face interaction is still critical, but obviously there are times when that is not going to be possible and technology then gives it another level and another opportunity to engage successfully”*

The interviewee at the London embassy supports this by asserting that iphones and blackberries are provided to the employees to increase the possibilities of a multichannel approach and mobility *“We are given iphone, blackberries and ipads, if needed, and we also given dongles. These are mainly used for communication such emails and messaging as well as accessing important information from the main server”*. He also said *“we can do remote access through a virtual channel (virtual private network), so basically, I have it on my desktop, so it is easier to access and faster to connect to the server from the embassy to the department, but once we are away from the office, it becomes slightly an extra step, slower speed and efficiency, but*

*it's accessible.*” Furthermore, he mentioned that the major challenge with this approach to diplomacy is the exposure of data that the diplomats share on these devices. This is why some of the diplomats strongly recommend the use of traditional approaches, instead. These digital devices are constantly exposed to the risk of hacking that may result in loss of classified information.

***In the third stage***, the interaction between diplomats and the people they represent is featured. In the views of the interviewee from the US office, the use of public diplomacy complements the traditional approach. It is evident that digital diplomacy has changed the approach to diplomacy, allowing diplomats to interact more with the people they represent, compared to the traditional approach that restricted interactions between the diplomats and the people.

US1 mentioned that ICT has enabled the advancement of consular services that the diplomats offer to the people, increasing their ability of addressing problems directly. The same stage also features the implementation of virtual approaches in addressing the visa challenge by increasing the speed and ability of serving people. E-Visa has helped many Americans obtain faster services compared to the traditional system, thanks to digital diplomacy. US2 gave the following examples of e-services: e-visas, online feedbacks for citizens, online crises managements systems, and other online services such as passport renewal.

Both respondents mentioned that the introduction of social media in diplomatic services enhanced the possibility of this approach. It is essential that the diplomats are capable of interacting with their people in different locations to gather their concerns and raise them with the government to develop solutions that will improve international relations. As an example, US1 said that *“we do use social media, and I agree that it is a key driver to the development of both public and digital diplomacy. We do have social media strategy at the state department and we encourage our diplomats to use it.”* Similarly, the diplomat from the US embassy in London gave three examples of how social media is used in their embassy. He said, *“ we do allow for two way communications, we have a twitter account for the embassy. We also have a blog called the special relationship blog, we highlight any collaboration that goes on between*



*the U.S. and UK, whether it's in science or in culture. Thirdly, we have a Facebook account and a twitter account, for both the embassy and the ambassador".* Implementation of two-way communication has allowed for increased accessibility to the diplomats. Channels such as Twitter and Facebook are a part of the platforms employed.

Promoting the country and image building is a main task for any diplomat. Both interviewees agreed that ICT tools can help diplomats with this task. They are using YouTube channels and videos not only for image building of the country, but also to promote the work that is being done by the state department. For example, US2 said that *"we created with the public affairs team at the embassy a video on YouTube. The idea is to convey to the public the importance of an issue. It is a very simple and efficient manner to communicate with the public"*. US1 mentioned that they use a variety of ICT sources to promote the country and he mentioned YouTube as well, as an example.

#### ***Stage 4: Collaborative stage***

The last stage of this framework dwells on the implementation of integrated digital diplomacy, which is expected to have a massive positive impact on diplomacy and increase in the level of connectivity. The interviewees indicate that the diplomats are relying on continuous changes in technology to influence the possibility of this approach in administering diplomatic responsibilities. The approach is targeting full integration of the system, and increasing its collaborative abilities. Collaborative digital diplomacy is based on the creation of a link between different embassy offices to the home office, as asserted by the interviewee in the London office. Such an approach will increase the ability to monitor operations of these offices, and also increase the management of resources and uniformity in building a strong digital diplomatic approach to building international relations. The interviewee in the US office asserts that the implementation of this approach will be based on the possibilities of applying satellite options, which is essential for connecting different offices to the head office. The London office interviewee asserts that the implementation of open digital diplomacy relies on the above, including the GPS technology, backed by secure networks and

servers. These result in easy communication amongst the different embassies established worldwide.

US1 also mentioned that having a virtual embassy can contribute to the concept of collaborative digital diplomacy. He said, "*we have virtual embassy in Iran and in areas that we cannot reach physically, such as Chinese major cities*".

## **Factors Affecting the Implementation of e-Diplomacy**

### *Organisational factors*

Organisational factors vary depending on the bureaucracies involved in the implementation of digital diplomacy. Institutions that have higher rates of bureaucracies implement policies and ICT approaches in diplomacy at a slow rate. This may affect the potential of these approaches within these organisations, and result in delays in implementing digital diplomacy. The interviewee of the US embassy asserts that hierarchy has an impact on the implementation of digital diplomacy. Some of the factors associated with the difficulties of bureaucracies include budgetary and security issues that affect the possibilities of eliminating these hierarchies. The senior diplomat at the embassy of the USA in London said that "*If we want to implement an ICT project at this embassy here in London, we have to seek permission from the home office. That bureaucracy can slow down e-diplomacy implementation.*" He also stressed that other than slowing the process of ICT implementation, bureaucracy also affects other organisational factors, such as the decision makers' resistance to change. On the other hand, the manager who works in the e-diplomacy office thinks that bureaucracy does not have a great affect. He mentioned "*I think bureaucracy does offer many challenges, because again I think that is kind of a through back in the sense that the hierarchy organisational structure was kind of historic way diplomats organized*".

### *Confidentiality and Privacy*

Both respondents agree that the implementation of digital diplomacy raises data privacy and confidentiality issues. They give two examples; 1) the recent saga of Hilary Clinton concerning the emails she sent during her tenure in office is an example of issues related with data confidentiality and privacy. This has resulted in increasing fears associated with the implementation of ICT in the diplomacy sector. 2) WikiLeaks is also

representative of the privacy and confidentiality issue that increases fears in the application of e-diplomacy.

US2 mentioned that they use many security tools at the state department, such as encryption of classified information. Also, there is legislation on privacy in which certain information should be controlled and cannot be released publically. Regarding remote access, he said, *“there is some remote access to our unclassified systems, but not to our secure systems. We have essentially two systems. The unclassified system, which everyone has access to, and the classified system, which is a much more limited distribution. For instance, from overseas, our locally employed staff would have full access to our unclassified systems, but no access to our classified systems.”*

#### *Cultural factors and nature of communication*

Cultural factors also affect the implementation of digital diplomacy. The cultural aspects depend on the personnel. Some consider security concerns a part of their culture that affects their decisions to implement digital diplomacy. In the London office, the respondent asserted that these cultural factors play a significant role in other countries, including the Middle East and North Africa. He said, *“it is easier to implement social media strategies in London than in other countries, but also, it depends on funding, for example, in North Africa, Middle East program has a lot more funding, because we have a target audience. With bigger funding, we expect bigger returns, because bigger problems mean bigger returns.”* The interviewee at the US office also indicated that language barrier and the divide between people in relation to technology levels have an impact on the implementation of digital diplomacy. US2 said, *“Because we are dealing with different cultures and different languages, we need to translate all the documents into nine different languages. We are putting a lot of money into translation of documents, because we see a lot of value in doing that”*

The interviewees also agreed that the nature of communication involved between diplomats and the public, or the people they interact with, determines the ability to implement digital diplomacy. US2 mentioned that traditional diplomats opposed the idea of using ICT tools, such as social media in diplomacy, as it allows two-way communication with the public, which is against the traditional norms of diplomacy. US1

said establishing two-way communication between diplomats and the public is essential in this day and age:

*“I think there is roles for the one-way communication, but it is much more prominent that you have that feedback loop where people will comment, and I think that the most effective is that you need to consider those comments and respond and try to engage with public and key partnerships”*

#### *Legal or political factors*

Diplomats represent the face of a country, and hence are required to control their actions and communications. They have to be wary of making negative statements, or statements that may have legal implications for the diplomats. Increasing political instability in different countries is a factor to be considered, since it affects the ability of the diplomats to handle their responsibilities. Both respondents did not seem to have much experience on the legal and political factors; US2 mentioned that the budget for ICT projects is usually limited, which can be an obstacle to e-diplomacy implementation.

In relation to the legal factors, US1 said *“in foreign services, we need to deal with so many different countries with different legal system and procedures. For instance, sometimes, an American IT product can’t be exported and used in some countries because of their legal system.”* US2 also mentioned an example of social media, which cannot be used in some foreign countries.

#### *Training*

Another factor essential for the implementation of digital diplomacy as identified by US2 is the level of awareness of the personnel, considering their knowledge and ability to use digital platforms. They may require training, which will improve their ability to use digital diplomacy in their roles.

### 6.3. Case 1: The UK FCO

#### 6.3.1. background

##### *Foreign and Commonwealth Office*

The Foreign and Commonwealth Office is the main department that promotes government’s interests and values in overseas jurisdictions. This body is also responsible for building alliances, forming and signing treaties, and creating networks.

Their mission is to promote UK's growth, protect its citizens, both locally and abroad, while also fostering its national interests internationally. The management and structure of the FCO comprises of a number of ministries, who are in charge of different jurisdictions, and make varying contributions to the body (Gessiet al., 2007;Grincheva, 2012).

The foreign and commonwealth office has its many consulates located across the world. The FCO employs more than 14,000 people in these embassies with nearly 270 diplomatic offices spread across different continents (Foreign and Commonwealth Office, n.d). It uses these networks to work with individual governments and international organisations to fulfill its objectives and foster UK's interests. The department also acquires a number of properties around the world that house its various activities.

#### *Digital Diplomacy Strategy of the FCO*

As mentioned in chapter 1, the UK is ranked second after the US for using innovative tools of public diplomacy. The Foreign Commonwealth Office issued a digital strategy that stressed on the implications of ICT for UK diplomats, and Internet-based services for British people living abroad (Digital Strategy of the FCO, 2012). UK FCO also manages social media diplomacy, and has several official accounts on Facebook and Twitter (Digital Strategy of the FCO, 2012).

According to Wong and Hill (2012), UK has largely relied on technology in diplomacy for communicating with, both the UK residents and the overseas citizens. Technological revolution has led to the rapid use of Internet and other Internet-based apps. The FCO is increasingly using technology not only as a form of communication, but also to develop foreign policies (Digital Strategy of the FCO, 2012)(Grincheva, 2012). The teams in the department use digital technology to achieve policy outcomes. FCO has used technology in a number of ways, for instance, following trends and predicting some of the developments (Beasley et. al., 2012). In the case of Arab spring, social media was a useful tool that offered insights on the probability of violence. The FCO was able to use this information to warn UK residents about the occurrence of the event

The FCO also uses online forums to gather views and opinions of the people on matters such as corruption and government transparency. These views are useful in the formulation of foreign policies. FCO uses e-government to implement foreign policies and to communicate with the UK citizens across the world (Tolbert and Mossberger, 2006). The closure of the Iranian embassy, for example, proved to be detrimental to the protection of UK citizens in the country (Foreign and Commonwealth Office, n.d). The FCO used social media and their website to pass on information to these citizens (Foreign and Commonwealth Office, n.d).

The Gov.uk websites are one of the main tools through which the FOC provides information and services to its citizens across the world (Foreign and Commonwealth Office, n.d). There are more than 200 such sites that offer different services to residents in England and Wales. The Government Secure Intranet (GSI) is a portal that the FCO uses to transfer information between different agencies and departments within the organisation, and externally (Beasley et. al. 2012). The GovTalk website is another key tool that the department uses to develop and agree on foreign policies (Grincheva, 2012; Foreign and Commonwealth Office, n.d).

### **6.3.2. Empirical Findings**

#### **Motivation behind using e-diplomacy**

Examination of the UK case is based on the data gathered from two interviewees with substantial experience of digital diplomacy: (a) senior member at the digital outreach department, Daesh cell (UK1); and (b) senior manager at the digital outreach department of the FCO (UK2). According to interviewee, UK2, given the support that this system provides in addressing issues of diplomacy, it is considered the best tool for advancing objectives of all diplomatic missions. He also mentioned that the introduction of ICT in diplomacy has introduced improvements that facilitate a central role of diplomacy, which is, information sharing. . The interviewee asserts that the need to manage information and control accessibility is central to building the e-diplomacy channels. The increasing pool of information needing management and improved channels of approach calls for the application of techno-friendly approaches that will improve and simplify the work for diplomats. It is based on these that the need for

developing policies to address the challenges arises, and hence builds the motivation for implementing a digital diplomacy approach. According to interviewee UK1, the implementation of an open system of diplomacy is the motivation for implementing technology in the field; he addressed it as “a very good dream, but it seems to me that we are nowhere near that dream yet” which indicates a long way before their organisation implements this system.

UK1 provides an example of the need for digital diplomacy with the example of the number of people and countries he is required to interact with, in his role. According to him, working with 67 countries that form a global coalition calls for implementation of approaches that will ease connectivity, and increase communication between different partners. The implementation of digital systems is thus essential here. These also prove as motivations for the implementation of digital diplomacy. These systems find their root in other sectors of management, including the government institutions. Different systems have been employed in different countries, which have to be considered while implementing digital diplomacy, as they may pose various challenges. These differences make it difficult for partners to share information or discuss. It also affects the implementation of an open communication channel.

## **Stages of Framework**

### ***Stage 1: Initial stage***

The first stage dwells on the intra-organisation capabilities, which include the abilities of the organisations to handle information technology associated with digital diplomacy. It is similar to the interviews conducted with the US Embassy in the US and London. It includes the development of infrastructure that can facilitate the development of digital diplomacy. The organisation involved purchases the required software and hardware that it will employ in facilitating the digital diplomacy platform. The interviewee affirms that the successful implementation of this stage is central to ensuring the other stages are successful; failure of this stage prevents the ability to succeed in the other stages. Organisations need to pay attention at this stage to ensure the acquired hardware and software is effective in serving the responsibilities that the organisation seeks to promote through digital diplomacy. The interviewee further asserts that policy development is essential in making this stage successful, considering it influences the

setting of goals and intentions of the organisations. UK1 mentioned that *“the continued advancement of the infrastructure ensures the ability of the system to meet the changing needs of the digital diplomacy platform”*. *Continued improvements in technology are central in commanding a higher attraction for the use of digital diplomacy, considering the technology ensures that all needs exposed by the diplomacy roles are covered*. It is through these improvements that highly sophisticated hardware and software meet the growing needs of the personnel serving these responsibilities.

The implementation of a digital diplomacy platform includes its inclusion in other departments of an organisation, including their human resources and finance responsibilities. It is also involved in the accounting roles, increasing the ease in application and adoption of the e-diplomacy approach. The presence of the digital approach in other parts of the organisation increases the level of confidence the organisation has in the platform, increasing its connectivity to the technology channels. In promoting these, UK2 said the FCO has provided each of its employees with secure phone lines. The selection of a phone relies on the level of security that it provides. This explains the selection of blackberry by many diplomats, considering its good reputation on security. The creation of a secure access to emails is also effected through similar approaches, with only the technology considered secure enough to allow use of diplomatic data without risking breach is employed.

Regarding training and e-learning, The FCO encourages e-diplomacy training programs for their staff. UK2 said, *“so yeah, we have a diplomatic academy that does a range of things, including digital diplomacy, and with regards to digital diplomacy itself, we have our learning and e-learning and self-tutorial stuff.”*

### ***Stages 2 and 3: Interaction stage***

In the second stage, the focus is on application of information technology in communication through the development of a mobile and network approach feature. These have contributed to enhancement of the communication channels employed in the management of digital diplomacy. This stage relates closely with the above stage, in which the implementation of mobile phones as channels of communication is done to support the diplomats with their responsibilities. In a bid to ensure effective



implementation of these, an e-learning platform has been established to ensure proper training for the employees to equip them with the required skills in handling their roles at work. In a bid to prevent security issues from arising, the implementation of mobile platforms has ensured restrictions on accessing information. Interviewee UK1 said, *“I cannot access the FCO system from my iPhone or from my digital laptop.”* The limitation ensures that information is categorized for accessibility, with that data held in the FCO systems being not accessible via a mobile platform, while other data is possibly accessible. A bulk of the information is restricted, considering it is contained in the FCO systems. Accessing it will require high level clearance, and the use of only allowed systems. Despite these, those authorised can access this data from other countries on their desktops. UK2 also added that UK diplomats can access information easily from anywhere. He said, *“So yeah, if you were in Qatar you would be able to access the FCO information from your desktop, you can get into your files but through your desktop, I can access my files anywhere in the world at any point, from my phone, from laptop and from my iPad.”*

Both respondents confirmed that the FCO provides diplomats with smartphones. The senior manager at the digital outreach team mentions two different examples:

*“We have a smart phone application for conferences, which is a communication tool that allows people to communicate about what’s going on in that conference. We also have another one for our kind of media, and that has core strips and key information on every policy issue that we deal with.”*

To support the mobility of employees, the FCO provides a Wi-Fi infrastructure. The presence of Wi-Fi in the premises increases the digital diplomacy aspect, considering it provides channels through which the personnel may operate and access data stored online or in the FCO systems. UK2 said, *“we have Wi-Fi throughout the FCO, and we have that on various levels. We also have a staff network which is available to all staff, which is not quite as powerful, but everyone gets access to that, we do have a guest version as well, so when we are hosting conference.”* The issues of security were challenging to discuss with the interviewees considering they did not work under the remote access section or other security offices. Despite this, the employees are cautioned to ensure security in handling their digital diplomacy features. The

interviewee states that the world has already implemented a digital focus that proves challenging to avoid. In a bid to match the changes, the implementation of a digital platform in providing diplomatic responsibilities is essential.

The third stage includes interactions with citizens and the public during the implementation of social media in digital diplomacy. Both interviewees have experience with the social media aspect of e-diplomacy, but not with the consular services part of it. The UK FCO interviewees believe that use of social media as a form of communication and connection is an essential component of this development. It is evident that the world of networking and social media will expand, rather than shrink. It is an important part of the future interactive services. In response to this. He also mentioned that each organisation needs to develop the infrastructure and train its employees for effectively managing their work. According to UK1, social media acts as a face-to-face communication tool, to connect people, and facilitate meetings. UK 1 also gave an example of social media use; he said *“we have only just started. We launched our global coalition website in March, so it’s in its early days and we also launched twitter in three channels – English, Arabic, and French. At the moment, those are our official channels. We are almost certainly will be moving into Facebook”*

UK2 also added that the social media platforms used in their organisation include Facebook and Twitter, mostly used in policy matters, while YouTube and these two play a role in engaging public and other officials involved with diplomatic responsibilities. Ambassadors are also encouraged to own a Twitter account to build connections with the people they serve. Both UK1 and UK2 ensured that the FCO has a social media strategy that guides social media usage.

Finally, the researcher asked the digital outreach senior manager about the ICT tools used in consular services, such as crises management. He replied *“our embassies will use social media for crisis to rapidly get out key information, and to show what the foreign office is doing in response.”* He also add that they have a dedicated counselor response team in London, who have their own Facebook, twitter and Instagram accounts, and all of their services are available online. They also have a crisis management department, which heavily relies on e-diplomacy tools, such as social media and online services.

#### **Stage 4: integration stage**

UK1 mentioned that the creation of a shared platform with other embassies allows openly sharing information via different digital platforms. He also gave an example of the Syria conference in which the embassy worked hard in the creation of content shared with Norwegians, the UN, and the Germans. Content sharing allowed content development that was translated into different languages to enable access and reduce language barriers. Open digital diplomacy also encourage the use of other communication channels, such as WhatsApp, emails and face-to-face interactions.

UK2 also added, *“it is evident that the implementation of an integrated digital platform will increase information sharing and efficiency of diplomacy, considering the increased access of information”*. It will, in turn, improve the security systems employed in building diplomatic responsibilities. The failure of traditional systems in serving a large number of people increases the need for digital diplomacy, which has the potential to solve the aforementioned problem.

The digital outreach manger affirmed that the ability of digital diplomacy to allow access to people across countries, without necessarily having to travel to these countries is indicative of the massive potential of e-diplomacy. He however added that such project requires huge budget, trained human resources, and strong ICT capabilities.

Finally, both interviewees agreed that integrated diplomacy will create a positive impact in the sector, improving the overall efficiency and effectiveness of the processes involved. The real-time translation feature of digital diplomacy will reduce the workload for the officials involved in translating the developed content..

#### **Factors affecting the Implementation of e-diplomacy**

##### *Legal and political factors*

In most countries, communication through social media channels is acceptable, while in some, it is illegal . The level of openness that each country embraces, and the level of limitations they impose on their relations with other countries contribute to the development of legislation and policies that may affect the roles of diplomats in their countries. These in turn affect the implementation of a digital approach to diplomacy as

mentioned by interviewee, UK1. UK2 added that legal obstacles increase limitations for diplomats, making it difficult for them to provide their services fully.

The interviews also revealed that political factors contribute to challenges in implementing digital diplomacy. Countries with political instability prevent diplomats from effectively carrying out their responsibilities. In some cases, the political instability leads to restrictions in using digital measures, increasing the need to rely on traditional measures. The security issues arising from political instability may, on the other hand, leave the diplomats no option, but to engage on a digital level with their partners; as a result, there are heightened security fears on the lives of the diplomats, as confirmed by UK1.

### *Security Fears*

Both respondents approved that one of the increasing concerns with the integration of technology within diplomatic roles is security. The increasing possibilities of loss of data or access by unauthorized parties increase fears of implementing digital diplomacy. Confidentiality and privacy are also issues of concern, which are essential for maintaining the dignity of diplomats. Interviewee UK2 mentions that data encryption is thus used as a potential solution to guard against intrusion; it improves the level of security that affects digital diplomacy.

UK1 gave an example of security; he said, *“on our FCO’s computers, we are not able to look at YouTube, because it been blocked so very difficult to look at any videos. So, in terms of doing your job we are in the business of video, but I must use my own Mac to look at a YouTube video. Therefore, security does definitely stop us doing things”* He also added that they come across many stories which are classified, and although they might be interesting stories to broadcast, they are not allowed to do so, because they are classified information.

### *Bureaucratic Factors*

In any organisation of this nature, bureaucracies play a significant role in decision-making and handling of major features of the job. UK1 affirmed that increased channels of bureaucracies and hierarchy in the FCO leads to a slow system that affects the speed at which implementation of policies and decisions occur. He also added that failure to reduce the time wasted in decision-making affects the decisions on

implementing digital diplomacy. Under this same system, the other interviewee revealed that cost issues and limited financial resources add to the difficulties of the decision-making process for implementing digital diplomacy approaches.

#### *Financial and economic aspects*

Economic obstacles also affect the implementation of e-diplomacy. Having poor economic policies that affect the work of diplomats and the implementation of digital diplomacy affects their ability to perform their duties. UK1 said *“I think, it is partly financial, but also the procurement process takes a very long time especially if you have to be fair to all outsider suppliers.”*

Furthermore, UK2 considers limited financial resources as the top obstacle in e-diplomacy implementation. He said, *“I think the number one is probably cost, the biggest challenge to us is the financial to be able to fund a new system which is able to work across 268 networks and 268 embassies overseas so the financial cost to replace infrastructure is one of the biggest burdens”*

#### *Culture and nature of communication*

The senior official at the outreach department thinks that one-way communication is safer to apply than two-way communication. He said, *“we decided that the way we are going to push stuff out and we are not going to pay much attention to the stuff that comes back- personally this is one of the things I want to do to start engaging with people a bit more with academics to start a dialogue going, but I must say I am also quite frightened of that as you might find yourself engaging with not very nice people”*. He also thinks that this is a delicate area, because during such a dialogue, there lingers the danger of making controversial statements. He also found that people who are under the age of 30 use new technology more than those who are over 30.

Both respondents believed that language plays a significant role in failed digital diplomacy approaches. Language barriers can affect the ability of the diplomats to communicate effectively with their partners. The introduction of digital platforms that have the ability to translate languages in real-time is thereby essential.

#### *Abilities of diplomats*

Both interviewees revealed that the ability of diplomats to embrace digital approaches in their roles is also accounted as a challenge. The diplomats may require intensive training to acquire the skills needed for handling digital devices, and managing the security scare associated with their use. Success of e-diplomacy relies on the ability of the involved parties to obtain sufficient training to properly use digital diplomacy. In this regard UK1 said, *“yes, there is very little awareness of how important it is to have good ICT and so, there is very little investment and very little sense of urgency that these people need mobile phone. So, the leaders do not understand why digital tools are so important”*. He also suggested undertaking programs for educating leaders about the importance of e-diplomacy. *“I think that could be done very rapidly to have someone talk to them very enthusiastically about the importance of e-diplomacy”*. He also added that anyone joining diplomatic services should be given an induction on digital tools.

## 6.4. Case 3: The Qatari MOFA

### 6.4.1. Background

The Ministry of Foreign Affairs (MOFA) of Qatar is the government department tasked with the responsibility of regulating its international relations and handling its diplomatic missions (Kamrava, 2011). MOFA takes on a pioneering role to strengthen the relations between Qatar and other countries in the region, the Arab and Muslim states, and the world. It aims at offering services to the citizens during their travel outside the country through its different departments and missions, abroad (MOFAQ, 2014). There are about 100 Qatari foreign missions (MOFAQ, 2014).

The structure of this ministry was reorganized and approved in 2014. The ministry is organized into a number of offices and units, with each representing its own jurisdictions and functions (MOFAQ). The administrative units include the ministry's office and the audit and control office. These offices ensure the effective running of the ministry, and proper utilization of allocated funds. The assistant minister has multiple departments, representing the affairs of various regions, such as the GCC, Africa, Asia, European, American and Arabian departments.

*ICT Tools to enhance e-Diplomacy in Qatar*

The Ministry drafted its Information and Communications Technology (ICT) strategic plan in 2008 (ICTQ, 2011-2016) that describes the current situation and explores the steps taken to implement the 2008-2015 plans. The plan includes related projects, success factors, objectives, and future plans, and Ministry's achievements in line with the state's aspirations for the Qatar National Vision 2030.

According to The Peninsula (2016), MOFA of Qatar is also designing an online system that will create a network of all its diplomatic missions across the world. The MOFA Global Network (MGN) will link more than 100 diplomatic missions across the world, while basing their headquarters in Doha (The Peninsula, 2016). This is a significant step towards creating a digital government that uses technology to carry out diplomatic missions. Despite efforts to improve the use of technology in diplomatic missions for MOFA, the ministry has limited presence on social media sites such as Facebook.

MOFA presented an exemplary model in the field of electronic transformation and optimal usage of electronic networks in the region. In its 2008-2010 ICT plans, the Ministry implemented over 10 projects that led to the following achievements (ICTQ, 2011-2016):

- 1- Laying foundations for an electronic connectivity project, linking MOFA to its diplomatic missions abroad
- 2- Establishing the headquarters and building the infrastructure to connect embassies across countries
- 3- Implementing the electronic visa system in foreign diplomatic missions to expedite travel procedures for individuals who want to visit Qatar
- 4- Transforming the offices of the Prime Minister and the Minister of Foreign Affairs into electronic offices by using state-of-the-art archiving systems, and following up on paperwork.
- 5- Training and qualifying local personnel, who handle the management of projects, and gaining experience for the next phase.

Some of the ICT Projects are listed below (ICTQ, 2011-2016):

- Project to connect the foreign diplomatic missions to the MOFA headquarters, electronically

- Project to develop the electronic archiving system and track correspondences electronically
- Project to develop the MOFA website including information on Qatar's international diplomatic missions
- Project to establish a backup information centre
- Project to ensure secure calls for prominent people and leaders
- Project to develop financial and administrative systems, and provide electronic follow up of paperwork
- Project to connect the ministries of foreign affairs in the member states of the Gulf Cooperation Council (GCC) to the secure communications network
- Project to create a data bank and decision-making system
- Project to encrypt mobile phone calls of the ministry's senior officials
- An electronic system project to regulate the work of International Technical Cooperation Department and the Department of International Development

#### 6.4.2. Empirical Findings

##### **Motivation for using diplomacy**

Five experienced interviewees were selected to conduct a case study at the Qatari foreign ministry. The first interviewee is an ambassador, who served in many countries and has significant knowledge in the field of public diplomacy (Q1). The other ambassador (Q3) has over 20 years of experiences in diplomacy and ICT. Q3 and Q2 are personnel employed at the Qatari embassy in London in the department of public diplomacy and ICT. Finally, Q5 is a senior Qatari diplomat, who works at the Qatari embassy in Sweden and has ICT experience.

Q5 started with defining *ICT maturity* as “*how well you are using the ICT tools within the organisation. In other words, a triangular relationship of infrastructure, employee and applications.*” He also added that diplomats have to work closely with ICT tools, which can enhance their duties as foreign servants. The ambassador of Qatar (Q1) affirmed that public diplomacy is an important element of diplomacy. Diplomacy has evolved these days because the leaders in Doha are supporting the new era of diplomacy (i.e. Public diplomacy), and they appreciate that the diplomats are now involved in engaging



with the public of host countries. According to the senior diplomat, Q5, increased public engagement motivates governments to build relationships that enable them to establish strong strategic goals, to ensure the public receives quality services.. .

The ability of digital diplomacy to enhance social media communication increases its impact on the people it represents. Both ambassadors (Q1 and Q3) observe that social media is used more in the USA than in Europe. They use social media to interact with friends, build relationships, exchange opinions, discuss and learn new ideas. Q2 also added the main benefit of ICT in diplomacy is that it allows diplomats to engage with public, so they can share their feelings, views and issues with the public and find suitable solutions. Q1 said, *“Social media has emerged as an essential in communication between people not only at the diplomatic level, but also at a personal level, hence increasing an influence that it has.”* The contribution of social media in e-diplomacy is massive, and it creates more impact than some of the traditional diplomatic measures, hence increasing the motivation to adopt it.

### **Stages of the Framework**

ICT maturity occurs when the system is fully functional and is bug free with a plan for periodic updates. The IT official (Q4) said *“it is half way mature in the embassy”*. This is because of the poor infrastructure, unskilled human resource, and less funds.

Q4 (the IT official at the embassy of Qatar in London) said, *“I do. I heavily depend on the Internet/VPN to communicate with the central servers and exchange documents through the electronic document management system. The online webinars and courses are one of the most easily accessible source of knowledge and information.”* He also stressed that the proposed framework should be enhanced to include a stage that requires operational level tasks, such as training and awareness.

### **Stage 1: initial stage**

According to the ambassador of Qatar (Q1), the first stage of implementing digital diplomacy is very critical, considering it influences the development of initial plans, and the acquisition of required infrastructure and trained personnel for e-diplomacy. *“I agree, this is the main and essential stage and should add the need to have well trained*

*human resources. It is easy to provide such an infrastructure and advances intra organisational digital capabilities, but it is not easy to find the trained and skilful people to use and manage them.”*

It was found from the five interviews that this stage involves intra-organisation features, as in the other two cases (USA and UK). Qatar needs well-trained human resources; it is easy to provide such infrastructure and advanced intra-organisational digital capabilities, but it is not easy to find trained and skillful people. The human resource should be trained to manage the existing and built technology. The IT staff at the embassy of Qatar in London noted that ICT can help facilitate diplomacy, since most people can access information Internet online, using social media and other platforms. E- Diplomacy tools are utilized within the embassy, but not to their capacity. These tools are being slowly introduced in the departments, so that the users can familiarize themselves with the tools, before advancing them to the next stage. He also added that ICT tools are used daily in the administrative and diplomatic functions; the managers depend heavily on Internet/VPN to communicate with the central servers and exchange documents through the electronic document management system. The online webinars and courses are one of the most easily accessible sources of knowledge and information e.g. WWW, social media, online services, the Internet, virtual private network and document exchange, online conference and webinars, hardware and software. The development of these and the infrastructure to manage them falls under the first stage of the implementation framework.

Q3 three provides some examples of what they are using at the embassy in Sweden; these include web-based archive and document exchange, financial ERP, Microsoft Outlook, HR software for the employees, and fleet management application.

### ***Stages 2 and 3: interaction stages***

In the second stage, the interviewees revealed that the application of smart mobile devices increases, which improves the connectivity between the diplomats and their partners. An ambassador (Q1) asserts that these have influenced the use of conference calls and video chats that are impossible with the traditional approaches.

It was also concluded that the multi-channel and mobile access stage should also be added, because it involves advanced functions, particularly providing ubiquitous access using the multi-channel and mobile approaches. For example, Q3 and Q4 mentioned that the embassies support secure mobile and desktop computing, because access to the central network is only through secure VPN channels. Online access is protected by a onetime password along with a user password. This ensures that in the case of a password being compromised, the hacker will not be able to use it. The extensive layers of firewalls ensure that each level is secured against various type of hacking attacks. Q4 said, *“access to the central network at the embassy is only through secure VPN channels”* The embassy provides wireless access to the guests to only access the Internet; this network is totally isolated from the main network. All other services are provided through wired systems. Q4 also added that *“we are in the process of releasing multiple apps for diplomats and citizens”*.

To comment on the importance of this stage, the public diplomacy officer at the London embassy (Q2) said, *“I think you would be doing a disservice to your country if you didn’t use mobile access, you cannot be a competent diplomat or Foreign Service employee if you cannot access the information, because as a famous quote says, an hour in politics is like a lifetime, so everything changes on a daily and sometimes hourly basis”*

The interviews also stressed the fact that it is very important to provide diplomats with information instantly by providing multi-channel access to information. For instance, Q1 said that *“I think this is very important stage, especially that being mobile can ease getting the right information in a fast and efficiently. It is very important to provide diplomats with information instantly so that he/she can perform his task efficiently therefore using smart phones, mobile devices, and e-applications can help achieving that.”*

As far as the third stage is concerned, all five interviews revealed that the possibilities of the e-diplomacy platform can also offer valuable consular services. Interaction with the citizens and public is a stage that aims to ease the communication with the citizens and public by applying advanced ICT tools. Moreover, the organisation utilizes social media and agrees that it is a key driver for the development of public diplomacy. Twitter and Facebook are both used for news, public announcements and

events. The fact that the new generation prefers social media over watching TV or reading news makes its use more important. It is said that the organisation is using twitter, Facebook, YouTube and LinkedIn to communicate. As an example to support the above finding, Q1 said, *“I think people should have the confidence to use social media and I do encourage everyone to use the tools if they know what is the country’s foreign policy and priorities”* He also added that MOFAQ should encourage all ambassadors to have twitter accounts, and there should be guidelines and written strategies illustrating how to use social media. Another example regarding the importance of social media in public engagement was given by the Qatar embassy public diplomacy officer. He mentioned that it gives the public the ability to understand the purpose of the embassy being present in their country. *“Now you are able to interact with a person who lives in the suburbs who never travels to London”*

The interviews further disclosed that e-diplomacy tools are important to offer better and advanced consular services. In any embassy, ICT can contribute to improving consular services such as visas, legislation of documents, passport applications, online services and online forms. Q1 said, *“ICT should be used these days to provide quality consular services and to promote the home country.”* Q4 also added, *“In the case of visa and legalization, it makes it way easier for citizens to requests those documents and follow the processing time-line online using the systems we already have and constantly improving those systems to make it easier and user friendly. An application for citizens guiding them during their travels, and providing them with information and important contact details for emergencies. ICT is working on a complete paper free online systems.”*

Finally, both respondents from the Qatar embassy in London mentioned that a YouTube channel is utilized to show events and media advertising about the home country, cultural and touristic places. The main website also includes extensive information about the country. For example, Q2 said, *“there is an element of mystery and to cut through that you need to use these tools to promote your country and nation state to interact with the public”*

#### **Stage 4: integration stage**

This stage focuses on the development of further applicable measures in managing and enhancing e-diplomatic responsibilities. The approach focuses on the implementation of open diplomatic channels that will increase the level of interaction between the diplomats and their partners. To start with Q5, the senior diplomat at the Qatari embassy in Sweden commented on the last stage as *“It is not a dream, nor fiction, it can be achieved with the right planning, advanced ICT capabilities and skilful HR”*. Q4 from the Qatari embassy in London revealed that the embassy uses advanced ICT infrastructure like technical consultants, computers and networking equipment, telecommunication, database management and hosting, servers, security, firewalls, intrusion detection, and others, because it has a complete in-house infrastructure. These complex and advanced ICT systems can help achieve the integration stage. He also added that to achieve instant communication and manage different areas of diplomatic work, *“the embassy has 1 GB symmetrical fiber link, with dual backup ADSL lines, where are the services used from Internet browsing telecom and online services are going through them”*.

The interview conducted with Q4, Q2 and Q5 also concluded that there are common web-based applications used between the headquarters and the foreign missions; for example, the electronic document management system, visa and legislation, and accounting systems. The internal ICT provides information to decision makers such as diplomats and ambassadors, who need such awareness to help them achieve their foreign policy goals, because the internal ICT is always involved if there is any chance to accomplish the task in a smart and efficient way. For instance, Q4 said, *“the embassy uses management suite software and this software is shared among the entire embassy network, because the systems the embassy uses are either web-based either on the intranet or Internet such as ERP, Accounting and HR.”*

#### **Factors impacting the Implementation of e-Diplomacy**

The table below provides a detailed summary of the factors affecting the implementation of e-diplomacy as per the interview with a Qatari ambassador, who has over 20 years of ICT experience (Q3).

	Intra organisational digital capabilities	Ubiquitous access	Citizen interaction	Open digital diplomacy
Organisational structure	H	H	H	H
Privacy and confidentiality	M	H	M	H
Nature of communication	L	L	L	H
Socio-cultural norms	M	L	M	H
Political/ legal	L	M	H	H
*H= High impact , M= Moderate impact, L = Low impact				

**Table 6.3, Factors with different effect on e-diplomacy stages**

The table indicates that the factors affecting implementation of digital diplomacy differ based on the stages of the framework. Organisation structure affects the framework at all stages with a high chance of crippling the implementation process. Privacy and confidentiality also impose a medium threat at the first stage, high risk in the second and fourth, with the risk of failure in the third stage at medium. Nature of communication poses low risk for the initial stages and high risk for the last stage. Socio-cultural factors pose medium risk in the first and third stages. They pose a low risk in the second stage and a high risk in the fourth stage. Political and legal factors, on the other hand, pose low risk in the first stage, medium risk in the second and high risk in the third and fourth stages. The bottom line is that the factors have unequal impact on the proposed stage of e-diplomacy maturity.

#### *Organisation structure*

The ambassador (Q3) also reveals that the organisation structure used determines the level of impact that the diplomacy may have. A structure that embraces bureaucratic features increases the difficulties of meeting the digital diplomacy needs. Bureaucracies and highly sophisticated organisation structures result in corporate challenges in decision-making and allocation of resources, which impact the success of digital diplomacy. He also added that organisational structure and leadership would be either a driver or obstacle for change.

Another example of the harsh effect of bureaucracy was given by Q1. He said, *“our website project has been delayed because of MOFA bureaucracy. We had to wait long time for approvals.”* Q2 also added that *“in the initial stages, there is a need for the organisational structures to set up with the social and cultural norms within those organisations, otherwise we will not be able to progress with e-diplomacy projects”*. Finally, he said *“With confined organisational structures, you cannot dream of reaching the highest level”*

#### *Privacy and confidentiality*

All interviewees concluded that security issues are quite significant with the adoption of e-diplomacy. Privacy and confidentiality have the application of controls in which access to data shared by diplomats is limited to only those with authorized access. Failure of privacy and confidentiality measures results in increased effects on the organisation. They lead to increased fears in implementing digital diplomacy, which translate to failures of the approach. For example, Q3 said, *“with regards to privacy and confidentiality, there is a risk, but now a day you need to take this risk to be advanced with foreign policy.”* The interviews from the London embassy also revealed that when you get to the citizen level, you should deal with privacy and confidentiality and you should control the information which reaches out to them.

#### *Nature of communication*

Nature of communication involves the consideration between either traditional channels of communication or the digital channels. The traditional channels involve use of face-to-face approaches that increase the costs incurred considering people meet and interact physically, compared to the digital approach that may involve the use of digital gadgets such as phones, laptops or computers. The digital communication embraces social media communication compared to the traditional measures. Q3 said, *“the nature of communication is changing now, it should be two-way communication although it is very risky”*. The fear of risk can become an obstacle to applying ICT in diplomatic communication with the public. Q3 also added that *“the diplomacy itself became diluted, and it is now integrated with other forms of communications”*

#### *Cultural factors*

The interviews confirm that the presence of cultural obstacles, for instance, the language barrier is also a challenge for these organisations. According to interviewee, Q1, the cultural background affects user attitude towards digital life that may influence the success of digital diplomacy. Implementing digital diplomacy becomes challenging across cultures that discourage the use of social media or other digital platforms. On the contrary, cultures that encourage digital diplomacy invest in infrastructure for these platforms resulting in its successful implementation and utilization.

Q3 said, *“there is a digital divide issue, although, digital tools itself became tools of making common ground for interaction, culture and language barriers are still there against creating commonalities.”* He also added that there is also a socio-cultural norm, such as the continuous change of technology change like *“the smart phone usage”*

#### *Political or legal factors*

Both the Qatari ambassadors mentioned that various political and legal risks arise during the implementation process. Countries with high levels of political instability suffer challenges in implementing digital diplomacy, compared to those with political stability. Legislation that creates legal barriers between people increases the challenges involved in implementing digital diplomacy. Developing channels through which solutions to these challenges are developed may improve the implementation of e-diplomacy, increasing its chances at success. Leadership can also be a major factor. Q3 said, *“we are very lucky to have great leadership, who support ICT implementation.”*

#### *Other factors that are not discussed in the conceptual framework*

##### *Employee Training*

Most interviewees agreed that the success of digital diplomacy is dependent on employee knowledge and skills. Their inadequate understanding of these platforms will affect their ability to use them, leading to failed implementation of e-diplomacy platforms. Training the diplomats on the present means of communication and approaches to handling security threats will increase their efficiency and ability to deliver results using these platforms.



### *Resistance to change/ trust*

Q5 said, “most people have the misconception about ICT and security, and they believe security is lost once you are connected to the Internet.” He also added that can result in “resistance to change”. Also, Q4 affirmed that the rapid change in technology is one of the major factors, as keeping up with the latest technology makes it difficult for any system to reach maturity before it is considered obsolete. The other factor is the generation and age differences, as mentioned by Q1.

## 6.5. Chapter conclusions and summary

This chapter has discussed, and illustrated the empirical findings of an in-depth case studies conducted in The USA stat department, The UK FCO and the Qatari MOFA. The respondents provided credible information for this research. Therefore, conclusions are drawn from these empirical findings. The empirical findings reported from theses case studies showed the apparent importance of e-diplomacy and the factors that affect its implementation. The interviewees feedback increased understanding of the essence of digital diplomacy in serving people of the United States, the United kingdom and the state of Qatar. They clarify the differences between digital and traditional approaches to diplomacy. They contribute to the understanding on the fears associated with the use of digital diplomacy. It is evident that factors of security, confidentiality and privacy lead to fears in implementing digital diplomacy.

This research illustrated both theoretical and empirical contribution towards the understanding of e-diplomacy implementation and impact factors. A summary of the main findings is shown in the table below followed by main conclusions drew from the empirical findings on exploring the maturity of e-diplomacy and its impact factors:-

<b>Issue Conjecture</b>	<b>Description</b>	<b>Sources</b>
<b>Background</b>		
<b>Case 1: USA</b>	Public diplomacy is a fundamental objective of the State Department. The office of e-diplomacy is the primary knowledge management and e-diplomacy hub of the State Department. The office of diplomacy created a number of tools that have been useful in realising some of the e-diplomacy goals. The professional networking site has the feel of a social media site, where people can	(US Department of State, 2008) (Cull, 2009). (Boly, 2010) (Hanson, 2012).  (IRM's Office of eDiplomacy, n.d).

	<p>exchange information in the State Department.</p> <p>These tools are meant to achieve a number of objectives. The office of web engagement is also a department in the State Department that manages a number of social media platforms such as Facebook. It also creates content on the social media platforms it controls, while hosting a number of social apps and websites controlled by the State Department.</p>	
<b>Case 2: UK</b>	<p>UK is ranked second after the US for using innovative tools of public diplomacy. The Foreign Commonwealth Office issued a digital strategy that stressed on the implications of ICT for UK diplomats. UK FCO also manages social media diplomacy. It holds several official accounts on Facebook and Twitter. The UK has largely relied on technology in diplomacy, as a form of communication, both to the residents of the UK and the overseas citizens. The FCO is increasingly using technology not only as a form of communication, but also as a way to develop foreign policies. The FCO also uses online forums to gather views and opinions of the people on matters such as corruption and government transparency.</p>	<p>(Beasley et al., 2012). (Digital Strategy of the FCO, 2012)</p>
<b>Case 3: Qatar</b>	<p>The Ministry drafted its Information and Communications Technology (ICT) strategic plan in 2008 that describe the current situation, and explores the steps taken for the 2008-2015 plan. The plan includes information on related projects, success factors, objectives and future plans, and finally, the Ministry's achievement of the state's aspirations in the Qatar National Vision 2030.</p>	<p>(MOFAQ) (ICTQ, 2011-2016) (The Peninsula, 2016)</p>
<b>Maturity of e-diplomacy</b>		
<b>Initial stage (C1)</b>	<p>It is a core stage to build a robust e-diplomacy system. It focuses on organising the required features that will support the implementation of e-diplomacy platforms. These include, the development of infrastructure for implementing digital diplomacy, and the required hardware and software</p>	All Interviews
<b>Interaction stage (C2)</b>	<p>This stage explores the possibilities of a multichannel approach that increases the mobile nature of the diplomatic responsibilities. The interviewees confirms, to support the mobility of employees, the foreign ministries provide Wi-Fi infrastructure, smart phones, and software. .</p>	All Interviews
<b>Interaction stage (C3)</b>	<p>In the third stage, interaction between the diplomats and the people they represent occurs. ICT has enabled the advancement of consular services that the diplomats offer to the people, allowing them to address their problems directly. Also, the introduction of social media in diplomatic services has enhanced the possibility of this approach.</p>	All Interviews
<b>Integration stage (C4)</b>	<p>The last stage reflects the implementation of open digital diplomacy, which promotes connectivity between the different offices established across various countries to</p>	UK1, UK2, Q2, Q5, Q4

	handle diplomatic responsibilities. It brings together all the diplomacy stakeholders. Foreign missions are using advanced ICT infrastructure like technical consultants, computers and networking equipment, telecommunication, database management and hosting, servers, security, firewalls, intrusion detection, and others, which can help achieve the integration stage.	
<b>Factors impacting e-diplomacy implementation</b>		
<b>Organisational/ bureaucracy (C5)</b>	Organisational factors such as bureaucracies involved in the implementation of digital diplomacy. In any organisation of this nature, bureaucracies play a significant role in decision-making and handling of major features of the job.	UK2, UK1, Q3
<b>Secrecy/ confidentiality (C6)</b>	All respondents think that the implementation of digital diplomacy raises issues of privacy and confidentiality of the data shared on these platforms. This can be one of the major obstacles in e-diplomacy implementation.	All Interviews
<b>Political (C9)</b>	Political factors contribute to challenges in implementing a digital approach in diplomacy. Countries with political instability increase the difficulties of diplomats carrying out their responsibilities. In some cases, political instability leads to restrictions of using digital measures, increasing the need to rely on traditional measures.	UK1, Q3, Q1
<b>Legal (C9)</b>	(Regulations and legislations to cope with changes caused by e-diplomacy) In some countries, communication through social media channels is acceptable, while in others, it is illegal. The level of openness that each country embraces, and the level of limitations they impose on their relations with the other countries contribute to development of legislation and policies that may affect the roles of diplomats in their countries.	US1, UK1
<b>Economic (C9)</b>	(Cost, financial issues, economic environment) E-diplomacy projects need long-term financial support. The budget for ICT projects are usually limited, which can be an obstacle to e-diplomacy implementation. Poor economic policies that affect the work of diplomats and the implementation of digital diplomacy affect their ability to perform their duties.	US1, UK2
<b>Socio-cultural norms (C8)</b>	Dealing with various cultures and traditions, citizen centric, digital divide, and social environment are some examples of socio-cultural factors. The cultural aspects depend on the personnel. Some consider security concerns as a part of their cultural factors that affect their decisions to implement digital diplomacy. The language aspect plays a significant role in leading to the failures of digital diplomacy approaches. Language barrier may affect the ability of the diplomats to communicate with their partners effectively. Cultures that discourage the use of social media, or other digital platforms make it challenging to implement digital diplomacy.	US2, UK1, UK2, Q3, Q1
<b>Nature of communication (C3)</b>	The interviewees defined that <i>the nature of communication</i> involved between diplomats and the public, or the people they interact with, determines the ability of implementing digital diplomacy. Traditional	US2, UK1, UK2, Q3

	diplomats oppose the idea of using ICT tools (example: social media) in diplomacy, as it allows two-way communication with the public, which is against the traditional norms of diplomacy.	
<b>Motivation (new factor)</b>	Various motivations influence the use of e-diplomacy. The interviewees mentioned that simplicity created by the digital platform introduces ease in handling diplomatic responsibilities; for instance, the ability to create a similar situation as the face-to-face interaction	All interviews
<b>Awareness/training/Human resources (new factors)</b>	Awareness and training campaigns promote e-diplomacy services to achieve more participation and implementation. The interviews revealed that the ability of diplomats to embrace digital approaches in their roles is one of the challenges. Some of them may require intense training to obtain the requisite skills for successfully handling digital devices, and managing any security scare arising with their application in diplomacy.	UK1, UK2, Q5, Q1
<b>Trust acceptance (new factors)</b> /	Acceptance of new ICT tools in e-diplomacy is essential. Once diplomats realise the benefits of e-diplomacy tools, they will start using them. Trusting the e-diplomacy tools is an important factor. For instance, senior diplomats (such as ambassadors) do not trust or agree that social media are suitable tools of modern communication.	Q1, Q2, Q3
<b>Resistance to change (new factor)</b>	(Opposition to new ideas, specially, from the older generation diplomats.) Some people believe security is lost once you are connected to the Internet. This can lead to resistance to change. Also, the rapid change in technology leads to resistance to change, as keeping up with latest technology makes it difficult for any system to reach maturity before it is considered obsolete.	Q1, Q3, Q5
<b>Risk (new factor)</b>	(Non-predictable and non-measurable risk of technology) E-diplomacy can introduce some risk. For instance, The fear of using social media can become an obstacle to the application of ICT in diplomatic communication.	Q1,Q3

**Table 6.4, Findings summary**

From the above findings summary, the following conclusions are drawn: -

- Various e-diplomacy tools are being used by the ministries of foreign affairs of the UK, the USA and Qatar for internal work purposes such as financial system, employee communication, decision making systems, e-learning, and e-training as well as external work such as communication with the public and citizens, e-visa, and crisis management system. However, the most popular e-diplomacy tools used commonly by the ministries and diplomats are social media such as Twitter and Facebook.

- The decision to apply e-diplomacy by the three cases was defined as important and evident because these ministries wanted to keep up with the technological changes. As mentioned by the respondent,s simplicity created by the e-diplomacy tools facilitates diplomatic responsibilities and hence provides effective mean of communication between all stakeholders of diplomacy.
- Some interviews, ICT managers, asserted that it was extremely important to have a strong strategy and policy when it come to the implementation of e-diplomacy. The conceptual framework assists these managers when taking decisions regarding the implementation of e-diplomacy for initial stage, such as service delivery, and external work, such as interacting with the citizens and collaboration with all diplomacy stakeholders. Therefore, the framework offers a clear guideline that can be used while applying e-diplomacy tools, which will help decision-makers to better apply their available resources.
- The diplomats and other employees within the organisations need to obtain the required training to ensure they can operate these digital platforms. Failure on part of the organisation to offer such training can result in difficulties for employees to change from traditional to digital approaches. Also, awareness campaigns are needed to promote e-diplomacy services to achieve more participation and implementation.
- When implementing e-diplomacy it is evident that all three countries suffer from almost similar challenges. Issues related to security, privacy, confidentiality, organisation structure, political and cultural barriers which can significantly affect the success of e-diplomacy. Despite these challenges, the e-diplomacy framework should improve the ability of the diplomats to relate closely with the people they represent. It will also reduce the need to use traditional approaches, which suffer significant setbacks in cases of political instability among other problems. Other factors have been identified and introduced by the interviews such as risk, resistance to change, human resources, and trust in e-diplomacy tools.

- Finally, the empirical findings highlight that both the analysis of the enquired stages of e-diplomacy maturity (i.e., initial, advance innovate) as well as the e-diplomacy impact factors (i.e. organisational, political, privacy, cultural and social) would contribute to the decision making process and lead to an effective use of e-diplomacy. (more about the contribution is presented in chapter 9)

The next chapter presents a brief background on interpretive structural modeling (ISM). As mentioned in chapter 4, ISM is used in this research to find causal relationships among variables identified from the findings that impact e-diplomacy implementation. A relationship framework identified here will be of help to academics and practitioners in the field.

Chapter 8 will discuss and synthesize the findings from the three cases and from the ISM process to refine the conceptual framework and reveal novel contributions. The chapter will also outline the Delphi process used to evaluate the framework. These conclusions presented in this chapter reflect the research conjectures presented in chapter 3. A revised formwork of e-diplomacy maturity is presented in chapter 8 based on the empirical findings of this chapter.

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# Chapter 7: Interpretive structural modelling ISM

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## **Abstract**

This chapter presents a brief background on interpretive structural modeling (ISM). ISM is used in this research to identify relationships between variables that impact e-diplomacy implementation, and therefore, develop a relationship framework that can help both academics and practitioners in this field.

## Chapter 7: Interpretive structural modelling ISM

### 7.1. Introduction

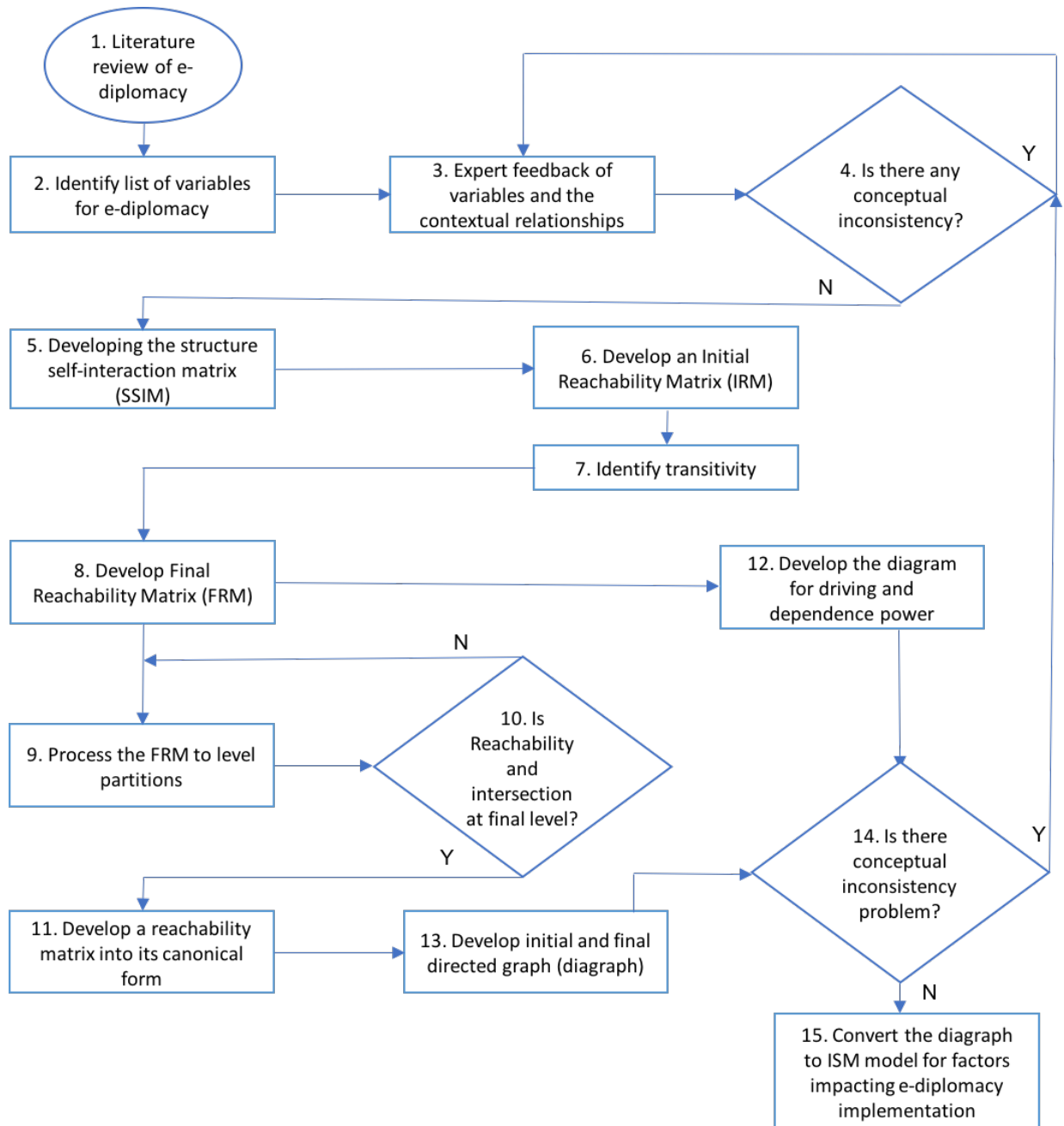
The section will highlight a solution integration strategy founded on ISM (Interpretative Structural Modeling) for determining factors enhancing e-diplomacy. An extensive literature review (chapter 2), in addition to case study interviews, was conducted to establish these factors (the interview results are presented in chapter 6). The correlation between these factors is explored using the ISM technique. The ISM process is an interactive educational process in which a group of directly related and different elements are organized into an all-inclusive systematic framework (Raj and Attri 2011; Shahabadkar 2012; Attri et al.,2013). Janes (1988) posits that ISM modeling not only gives acumens into the correlation between different factors, but additionally assists in developing the hierarchy based on the significance of every factor. It additionally provides a visual depiction of the situation. For instance, Singh et al. (2007) used ISM to develop relationships between factors that affect strategic decisions of firms. Similarly, Agarwal et al. (2007) used ISM to determine factors for supply chain agility. Talib et al. (2011) used ISM for quality management implementations. Jayant (2014) composed a paper about ISM to show the most up-to-date ISM literature and applications. They collected 43 papers that mentioned ISM. Rajesh (2013) used ISM methodology to learn about the factors in the implementation of Total Productive Maintenance. Adel (2013) used the ISM approach to scheme a model for business process-orientation. Dwivedi et al. (2017) used ISM to identify factors of innovation through Big Open Linked Data.

The next section will outline the ISM proses carried out by the researcher.

### 7.2. ISM implementation

The proposed methodology to carry on the ISM process is presented in Figure 7.1 below:-





**Figure 7.1: ISM (Interactive Structural Modelling)**

By using thematic synthesis process of qualitative research (Thomas and Harden, 2008), the factors that impact e-diplomacy implementation were extracted based on feedback from experts (see chapter 6). These factors are analysed in the next section by applying the ISM process. (The factors are listed in table 7.1 below)

FACTOR		EXPLANATION
1	Resistance to change	Resistance to change means that states and non-state actors are not ready to accept change, especially the use of e-diplomacy to share sensitive information. Change is crucial to current societies; the Internet has revolutionised everything, including diplomatic relations and information gathering. Rapid advances in technology lead to “resistance to change”. Keeping up with the latest technologies makes it difficult for any system to reach maturity before it is considered obsolete.
2	Awareness/ training	This element comprises awareness and training campaigns that promote e-diplomacy services to increase implementation and use. The level of awareness of personnel depends on their knowledge and ability to use digital platforms. These may require training which will improve their ability to use digital diplomacy in carrying out their roles.
3	Secrecy	All respondents think that the implementation of digital diplomacy raises issues of privacy, security and confidentiality of the data shared on these platforms, and this can be the major obstacle in implementing e-diplomacy. Diplomatic data should be protected from destructive forces and unwanted actions by unauthorised users.
4	Acceptance	Acceptance of new ICT positively affects the implementation of ICT in technology. In most countries, the Internet has been accepted as the primary tool for information sharing. Social media serves as a central platform, where ideas are shared and transmitted globally. Countries have adopted e-governance in cases where the government uses websites to communicate information to its citizens. Most states and non-state actors accept the use of Internet and telecommunication strategies and tools in their organisations. In these cases, the introduction and implementation of e-diplomacy is unlikely to face resistance
5	Trust	Confidence is a strong belief that something is going to work as intended. In the case of e-diplomacy, trust means that users of digital diplomacy believe that it is useful and greatly assists the diplomatic process, and will contribute to achieving strategic objectives. In other words, users have faith in that digital diplomacy will provide superior results. Trust may affect implementation of digital diplomacy either positively or negatively. For instance, when high confidence in e-diplomacy tools encourages states and non-state actors to implement the use of digital diplomacy. For example, when senior diplomats (such as ambassadors) do not trust or agree that social media is an important medium of communication, the implementation of e-diplomacy is negatively impacted.
6	Risk	Risk is defined as a possible adverse outcome, such as a danger. In other words, the risk equates to holding doubts about the future outcome. This is a critical factor affecting ICT and digital diplomacy. The risk factor has changed the adoption of ICT in any sector since uncertainties are associated with adverse outcomes. The introduction and implementation of digital diplomacy is also prone to risks. State and non-state actors may experience risks such as the hacking of e-diplomacy tools which impacts the implementation process negatively to and, at the same time, may lead to diplomatic crises, such as the “WikiLeaks” issue.
7	Competitive advantage/ Benefits/motivation	A range of motivations hold influence over the use of e-diplomacy. The interviewees referred to the simplicity offered by the digital platforms, which improves the ease of managing diplomatic responsibilities, such as the ability to create environments similar to face-to-face interactions. Moreover, e-diplomacy tools are proven to enhance the functions of diplomats, such as communication, negotiations, bilateral engagements, consular services ... etc.

FACTOR		EXPLANATION
8	Human resource factors	“Human resources” refers to the people who make up an organisation’s workforce. Human resource factors are critical when it comes to implementing ICT in diplomacy. When employees in an organisation have sufficient practical knowledge and skills on the use of ICT in diplomacy, its advantages and benefits, they can accelerate its implementation. Relevant HR factors include: leadership, management competence, knowledge, and capacity building.
9	Organizational factors	Organisational factors according to the nature of the bureaucracies involved in the implementing digital diplomacy. In any organization of this nature, bureaucracies play a significant role in decision making and handling of the major features of the job. Other organizational aspects include Organizational structure, Power distribution, Future needs of the organization, and Organizational culture.
10	Economic aspect	E-diplomacy projects require financial support over the long term. Budgets for ICT project are usually limited, which can limit e-diplomacy implementation. Other economic factors (e.g. cost, financial issues, economic environment) are among the potential obstacles that affect the implementation of e-diplomacy. Poor economic policies affect the work of diplomats, implementation of digital diplomacy affects diplomats’ ability to perform their duties.
11	Culture and tradition	The impact that cultural aspects can have on e-diplomacy implementation depends on the quality of the personnel. Some consider security concerns as part of the cultural factors they must address, and this may affect their decisions concerning implementation of digital diplomacy. The issue of language plays a significant role in the failures of digital-diplomacy approaches. Language barriers may affect the ability of diplomats to communicate with their partners effectively. Cultures that discourage the use of social media or other digital platforms make it challenging to implement digital diplomacy, compared to those countries that may allow its development.
12	Social aspects	“Social aspects” refers to all aspects of the society. The term “social” refers to interactions and relations that take place between people. Social issues are paramount when it comes to the adoption of e-diplomacy. E-diplomacy should be performed within set policies and frameworks to ensure that there is no violation of other people’s rights in the society. The adoption process should be citizen-centric and contribute to an improvement of the social environment and social standards. Dealing with disparate societies and traditions, achieving citizen-centric policies, the digital divide and the social environment are examples of relevant social factors.
13	Political aspects	Political factors may impede the implementation of a digital approach in diplomacy. Political instability may make it more difficult for diplomats to carry out their responsibilities. In some cases, political instability necessitates restrictions of the use of digital measures, increasing reliance on traditional measures. Relevant political aspects include: government support, leadership, and commitment from senior management.
14	Legal aspect	“Legal aspects” can be defined as regulations and legislative that act to cope with the changes caused by e-diplomacy. For example, in some countries, communication via social media channels is accepted, whilst in others it is illegal. The degree of openness that each country embraces and the level of restrictions they impose on relations with other countries can contribute to the enactment of legislation and policies that impact the roles of diplomats in their countries.

FACTOR		EXPLANATION
15	Intra-organizational digital capabilities/ Technical infrastructure	This stage is the key to achieving a robust e-diplomacy system. The first stage focuses on organising the features required to support the successful implementation of e-diplomacy platforms. These include infrastructure development as well as the required hardware and software.
16	Ubiquitous access	This stage focuses on the provision of a potentially multi-channelled approach to support the mobile nature of diplomatic responsibilities. The interviewees favoured supporting the mobility of employees in foreign ministries by providing Wi-Fi infrastructures, smart phones and software to support mobile access within the diplomatic premises. To increase the effectiveness of digital diplomacy they advocate increasing the channels through which personnel may operate and access online data.
17	Citizens' interactions/ Nature of communications	In this stage, the interaction between the diplomats and the people they represent occurs. ICT has improved consular services offered by diplomats, enhancing their ability to address their citizens' problems directly. The inclusion of social media in the provision of diplomatic services has also enhanced the effectiveness of this approach.
18	Collaborative digital diplomacy	This stage reflects the implementation of a collaborative digital diplomacy system, which promotes connectivity between the offices established in different regions or countries to handle diplomatic responsibilities and connects all diplomacy stakeholders together. Foreign missions are using advanced ICT infrastructure like technical consultants, computers and networking equipment, telecommunication, database management and hosting, servers, security, firewalls, intrusion detection, and others which can help achieving the integration stage

**Table 7.1, The identified ISM factors that impact e-diplomacy**

These factors that resulted from the case studies are further analysed by the ISM process to find causal relationship among them.

### **Structural Self-Interaction Matrix (SSIM)**

For evaluating the correlation between the various factors affecting e-democracy, a contextual link of leads to type is selected. It, therefore, means that one factor assists in ameliorating another factor. With this in mind, the contextual correlation between the variables is enhanced. After establishing the definition of each variable, the correlation between any two sub-elements (*i* and *j*) as well as the associated course of relation is further examined. Four symbols have been used for the category of the correlation that is existent between the identified Sub-variables under thought (Raj & Attri, 2011).

- ✓ A: factor *j* will improve factor *i*;
- ✓ V: factor *i* will improve factor

- ✓ X: factors  $j$  and  $i$  will enhance each other;
- ✓ O: factors  $j$  and  $i$  have no correlation with each other

Based on the contextual relationship discussed above the SSIM is developed as shown in table 7.2 below by conducting a round table discussion with some experts in the field of e-diplomacy (Q3, Q4 and Q5) :

$i/j$	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1	A	A	A	A	A	A	A	A	A	A	A	V	A	O	O	A	A	
2	V	V	V	A	O	O	O	O	O	O	O	X	X	V	X	X		
3	X	X	X	A	O	O	O	O	A	O	A	O	X	V	V			
4	V	V	V	O	A	A	A	A	O	A	O	V	V	X				
5	V	V	V	A	O	O	O	O	A	O	X	O	A					
6	X	X	X	A	X	O	O	O	V	O	V	O						
7	A	A	A	A	O	O	O	O	A	X	A							
8	V	V	V	X	O	O	A	A	A	A								
9	V	V	V	V	O	O	O	O	O									
10	V	V	V	V	O	O	O	O										
11	V	V	V	V	O	O	O											
12	V	V	V	V	O	O												
13	V	V	V	V	O													
14	V	X	X	X														
15	V	V	V															
16	X	X																
17	X																	
18																		

**Table 7.2, The SSIM**

### Reachability Matrix

The Structural Self-interaction Matrix is transformed into a reachability matrix. A reachability matrix is a binary matrix that consists of 0's and 1's. The reachability matrix follows some simple rules of substitution as described below:

- ✓ Based on the original structural self-interaction matrix, any  $(i, j)$  entry corresponding to factor V is denoted as 1 (numeric) in the reachability matrix, and subsequently, the  $(j, i)$  entry changes to numeric 0

- ✓ Any  $(i, j)$  entry corresponding to factor A in the SSIM is denoted as 0 in the reachability matrix, and subsequently, the  $(j, i)$  entry is denoted as 1
- ✓ Any  $(i, j)$  entry corresponding to factor X in the SSIM is denoted as 1 in the reachability matrix, and subsequently, the  $(j, i)$  entry is denoted as 1
- ✓ Any  $(i, j)$  entry corresponding to factor O in the SSIM is denoted as 0 in the reachability matrix, and subsequently, the  $(j, i)$  entry is denoted as 0

$i/j$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1
3	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1
4	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1
5	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	1	1
6	1	1	1	0	1	1	0	1	0	1	0	0	0	0	0	1	1	1
7	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
8	1	0	1	0	1	0	1	1	0	0	0	0	0	0	1	1	1	1
9	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0	1	1	1
10	1	0	1	0	1	0	1	1	0	1	0	0	0	0	0	1	1	1
11	1	0	0	1	0	0	0	1	0	0	1	0	0	0	0	1	1	1
12	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1	1
13	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	1	1
14	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	1
15	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1
16	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1
17	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1
18	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1

**Table 7.3, Initial reachability matrix**

### Final reachability matrix

The final reachability matrix (shown in table 7.4) is formed by applying the contextual relation in which if variable A is related to B and B is related to C, then A will be necessary related to C

i/j	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	R
1	1	1*	0	0	0	0	1	0	1*	0	0	0	0	0	0	0	0	0	4
2	1	1	1	1	1	1	1	1*	1*	1*	0	0	0	0	0	1	1	1	13
3	1	1	1	1	1	1	1*	1*	0	1*	0	0	0	0	0	1	1	1	12
4	1*	1	1*	1	1	1	1	1*	1*	1*	0	0	0	0	0	1	1	1	13
5	1*	1*	1*	1	1	1*	1*	1	0	0	0	0	0	0	1*	1	1	1	12
6	1	1	1	1*	1	1	1*	1	0	1	0	0	0	0	1*	1	1	1	13
7	1*	1	1*	1*	1*	1*	1	1*	1	0	0	0	0	0	0	1*	1*	1*	12
8	1	1*	1	1*	1	1*	1	1	1*	0	0	0	0	0	1	1	1	1	13
9	1	1*	1*	1	1*	1*	1	1	1	0	0	0	0	0	1*	1	1	1	13
10	1	1*	1	1*	1	1*	1	1	1*	1	0	0	0	0	1*	1	1	1	14
11	1	1*	1*	1	1*	1*	1*	1	0	0	1	0	0	0	1*	1	1	1	13
12	1	1*	1*	1	1*	1*	1*	1	0	0	0	1	0	0	1*	1	1	1	13
13	1	1*	1*	1	1*	1*	1*	0	0	0	0	0	1	0	0	1	1	1	11
14	1	1*	1*	1	1*	1*	1*	0	0	0	0	0	0	1	0	1	1	1	11
15	1	1	1	1	1	1	1	1*	1*	1*	0	0	0	0	1	1	1	1	14
16	1	1*	1	1*	1*	1	1	1*	1*	1*	0	0	0	0	0	1	1	1	13
17	1	1*	1	1*	1*	1	1	1*	1*	1*	0	0	0	0	0	1	1	1	13
18	1	1*	1	1*	1*	1	1	1*	1*	1*	0	0	0	0	0	1	1	1	13
N	18	18	17	17	17	17	18	15	11	9	1	1	1	1	8	17	17	17	

[Legend: 1\* shows transitivity, N = DNP Dependence Power, R = DRP Driving Power ]

**Table 7.4, Final reachability matrix**

**Level Partitioning the Reachability Matrix**

From the reachability matrix, level partitioning is executed through the assessment of the reachability matrix, as well as the precursor groups of every factor. The reachability group is comprised of the factor itself as well as other factors, which may assist achieve. Conversely, the precursor sets comprise the factor, as well as other factors, which may assist in achieving it. Then the meeting point of these groups is derived from all the factors. The factors for which the intersection and reachability sets are similar are the highest ranked factors in the ISM grading. The highest ranked factors in the grading system would not assist to achieve any other factor above its level.

In Table 7.5, variables 1 (Resistance to change), 2 (Awareness/training), and 7 (Competitive advantages), are found at level I as the elements (elements 2, 2, 3,4, 5, 6,

7, 8, 9,10,16,17,18) for these variables at reachability and intersection set are the same. So, they will be located at the highest of the hierarchy of the ISM model.

Element P(i)	Reachability Set R(Pi)	Antecedent Set: A(Pi)	Intersection R(Pi) & A(Pi)	Level
1	1,2,7,9	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	1,2,7,9	I
2	1,2,3,4,5,6,7,8,9,10,16,17,18	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	1,2,3,4,5,6,7,8,9,10,16,17,18	I
3	1,2,3,4,5,6,7,8,10,16,17,18	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	2,3,4,5,6,7,8,10,16,17,18	
4	1,2,3,4,5,6,7,8,9,10,16,17,18	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	2,3,4,5,6,7,8,9,10,16,17,18	
5	1,2,3,4,5,6,7,8,15,16,17,18	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	2,3,4,5,6,7,8,15,16,17,18	
6	1,2,3,4,5,6,7,8,10,15,16,17,18	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	2,3,4,5,6,7,8,10,15,16,17,18	
7	1,2,3,4,5,6,7,8,9,16,17,18	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	1,2,3,4,5,6,7,8,9,16,17,18	I
8	1,2,3,4,5,6,7,8,9,15,16,17,18	2,3,4,5,6,7,8,9,10,11,12,15,16,17,18	2,3,4,5,6,7,8,9,15,16,17,18	
9	1,2,3,4,5,6,7,8,9,15,16,17,18	1,2,4,7,8,9,10,15,16,17,18	1,2,4,7,8,9,15,16,17,18	
10	1,2,3,4,5,6,7,8,9,10,15,16,17,18	2,3,4,6,10,15,16,17,18	2,3,4,6,10,15,16,17,18	
11	1,2,3,4,5,6,7,8,11,15,16,17,18	11	11	
12	1,2,3,4,5,6,7,8,12,15,16,17,18	12	12	
13	1,2,3,4,5,6,7,13,16,17,18	13	13	
14	1,2,3,4,5,6,7,14,16,17,18	14	14	
15	1,2,3,4,5,6,7,8,9,10,15,16,17,18	5,6,8,9,10,11,12,15	5,6,8,9,10,15	
16	1,2,3,4,5,6,7,8,9,10,16,17,18	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	2,3,4,5,6,7,8,9,10,16,17,18	
17	1,2,3,4,5,6,7,8,9,10,16,17,18	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	2,3,4,5,6,7,8,9,10,16,17,18	
18	1,2,3,4,5,6,7,8,9,10,16,17,18	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18	2,3,4,5,6,7,8,9,10,16,17,18	

**Table 7.5. Partition on Reachability Matrix: Interaction I**



In Table 7.6, the variables 3 (Security/privacy), 4 (Acceptance), 5 (Trust,), 6 (Risk), 8 (human resource factors), 16 (Ubiquitous access), 17 (Citizens interactions/ Nature of communications), and 18 (i.e., Collaborative digital diplomacy) are put at level II as the elements for these variables as reachability and intersection set are the same. Thus, they will be placed at level II in the ISM model. Furthermore, we also eliminate the rows corresponding to variables 1,2, and 7 from Table 7.5, which are already located at the top level (level I). The same procedure of deleting the rows conforming to the previous level and marking the next level location to the new table is repeated until we reach the final variable in the table.

Element P(i)	Reachability Set R(Pi)	Antecedent Set: A(Pi)	Intersection R(Pi) & A(Pi)	Level
3	3,4,5,6,8,10,16,17,18	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18	3,4,5,6,8,10,16,17,18	II
4	3,4,5,6,8,9,10,16,17,18	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18	3,4,5,6,8,9,10,16,17,18	II
5	3,4,5,6,8,15,16,17,18	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18	3,4,5,6,8,15,16,17,18	II
6	3,4,5,6,8,10,15,16,17,18	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18	3,4,5,6,8,10,15,16,17,18	II
8	3,4,5,6,8,9,15,16,17,18	3,4,5,6,8,9,10,11,12,15,16,17,18	3,4,5,6,8,9,15,16,17,18	II
9	3,4,5,6,8,9,15,16,17,18	4,8,9,10,15,16,17,18	4,8,9,15,16,17,18	
10	3,4,5,6,8,9,10,15,16,17,18	3,4,6,10,15,16,17,18	3,4,6,10,15,16,17,18	
11	3,4,5,6,8,11,15,16,17,18	11	11	
12	3,4,5,6,8,12,15,16,17,18	12	12	
13	3,4,5,6,13,16,17,18	13	13	
14	3,4,5,6,14,16,17,18	14	14	
15	3,4,5,6,8,9,10,15,16,17,18	5,6,8,9,10,11,12,15	5,6,8,9,10,15	
16	3,4,5,6,8,9,10,16,17,18	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18	3,4,5,6,8,9,10,16,17,18	II
17	3,4,5,6,8,9,10,16,17,18	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18	3,4,5,6,8,9,10,16,17,18	II
18	3,4,5,6,8,9,10,16,17,18	3,4,5,6,8,9,10,11,12,13,14,15,16,17,18	3,4,5,6,8,9,10,16,17,18	II

**Table 7.6. Partition on Reachability Matrix: Interaction II**

In Table 7.7., variables 9 (organisational factor), 13 (Political), 14(Legal), and 15 (Technical infrastructure ) are placed at level III as the elements of these variables at reachability set and intersection set are the same. Thus, it will be placed at level III in the ISM model.

Element P(i)	Reachability Set R(Pi)	Antecedent Set: A(Pi)	Intersection R(Pi) & A(Pi)	Level
9	9,15	9,10,15	9,15	III
10	9,10,15	10,15	10,15	
11	11,15	11	11	
12	12,15	12	12	
13	13	13	13	III
14	14	14	14	III
15	9,10,15	9,10,11,12,15	9,10,15	III

**Table 7.7. Partition on Reachability Matrix: Interaction III**

In Table 7.8, variables 10 (Economic aspect) , 11 (Culture and tradition) and 12 (Social factors) are put at level lowest level IV as the elements at reachability set and intersection set for these variables are the same. Thus, it will be positioned at level IV in the ISM model.

Element P(i)	Reachability Set R(Pi)	Antecedent Set: A(Pi)	Intersection R(Pi) & A(Pi)	Level
10	10	10	10	IV
11	11	11	11	IV
12	12	12	12	IV

**Table 7.8. Partition on Reachability Matrix: Interaction IV**

### Conical Matrix

A conical matrix is created through grouping variables contained in the same level, across columns and rows of the final reachability matrix. The Conical matrix that shows the factors against the level is shown below: -

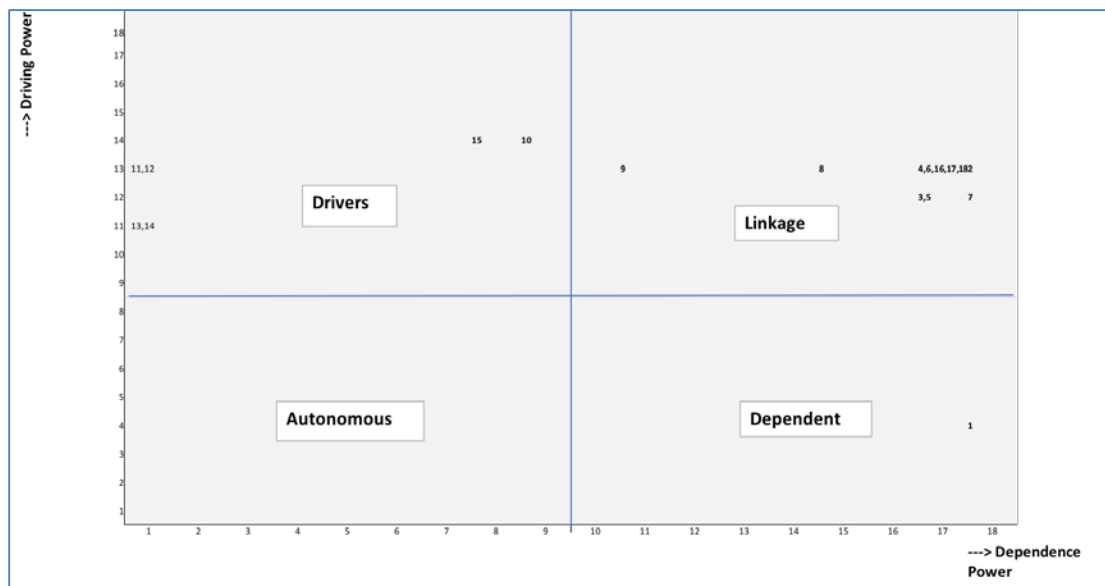
Elements	1	2	7	3	4	5	6	8	16	17	18	9	13	14	15	10	11	12	Level
1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
2	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1
7	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1

3	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	0	0	2
4	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	2
5	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	2
6	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	0	2
8	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	2
16	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	2
17	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	2
18	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	2
9	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	3
13	1	1	1	1	1	1	1	0	1	1	1	0	1	0	0	0	0	0	3
14	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	3
15	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	3
10	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	4
11	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	0	4
12	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	4

**Table 7.9, The Conical Matrix**

### Classification of Factors Impacting e-diplomacy

The factors e-diplomacy implementation are categorised into four groups based on driving power and dependence power shown in table 7.4 above and diagram 7.2 below. The categories are autonomous, dependent, linkage, and drivers (Mandal and Deshmukh 1994).



**Figure 7.2. Driving Power and Dependence Diagram**

As far as figure 7.2 concerned, it comprises four quadrants that represent the autonomous, dependent, linkage, and driver classes. For instance, a variable that has a driving power of 11 and dependence power of 16 is placed at a position with dependence power of 17 in the X-axis and driving power of 11 on the Y-axis. Based on its location, it can be defined as a Linkage Factor. The objective behind the classification e-diplomacy implementation is to analyse the driver power and dependency of the variables.

The first quadrant contains factors which are defined to be autonomous which are factors that should be disconnected from the system as they have weak driver power and weak dependence. None of the defined factors fit into that quadrant in the context of this research.

The second quadrant contains only one factor that is *resistance to change* that should define it as a dependent variable that has weak driver power but strong dependence power.

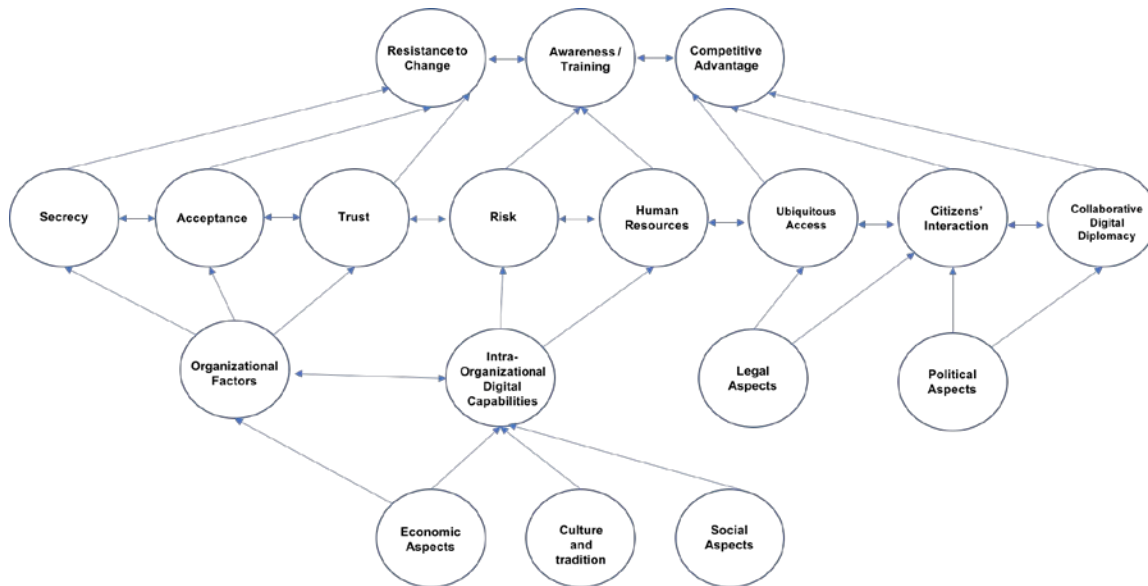
The third quadrant contains drivers or independent factors that have strong driving power and weak dependence. *cultural, legal, economic, social, political and technical infrastructure* are included in this quadrant.

The Forth quadrant (linkage) contains majority of the variables that are *Awareness/training, security, acceptance, trust, risk, competitive advantages, human resources, organisational factor, ubiquitous access, citizen's interactions, and collaborative digital diplomacy*. According to the definition of driver variables these factors have strong driver power and strong dependence power. These factors effect each other's and also a feedback effect on themselves.

### **Formation of Structural Model**

In this section, the final ISM based model of factors affecting e-diplomacy implementation is constructed from both the canonical matrix shown in Table 7.9 and the final reachability matrix shown in table 7.4. The model consists of vertices, nodes and edges that illustrate relationships among the variables. For instance, if there is a relation between the factors i and j, this is shown by an arrow pointing from i to j. The digraph is finally converted into an ISM-based model, shown in the Figure below. The

different levels are identified using a level partitioning process of the ISM method, which shows the driving and dependence power of a variable and how they are connected at the same level and with the variables of the next level above.



**Figure 7.3. ISM-based Model**

Further discussion of these above-mentioned results is outlined in the next chapter (discussion and research synthesis)

### 7.3. Chapter summary

It is evident that the ability of a country to build meaningful relationships relies on its capacity to build strategies that can assist in achieving relevant international policies. E-diplomacy is slowly gaining prominence, as the rate of technology adoption is increasing at a faster pace. Governments are choosing this strategy, given its efficiency and ability to control the different aspects of e-diplomacy.

The research methodology relies on the ISM concept to understand the interconnected nature of the factors of e-diplomacy. ISM has been used to assist in the manipulation of underlying data to build a valid argument regarding the main issues of e-diplomacy. The strategy composition relies on the primary objectives of e-diplomacy,

as well as the main challenges and questions that are likely to emerge. These will be imperative for validating the research objectives of this thesis. The ISM conceptual framework is fragmented into different segments to assist in analyzing the checkpoints that assess the maturity of e-diplomacy across nations. The above concept is complemented by SSIM, which is based on building scenarios on the factors that influence e-diplomacy. Therefore, SSIM is important for analyzing different scenarios of e-diplomacy. The interpretation is presented in tables to assist in building the validity of various scenarios, in addition to creating the main checkpoints that are to be considered for validating the maturity of e-diplomacy in each country.

Lastly, the discussion depicts main theoretical aspects that have been represented in this research. Based on the analysis, it is evident that the ability of a nation to enhance the efficacy of e-diplomacy depends on considering all important factors, including the control of important variable. The steps of e-diplomacy maturity have been depicted to assist in establishing a connection between the various segments of the initiative. The basic frameworks are important, as they create the necessary opportunity for concerned entities to develop achievable goals and objectives. Moreover, an appropriate communication infrastructure is important to warrant the progression with diplomacy initiatives.

The next chapter (chapter 8) will discuss case study findings from chapters 5 and 6 and the ISM results from this chapter.

# Chapter 8: Discussion and Research Synthesis- Novel Contribution

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## **Abstract**

Based on the empirical findings from chapters 5, 6, and 7, this chapter focuses on revising the initial conceptual framework proposed in chapter 3. As a result of this, a novel conceptual framework for e-diplomacy maturity is proposed. The Delphi Technique used for evaluating the proposed e-diplomacy framework is also presented in this chapter.

## Chapter 8: Discussion and Research Synthesis- Novel Contribution

### 8.1. Introduction

The previous chapter presented and discussed empirical findings of this research. The discussion was kept in line with the aim of validating the research themes outlined in chapter 3. This chapter will present a revised model for e-diplomacy maturity and implementation.

A critical issue in the development of this chapter was to decide the way to handle the gap between the limited literature review of e-diplomacy and the actual lack of formal validation in the case study. The revised model presented in this chapter is a synthesis of the potential factors to be considered in the implementation and maturity of e-diplomacy. Therefore, this chapter links the material presented in the focal theory from chapter 2 and 3, as well as the data from chapters 5, 6, and 7. Moreover, it combines the theory and data into a framework based on the analysis of both stages of e-diplomacy maturity and the factors that impact its implementation. The stages and factors of the framework are pre-validated (chapter 5) and then validated (chapter 6) against the reactions of senior managers of the organisations included in the case study. This facilitates the modification/conversion of some themes and factors based on explicit practices of senior IT personnel and diplomats. Chapter 7, on the other hand, undertakes data analysis by applying the ISM technique. The results of ISM are presented in this chapter, which explore causal relationships between factors impacting e-diplomacy implementations. The last section of this chapter evaluates the revised framework. In accordance with the research objectives, the protocol of Delphi method is used as a research tool to evaluate the revised e-diplomacy framework. The Delphi process definition, application, protocol, and results are also discussed. The final revised framework will be presented after discussing the evaluation results.



## 8.2. The Case Studies' Discussion

The literature supports the notion that ICT tools are key to the successful implementation of diplomatic tasks (Batora, 2006; Grech, 2006; Radunovic, 2010; Hanson, 2012; Vanc, 2012). The case studies presented in chapter 6 did not undertake a formal evaluation prior to adopting e-diplomacy. The senior diplomats and IT professionals acknowledged that e-diplomacy tools are effective, and should be implemented in all foreign missions to establish effective foreign policies and diplomatic functions. The literature review revealed a series of criteria that might be useful for evaluating e-diplomacy implementations and maturity. They are mapped against the case study findings and further discussed in this section. This shows differences between some of the observed criteria within the case studies and the literature. Where there is clear agreement between the literature and the interviewees, less discussion and analysis is required. Thus, most of the documented discussion is focused on the differences between the literature and the case study.

### 8.2.1 The Stages of E-diplomacy Maturity

The revised conceptual framework presented in this chapter shows that there are different stages in implementation and maturity of digital diplomacy. Each of these stages contributes to improvement in diplomacy approaches involved in the roles served by diplomats. The stages focus on the elements involved in different phases including the development of necessary infrastructure for digital diplomacy, the current state of these changes, and the future prospects of implementing e-diplomacy. The functions and the ICT technologies incorporated with these stages has been validated by the case studies discussed in chapter 6 which support the conjectures C1,C2,C3 and C4 proposed in chapter 2. The first stage deals with intra-organisational digital capabilities. The second stage includes ubiquitous access. The third stage includes citizen interactions, and the fourth stage includes collaborative digital diplomacy featured in chapter 3.

The first stage focuses on the infrastructure necessary for the implementation of digital diplomacy. Stage 2 focuses on the presence of a multichannel approach to diplomacy, while stages three and four focus on increased connectivity and interaction with the citizens, public, and all other stakeholders through different ICT tools, such as social media. The study also revealed the existence of different factors that affect the implementation of digital diplomacy. The following discussions will map the proposed stages of e-diplomacy maturity against the case studies.

### **Stage 1: Intra-organisational Digital Capabilities**

Chapter 3 outlined that this stage focuses on examining the intra-organisational digital capabilities of the agencies under consideration. These capabilities include different tasks through which digital diplomacy is achieved. These include provision and development of the infrastructure required in the implementation of digital diplomacy. The development of infrastructure for these projects covers different elements. Stage 1 includes the development of modern Internet and web access applications through which digital diplomacy can be made possible. The other tasks include the provision of information to different decision makers and improvement of financial, HR, and archiving systems. It also includes the development of e-learning platforms for training the employees charged with responsibilities of digital diplomacy (Abbasov, 2007).

The primary objective of this stage is therefore the development of infrastructure necessary for implementing digital diplomacy. The first essential aspect of doing so is developing the hardware required for operating e-diplomacy, which includes computers, communication devices, and other connection devices. The software that provides these connections is also featured. It is evident that the absence of infrastructure creates difficulties in implementing digital diplomacy. Dizard (2001) asserts that the implementation of an infrastructure that supports the digital age results in the development of a policy landscape on which digital diplomacy operates. Dizard (2001) further focused on the alterations for developing the infrastructure for digital

diplomacy, and found that the yielded improvements in management of nation-state relations increased the need for implementing digital diplomacy.

Other countries have also witnessed similar developments, which have contributed towards the improvement of digital diplomacy. From the case studies, the participants agreed that this stage is the initial stage of e-diplomacy maturity, and they described it as the core stage for building a robust e-diplomacy system. For instance, US2 mentioned that the first stage focuses on organizing the required features that support the implementation of e-diplomacy platforms. Similarly, US1 said, *“The organisation stage involves the development of the space for operations including the acquisition of the hardware, and requisite software, which makes this stage the most essential”*.

The literature shows that ICT tools can assist in training via online seminars, videoconferencing, lectures and workshops (Alonso et al., 2005). These e-learning opportunities have been helping missions, special diplomatic delegations, consular offices and cultural institutes around the world in continuous training and online learning. The participant from the US embassy in London mentioned that the embassy also employs this approach in affecting e-learning, which targets educating the employees on processes, conduct and procedures involved in handling responsibilities at the embassy.

The literature also suggests that an important position of the modern and advanced intra-organisational digital capabilities relates with the improvement in managing financial and human resources of the foreign affairs ministry and the electronic archiving system. This has been also confirmed by the empirical findings and has been supported by interviewees, US2, US1, UK2, and Q3. For instance, US2 said, *“We do have a financial and a HR system. We have one at the embassy and that synchronizes well with the financial and the HR system at the department of state”*. He also mentioned that they have developed an e-archiving system to ease the flow of information and the decision-making process.

One of the most essential aspects of this initial stage, which was not remarked in the literature, outlined in chapter 3, is “user training”. Without trained and skillful human resources, no one can use and apply the advanced

ICT tools in diplomacy. As mentioned in chapter 6, the FCO facilitates training for the staff. For example, UK2 said, “*we have a diplomatic academy that does arrange digital diplomacy training, and with regards to digital diplomacy itself, we have our learning and e-learning and self-tutorial materials.*” In addition, the senior IT manager from the Qatari foreign ministry mentioned that diplomats should be trained to manage the existing technology.

## **Stage 2: Ubiquitous Access**

The ubiquitous access stage is a simple stage that provides possibilities of communication between an organisation and its employees. The implementation of this stage focuses on the development of different systems through which connection between people is possible. It can include the application of secure mobile and desktop computing, the implementation of wireless devices and the wireless infrastructure, and the integration of different enterprise applications into a mobile device to ease accessibility and communication. The development of this form of technology increases the level of interaction that the employees may provide to ease their working.

As discussed in chapter 3, this stage allows creating multiple channels that increase the level of connectivity between the involved people, thus, making it simpler and possible for digital diplomacy to flourish. They reveal that the essence of ubiquitous access is its ability to implement mobility in digital diplomacy, improving accessibility to the people, and improving connectivity at the workplace and the head office (Bwalya and Mutula, 2015). Similarly, the interviewees supported the idea of mobility of employees at the foreign ministries. As Q4 mentioned, the flexibility and mobility of diplomats can be attained by providing a wireless structure, mobile devices, and software that can support mobile access in the premises, where the personnel can access stored data online, anytime from anywhere. Q3 also mentioned that the handling of official matters through a two-way approach increases the level of assurance and security of online transactions between partners on a diplomatic role.

*Provides wireless infrastructure with a range of mobile devices for both personal and department uses*

In this stage, wireless infrastructure should be established within the organisation so that diplomats can access information from their remote locations and from mobile devices. Wireless networks allow the diplomats to use online tools, such as Twitter, for their personal and diplomatic tasks. Wireless networks can also be used to connect a range of mobile devices for sharing knowledge about all sorts of diplomatic and consular overseas missions (Molla and Licker, 2005; Westcott, 2008). Likewise, the interviews revealed that the application of smart devices leads to improvements in the level of connectivity that the diplomats and their partners experience during their interactions. A Qatari ambassador (Q1) declared that it has allowed the development of conference calling and video chatting, which was difficult before. The UK case study also supported the idea of mobility of employees by providing a Wi-Fi infrastructure. Interviewee UK2 confirmed, “*we have Wi-Fi throughout the FCO, and we have that on various levels*”.

*Supports secure mobile and desktop computing*

The presence of multipurpose portals increases the possibilities for partners to communicate information with secure connections. These may allow financial transactions to occur, hence, taking diplomacy to a higher level at which improvements in yield increase the quality of services and their reach in the target populations. The customization of portals has allowed usage of passwords and limiting the access to information shared by employees on these portals. The result of this is increased confidence in employees to employ the digital approach in handling their diplomatic responsibilities (Gupta et al., 2004). VPNs can be used for linking mobile devices and desktops eventually making them safe from attacks (Kear, 2001). To support the above facts with empirical evidence, both Q3 and Q4 stated that the foreign missions employ secure mobile and desktop computing using secure VPN channels. In addition, UK2 said that UK diplomats can access information securely, effectively, and efficiently anytime, from anywhere.

### *Integration of all enterprise applications into mobile devices*

New technology introduces administrative applications into mobile devices through the development of an organisation application store. These applications may be downloaded by accessing the organisation store (Bollier, 2002; Innovation Diplomacy, 2013). Ministries of Foreign Affairs are working to move ahead in providing seamless access to all organisational personnel, thus, improving the accessibility towards enterprise applications and use of their own mobile phones (Ministry of Foreign Affairs of Denmark, 2013). The interviewees also stressed these facts. Q4 said, *“we are in the process of releasing multiple apps for diplomats and citizens”*. The interviewee from the US embassy in London also acknowledged this by asserting that iPhones and blackberry phones are provided to employees to increase the possibilities of a multichannel approach, and improve the mobility effect.

### **Stage 3: Citizen Interactions (Increased Connectivity)**

According to chapter 3, the third stage focuses on implementing an approach through which citizens can interact with the diplomats or the organisation. The level is complex, as it introduces external bodies in the mix, thus increasing the security features that are central to the implementation of digital diplomacy. The level of maturity is advanced, as the organisation has already implemented other stages, and is currently at the stage where digital diplomacy takes shape for operations. The level of communication/interaction depends on the connection between the organisation and the public it serves, or within which it operates. The different tasks involved at this stage are: utilization of social media, enhancement of consular affairs, interaction with the public, promotion of the organisation, and building a good image that can enhance the brand of the organisation. The utilization of social media in digital diplomacy increases connectivity with the people. It provides a channel through which diplomats interact with the people they represent. Implementing this stage increases the ability of an organisation to connect at a global level via its consular services. It creates a link between the people being represented and the organisations, including the embassies, high commissions, consulates, and other government offices in different countries.

### *Social Media Use*

According to Bjola and Holmes (2015), one of the promises of digital diplomacy is the addition of young generation that is highly mobile, and embraces online connectivity. The younger population thrives on social media. Therefore, diplomats will have to maintain an online presence, which requires increased connectivity. Social media is regarded as the key driver in the development of e-diplomacy (Hare, 2016). To support this, US1 said, “we do use social media, and I agree that it is a key driver to the development of both public and digital diplomacy”. He also mentioned that they have a social media strategy at the state department. Similarly, interviewee US2 gave an example of twitter media being used in their embassy to engage with the public. Both interviewees, UK1 and Q1, also confirmed that they use social media at FCO and MOFAQ, respectively.

### *Enhancing Consular Services and Interacting with the Public*

Online services are regularly used by embassies to enhance consular services, such as the e-visa system. People can upload documents online from any part of the world, thus, simplifying the processing of visa documents (IRM’s Office of eDiplomacy, n.d.). The interviewees confirmed that improved consular services are being offered with the help of advanced e-diplomacy tools. For instance, US1 mentioned that ICT has allowed the progression of consular services that the diplomats offer to the citizens. US2 also mentioned that the e-Visa tool offers quicker and efficient services to the Americans, compared to the traditional systems. US2 gave examples of e-services that include online feedbacks for the citizens, and online crises managements systems.

### *Promoting and Building the Image*

ICT tools are used by diplomats to reach larger audience, promote the home country, and enhance bilateral relations between the home and the host countries (Marshall, 2015). US2 said, “the ministry uses YouTube channels

*and videos to promote, both the home country and the work that is being done by the state department"*

#### **Stage 4: Collaborative Digital Diplomacy**

Unlike other stages, interviewees UK1, UK2, Q2, Q4, and Q5, acknowledged this stage. The reason is that this stage is an innovative stage that requires the use of complex technology. Q5, the senior diplomat at the Qatari embassy in Sweden, mentioned "*It is not a dream nor fiction, it can be achieved with the right planning, advanced ICT capabilities and skillful HR*". The last stage reflects implementation of open digital diplomacy, which promotes connectivity between different offices established across various countries for handling diplomatic responsibilities and connecting all diplomacy stakeholders. The open system introduces accessibility to the diplomats, needing no information sharing, but easy access to it using a shared location. UK1 mentioned that the creation of a shared platform with other embassies allows open information sharing via different digital platforms.

Increased connectivity relies on continued innovation in information technology that will yield advanced means of connection to support the development of e-diplomacy (Hocking and Melissen, 2015). To cope with this, foreign missions are using advanced ICT infrastructures and technologies like technical consultants, computers and networking equipment, telecommunication, database management and hosting, servers, security, firewalls, and intrusion detection to raise the level of achievement at this innovative stage (as confirmed by interviewees, UK1, Q5, and Q4).

According to Bjola and Holmes (2015), ICT security tools and methods can be used to guarantee high level of security. Official interactions between the home state and host states can be easily be established, virtually and securely (Bjola and Holmes, 2015). Q4 mentions that advanced security tools can be used to effectively connect the missions together. According to Batora, (2008), through an effective networking system, the foreign ministry can establish a secure communication process, worldwide. E-diplomacy also allows better communication between large numbers of embassies in the same region (Batora, 2008).



## 8.2.2 The Factors Impacting the E-diplomacy Implementation

There are many factors that can impact the deployment of e-diplomacy. Traditional diplomacy includes hierarchy and one-way communication with the public and secrecy (Batora, 2008). This study features various factors that can impact the implementation of digital diplomacy. The following discussion maps the literature on these factors to the empirical data outlined by the interviewees that has been validated by the case studies discussed in chapter 6 and hence support the conjectures C5,C6,C7,C8 and C9 proposed in chapter 2. This process will enable validation of these factors and define a clear component or sub-factors for each variable. The discussion also introduces some variables that were not discussed in the existing literature, but have been mentioned by the expert participants. The factors are grouped into four categories that include organisational factors, socio-cultural factors, security factors, and Political/Legal/Economic (PLE) factors.

### **Organisational Factors**

Song (2004) mentioned that organisational culture has a large influence on the implementation of ICT in organisations (Song, 2004). In chapter 3, it was also mentioned that the orientation of an organisation relates to the structure of leadership, which affects decision-making. The orientation of an organisation considers factors, such as bureaucratic tendencies, the form of leadership, and authority distributions that affect management of the agencies. The presence of highly bureaucratic tendencies results in slowing the process of decision-making, which may lead to failure of digital diplomacy or delay its implementation. Findings from case studies, on the other hand, suggested that organisational factors such as bureaucracies impact the implementation of digital diplomacy. In foreign ministries, bureaucracies play a significant role in decision-making, and in handling major features of the diplomatic job (as confirmed by interviewees, UK2, UK1, and Q3).

Bátora (2008) drew two levels of operational hierarchy: (a) bureaucratic hierarchy and (b) hierarchy between headquarters and the missions abroad. Today, hierarchy is observed as an integral organizing principle that can slow

down and limit the implementation of ICT. A senior diplomat from the embassy of USA in London said, *“If we want to implement an ICT project at this embassy here in London, we have to seek permission from the home office”*. He was also worried that not only bureaucracy impacts ICT implementation, but also other organisational factors, such as decision-making culture, and organisational culture (for instance, resistance to change). Similarly, Q3 added that organisational culture, structure, and leadership would either be drivers or obstacles for change. Additionally, US2 declared that the hierarchy features have an effect on the implementation of digital diplomacy, such as the budgetary and security issues that affect the possibilities of eliminating these hierarchies.

The element of organisational culture was not mentioned in the existing literature. However, the public diplomacy officer at the Qatari embassy in London (Q2) mentioned that, the organisational structures should be set up with social and cultural norms in the primary stages, which otherwise will impede the progress of e-diplomacy projects. He gave some examples of organisational norms, such as resistance to change and loyalty to traditional aspects of diplomacy.

### ***Secrecy, Confidentiality, and Privacy***

One of the most significant challenges that the implementation of digital diplomacy faces includes the fear of secrecy, confidentiality, and privacy. Implementing digital diplomacy exposes diplomats to confidentiality and privacy issues that create security fears. Dizard (2001) asserts that the implementation of a global digital approach increases the fears of infringement of information rights, and promotes the erosion of privacy that is an individual's right. Maintaining privacy of users of digital devices remains a challenge that has to be addressed for digital diplomacy to succeed in today's world (Biham, 2003; Nocetti, 2016).

All participants from the three cases confirmed that increasing fears on the privacy and confidentiality of the information shared using digital diplomacy affects the implementation of e-diplomacy. Dizard (2001) further asserts that the use of electronic storage devices and personal information on

different devices and on the cloud questions the privacy and confidentiality of the stored information. All interviewees mentioned that the implementation of digital diplomacy raises issues of privacy and confidentiality of the data shared on these platforms, which is a major obstacle in e-diplomacy implementation. For instance, both respondents from the UK approved that security is one of the major concerns in implementing digital diplomacy. They also mentioned that growing chances of loss of data or access by unauthorized personnel increase fears of applying e-diplomacy. Issues, such as confidentiality and privacy were also raised by both UK participants. For instance, UK1 provided an example concerning security. He said, "*On our FCO's computers, we are not able to look at YouTube, because it has been blocked for security reasons.*" Meanwhile, as the technological developments continue to enhance privacy and confidentiality, continued caution by the users of digital diplomacy will ensure that the shared information remains private and confidential (UK1). The American expert from the US embassy in London (US2) also said that when diplomats undertake public interactions, they should seriously consider the privacy and confidentiality of information that may reach out to the public.

Developing security measures will increase confidence in users of digital diplomacy. Increasing cyber-crime and terrorism that target organisations charged with diplomatic responsibilities increase the need to enhance data security (Kurizaki, 2007; Bátorá, 2008). US2 mentioned that they use security tools, such as encryption of classified information to make data secure. Regarding remote access, he mentioned that at the US state department, they are implementing remote access control mechanisms, so that everyone can access unclassified information, but not the secure system.

In short, it is very clear from both the literature and the empirical data that the fear of confidentiality and privacy is prevalent across different stages of e-diplomacy maturity.

### **Socio-cultural norms and acceptance of new technology**

Diplomacy is also affected by the socio-cultural factors, and one-way nature of communication of diplomacy. Culture and tradition refer to the way

of life. The culture and beliefs of a country dictate the behavior of certain individuals, and have a significant effect on the adoption of e-diplomacy. For instance, certain cultures are known to be change resistant, while others can easily accept change. In such cases, implementation of e-diplomacy in a culture that is reluctant to accept change becomes a problem (Song, 2004). One of the main tasks of diplomacy is to form relationships with the government and the citizens within states with varying cultures and traditions. Development of communication technologies should be done in such a way that it accommodates all users from countries that use different languages (Melissen and Fernandez, 2011).

For example, the interviewee from the US state department mentioned that social media is a tool that improves human interactions. Countries with a culture that discourage the use of social media or other digital platforms make it challenging to implement digital diplomacy, compared to those countries that allow its development.

Interviewees, Q1 and Q3 reported that there are security concerns with e-diplomacy. The Internet is risky and has a lot of room for exploration that can sometimes turn tragic. Therefore, e-diplomacy can be very risky due to unpredictability of technology. There are many international hackers, who might use social media and other links to access very important government data.

Another challenge with digital diplomacy is the language barrier. Language plays a key role in diplomacy. It involves engaging parties to a point of agreement. Both interviewees from the UK FCO (UK1 and UK2) mentioned that there is a need to develop a multi-lingual ICT infrastructure and network to help diplomats understand each other. The introduction of digital platforms that has the ability to translate languages in real-time is necessary to eliminate this barrier.

The nature of communication also plays a big role in international diplomacy. Dhia (2006) and Bátorá (2008) observe that in communicating with the public, most foreign ministries traditionally employ the use of one-way communication and ex-post model of communication to publicly release information on foreign policy decisions. Most diplomats use the centralized

model of public communication (Bátora, 2008). In this model, one unit or a person gives information to the public, whenever the ministry needs to interact with the public. This mode of communication is ineffective, since it is not easy to assess its level of success. On the contrary, some respondents, such as Q4 feel that one-way communication is safer to apply than two-way communication. If some issues are not well addressed in the media, they can strain good international relations. Interviewees, US2, UK1, UK2, and Q3 agreed that traditional diplomats oppose the idea of using ICT tools, such as social media in diplomacy. They argued that social media allows two-way communication with the public, which is against the traditional norms of diplomacy. However, when the channels of communication are left open, especially through online platforms, the embassy is notified to respond in advance and prepare adequately before releasing a response. Q3 specifically believed that the nature of communication is changing with time. Despite the risks involved, communication should be two-way, and the governments should find creative ways of mitigating the involved risks.

Dettori and Persico (2011) observed that human beings are social beings and therefore, integrating new technologies would enable them it will enable them to effectively communicate with each other from distant locations. The Implementation of ICT in diplomacy is not possible without the support and engagement from the society and the fundamental culture (Hicks, 2011). The society that deters the use of social media or other digital platforms makes it challenging to implement e-diplomacy, compared to those societies that may permit its development. (US2, UK1, UK2, Q3, Q1). Q3 discussed the digital divide issue that was not mentioned in the existing literature. He also added that there is a socio-cultural norm, such as technology change like "*the smart phone usage*".

With respect to the cultural norms in digital diplomacy, the summary report published by European Union (2015) discussed conflicts amongst different aged diplomats. Interviewee, Q1 also identified the age factor. He said that most old guards relate technology with young people, and learning new tricks is a tall order for them. Governments need to introduce measures

to ensure that all their diplomatic members are well prepared for digital diplomacy.

Training, awareness, resistance to change, and fear of new technology were considered important factors that were not indicated in the existing literature. To improve the area of e-diplomacy, awareness and training campaigns promoting e-diplomacy services must be introduced. Governments should train their diplomatic staff for modern trends in diplomacy, and expose them to tools that other countries are using to achieve e-diplomacy (US2). In the same line, frequent in-service sessions of training are very important. This is because technology is evolving with each passing day. Frequent training will help diplomats remain up-to-date with changes not only in their field, but also in the tools of the trade that they may need for performing their patriotic duties.

Most interviewees agreed that the successful implementation of e-diplomatic features rests on the knowledge and ability of the employees. The diplomats need to embrace digital approaches in their roles, despite it presently being a challenge. Some diplomats may require intense training to acquire the requisite skills for handling digital devices, and also manage the security scare arising with their application in diplomacy.

Q4 and Q5 mentioned the fear and the resistance to change factors. In addition, Q4 mentioned that there is a need for culture change that is preventing diplomats from establishing effective communication with the stakeholders. He said that it is a challenge for most diplomats, especially in developing countries. Q5 also mentioned that cultures can be learned and unlearned. Since their line of duty involves interacting with people from various backgrounds and cultural orientations, the diplomats are required to be very accommodating; they should understand the other partners, and utilize opportunities as and when they arise. Q4 asserted that the fast changing technology is a major challenge, as keeping up with latest technology makes it difficult to get hands on the new system before it is considered obsolete.

## Political, Legal, and Economic Context

The legal and political factors may affect the implementation of ICT. Political instability in any country affects the implementation of digital diplomacy in that country. Traditional approaches to diplomacy suffer significant failures from political instability, considering they affect the ability of diplomats to traverse different regions where they provide their services (Eyob, 2004). From the case study results, Q3 mentioned that political instability in some countries affects the possibilities of implementing digital diplomacy. In addition, the interviewees testified that countries with political instability increase the difficulties of diplomats in carrying out their tasks. This limits the use of ICT tools, and increases the need to rely on traditional tools (UK1, Q3, and Q1).

On the other hand, legal factors vary for every country with different implications. Unfriendly legal standards are a common challenge faced by different organisations. Q1 said, *“An unfriendly legal environment will result in difficulties in operations under digital diplomacy”*. US1 stated that diplomatic work requires dealing with so many different countries with different legal systems. He said, *“sometime an American IT product can’t be exported and used in some countries because of their legal system”*. In some countries, using social media, such as twitter is permitted, while in others, it is unlawful. The level of openness that each country embraces, and the level of limitations they impose on their relations with the other countries contribute to the development of legislation and policies that may affect the roles of diplomats in their countries. This influences the application of e-diplomacy, as mentioned by interviewee UK1.

Economic hindrances also affect the deployment of e-diplomacy. Economies of different countries influence their capacity to apply new technologies in their organisations (Cooper et al., 2008). Hanna (2010) argues that promoting adoption of ICT in diplomatic functions requires both long-term and large scale investments. The infrastructure that is installed has to be well thought about, and also be futuristic. According to one of the respondents, UK2, a major obstacle in e-diplomacy implementation is limited financial resources. US1 also mentioned, replacing the communication infrastructure in

268 missions around the globe and networks will be very expensive. Given that the government does not treat it as a high-priority matter, the diplomats will have to use the available infrastructure, which may not help them achieve maximum results. In most governments, the national budgetary allocation for ICT projects is not sufficient to finance them (US2, Q3, and Q4).

Another key impediment to e-diplomacy is the government policy on the use and adoption of new technology. Some influential political leaders prevent organisational changes in Ministries of Foreign Affairs, forcing other ministers to abide by laws and wait for permissions to introduce technologies within organisations (Baxter and Stewart, 2008). Especially, in cases where success of a policy does not benefit some of these political leaders, they may choose to ignore such a policy. Diplomats, therefore, depend on the goodwill of their political leaders to effectively execute their roles across countries. Some go a step further and make decisions regarding the kinds of technologies that the organisation should incorporate (Brousseau et al., 2012). The diffusion of power can play a vital role in this context (Sabic and Drulák, 2012). This involves the delegation of some presidential privileges, which allow other government officers to decide on policies that can move the agenda of a country forward. Unlike other political factors, not all interviewees reflected the leadership and power destruction factors. Q4 mentioned that political factors such as leadership can affect the implementation of ICT. Interviewee Q3, on the other hand, said, "*We are very lucky to have great leadership, who support ICT implementation*".

In short, both interviews and the literature confirmed that there are some key variables within the political, legal, and economic contexts that can impact the e-diplomacy implementation. These variables are political stability, economy, funding of e-diplomacy projects, and power distribution and leadership.

### 8.3. Discussion of the ISM results

By using the ISM method, this research uncovered relationships between the several variables identified during the undertaken interviews with



the e-diplomacy experts. The findings are now discussed in the context of existing literature as well as the discussions from the interviews.

Many variables were determined to have strong driving and dependence powers, which resulted in them being classified as linkage factors that are considered relatively unstable (Singh et al., 2007; Talib et al., 2011). Therefore, in the context of e-diplomacy implementation, all variables influence each other. An explanation for this is e-diplomacy is in its infancy and foreign ministries are struggling with its implementation, as revealed by the interviewee from the Qatar foreign ministry (Q3).

With regard to the ISM-based model shown in figure 7.3, the lowest-level variables, which are cultural, social, and economic aspects, are the fundamental variables of e-diplomacy implementation. Since they operate at the same level, they have the highest effect on variables in the upper levels. For example, technical infrastructure (i.e. located in level II) requires budget and financing (i.e. the economic aspect, located in level IV). Interviewee, UK2 considers limited financial resources to be the biggest obstacle in e-diplomacy implementation. He said: *“I think the number one is probably cost; the biggest challenge to us is the financial to be able to fund a new system”*. Several economic, legal, and political factors affect the implementation of ICT in the ministry of foreign affairs. Shortages of skilled staff to exploit advanced ICT services and lack of funds appear to be vital factors (Czosseck and Geers, 2009).

Not surprisingly, social and cultural factors also play an important role in implementing ICT at the diplomatic and foreign ministry level. As outlined by Hicks (2011), implementation is not possible without the support from and engagement of the society, and its prevailing culture. It can be shown that social engagement with innovation is not straightforward, specifically in environments where traditional societies and conservative infrastructures prevail (Malone, 2008). Q3 said *“there is a digital divide issue, and although digital tools itself have become tools of making common ground for interaction, culture, and language barriers are still present, and reduce the likelihood of creating commonalities*. Also, for working in different parts of the world, it is very difficult to communicate through a shared language base.

Development of multi-lingual ICT infrastructure and network can become very costly for the government ministries (Stauffacher, 2005).

The factors present at level III (i.e. *organisational, legal, political, and technical infrastructure*) can impact some factors at level II, directly. For instance, political factors, such as leadership and power distribution can directly affect variables of the next upper level (for instance, using e-diplomacy tools to establish interactions with the public). In addition, good technical infrastructure will lead to good services, shown at level II, such as ubiquitous access, citizen interactions, and collaborative digital diplomacy stages. Regarding legal factors, US1 stated “*in foreign services, we need to deal with so many different countries with different legal systems and procedures in order to able to implement ICT tools at foreign services*”. He also stressed that not only bureaucracy, but other organisational factors, such as decision-making and resistance to change also slow down the process of ICT implementation.

Bátora (2008) outlined two levels of operational hierarchies: (a) bureaucratic hierarchies and (b) hierarchies between headquarters and the missions abroad. The characteristic feature of a hierarchy can greatly limit the use of ICT tools in diplomatic functions (Bátora, 2006). This is because bureaucracy can reduce the pace of information flow across various boundaries of organisational units, and across authority lines (Kettani and Moulin, 2014). The above-mentioned empirical findings from the interviews and the literature prove that the factors at level III have greater impact when it comes to e-diplomacy implementation. The ISM-based model also determines organisational factors as they appear at the same level as legal and political aspects, showing that both internal and external controls are of equal importance. Furthermore, the model in figure 3 shows that intra-organisational digital capabilities, i.e. the first stage of the proposed framework for e-diplomacy maturity (Al-Muftah and Sivarajah, 2016), is located in this level as well. Thus, this is the fundamental stage to be considered before moving to other stages located in the next level (i.e. ubiquitous access, citizen interactions, and collaborative digital diplomacy). Q3 stated that “*Inadequate*

*technical capabilities and weak technical infrastructure can lead to poor e-diplomacy implementation.”*

Level II consists of the variables, *security, acceptance, trust, risk, human resources, ubiquitous access, citizen interactions, and collaborative digital diplomacy*, which affect the highest level (i.e., level I) of the ISM model directly. For instance, aspects relating to trust can better serve resistance to change for e-diplomacy implementation. Similarly, the relationship between the need for human resource (HR) and awareness/training shows that higher the HR factor, better the awareness and training for e-diplomacy will be.

Risk is defined as a possible adverse outcome. In other words, risk refers to doubts with respect to a future outcome. It is a critical factor that affects ICT and digital diplomacy (Kampf et al., 2015). Risk impacts the adoption of ICT in all sectors, given the uncertainties associated with adverse outcomes (Kampf et al., 2015). State and non-state actors are likely to experience risks, such as hacking of e-diplomacy tools, which is likely to negatively impact the implementation process (Mármol and Pérez, 2016). It is worth noting that “risk” is located at the same level as other variables, such as secrecy, trust, acceptance, HR and others, which indicates that these are equally important and can directly affect top-level variables. Top-level variables include the competitive advantages of e-diplomacy implementation and resistance to change.

Finally, top-level variables reveal strong dependence on other variables. I *Awareness/training, competitive advantage, and resistance to change*, which are within the upper level (i.e. level I) show strong dependence power on other factors. Resistance to change refers to non-willingness of state and non-state actors to accept change, especially, in using e-diplomacy for sharing sensitive information. Change is present in all aspects of society, globally; the Internet has a revolutionary impact almost everywhere, including diplomatic relations and information gathering (Cummings and Worley, 2014). One of the experts from the case studies said that *“if diplomats trust and accept ICT tools, they will not resist the change brought about by an ICT environment (Q2)”*

## 8.4. Delphi process- evaluating the framework

Delphi method or technique is defined as a systematic process that is mostly adopted by a group of experts to forecast the outcome of any future event (Hanafin, 2004). It is a great method of identifying the most suitable answer from groups (Mengual-Andrés *et al.*, 2016). Majority of researchers apply this method specifically in expert problem-solving situations (Gordon, 2009). Amongst these, one of the most widespread variation is "ranking-type" (Okoli and Pawlowski, 2004). In accordance with the research objective, Delphi method is used as a research tool to evaluate the revised e-diplomacy framework. The Delphi process definition, application, protocol, and results are discussed in this section.

### 8.4.1. Definition and application of Delphi Process

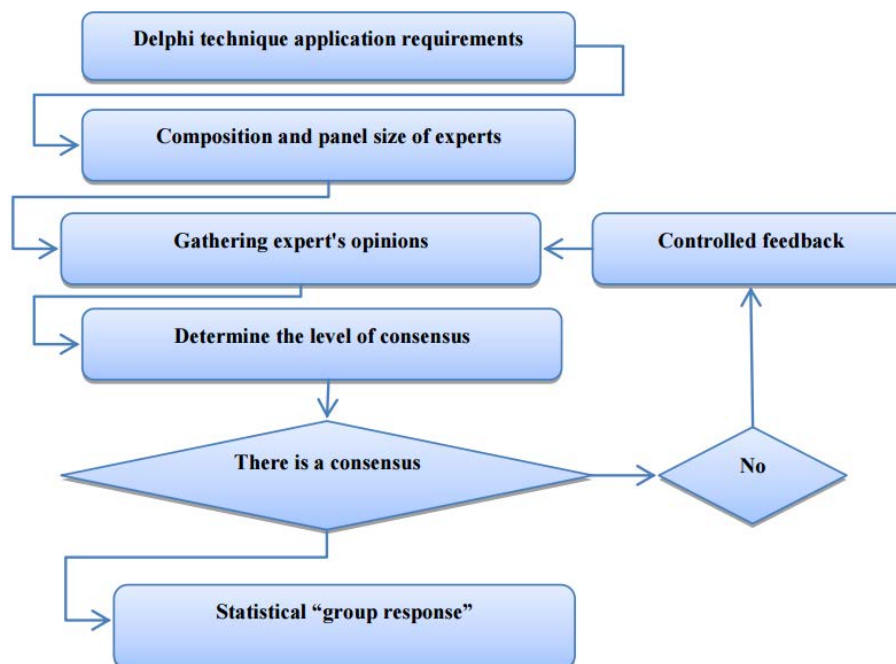
Based on the application and origin, several researches have defined the Delphi method differently. Habibi *et al.* (2014) refers to it is a systematic process for gathering the entire communication process to allow a panel of experts to deal with a complicated situation.

Qualitative research mostly concentrates on retrieving data based on previous research or knowledge. The Delphi method intends to widen such knowledge based on feedback provided by experts, which can help initiate new ideas or solutions for the identified problems. This characteristic enhances its suitability for deriving results from the findings of qualitative research. It is evident that conducting surveys or interviews using traditional methods are time consuming and can further raise conflicts within the process. Therefore, researchers can adopt the Delphi method by selecting experts from different regions, and at the same time, control the gathering of large groups through virtual participation (Gordon, 2009). Apart from this, analyzing results from primary sources of qualitative research indicates that two or more experts provide their own views on the study's outcome that are reassessed by them again in the later rounds. Thus, the study's outcome on the basis of this approach is the most reliable one, as it is examined several times by the experts, and then determined by the investigator (Willis, 2008).

By employing the Delphi method for analyzing qualitative research outcomes, researchers can structure the questions based on the knowledge obtained from secondary sources (Cornel and Mirela, 2008). In this context, it can be stated that qualitative study often concentrates on reviewing previous research, which may include incomplete information that results in new questions on the subject area. The Delphi method provides the most suitable outcomes in cases of incomplete research, as it involves interactive sessions, wherein experts exchange views to identify solutions (Stitt-Gohdes and Crews, 2004).

#### 8.4.2. Protocol of Delphi Process

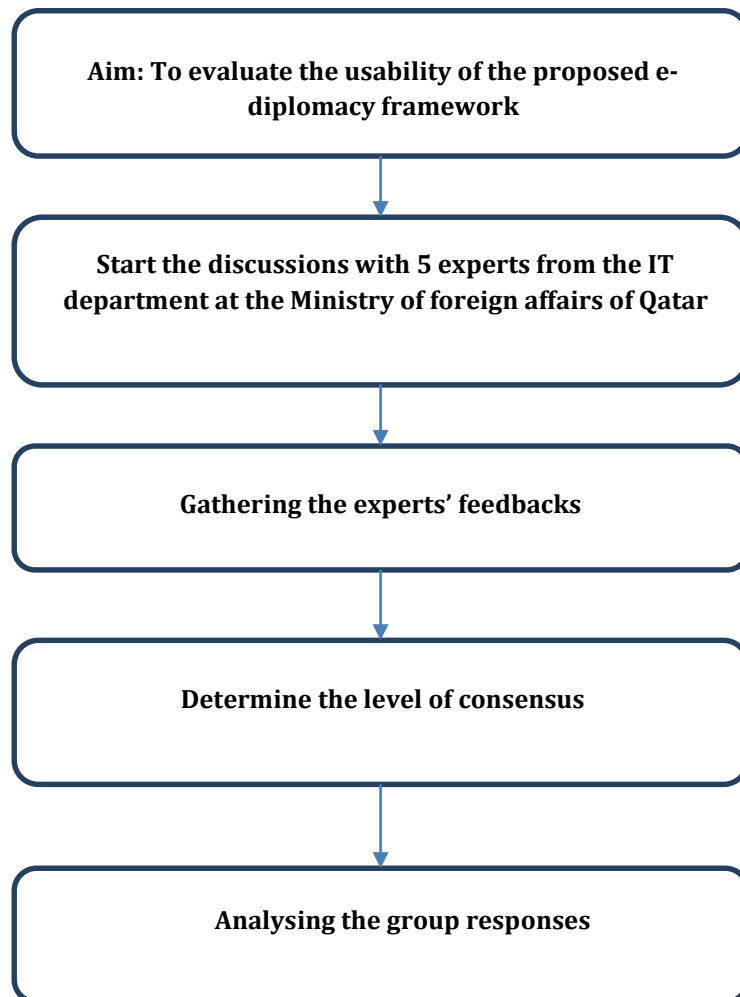
Different authors structure the process of conducting research using Delphi method in different ways by categorizing the entire process into three or five steps (Avella, 2016). There is a lack of specific methodology for applying this method along with the procedures for selecting panel experts, structuring questions and end processes, among others (Habibi *et al.*, 2014). In this regard, Habibi *et al* (2014) presents a specific framework for employing the Delphi method in qualitative research (see figure 2).



**Figure 8.1: Theoretical Framework for Delphi Process in Qualitative**

Before beginning the process, certain factors are to be considered, such as survey objective, number of resources, suitability of Delphi process, and the criteria for structuring questions (Avella, 2016). In accordance with the initial stage, open ended questions are structured based on the identified issue or objective (Keeney *et al.*, 2001). The panels of experts are then provided with a questionnaire to retrieve detailed information regarding the subject area from the Delphi participants (Somerville, 2008). The outcome of this questionnaire is utilized as a survey instrument in the next round. Here the participants are provided with the second set of questions to review the summarized factors determined by the investigators from the feedback provided in the first round (Hallowell and Gambatese, 2009). The third round provides an opportunity for the participants to reassess their opinions or judgments in the previous stages, along with justification for their opinions (Cornel and Mirela, 2008). The last stage also provides an opportunity for them to revise their feedback and justifications before submitting the final report. The investigator considers every stage to conclude the results of the survey using Delphi method; however, their report largely depends on the outcomes of the last stage (Hsu and Sandford, 2007).

The following figure 8.2 shows the protocol used for this research, which is adopted from the above discussed framework by Habibi *e .al.* (2014)



**Figure 8.2, The Delphi protocol**

As suggested by Kruger (2002), five ICT experts were carefully recruited to form a focus group. It was conducted in a comfortable circle seating environment. It was manually recorded by the researcher, and lasted about two hours. The session was chaired by a third-party moderator, who has academic experience in the management of information technology, and practical experience in telecommunication and computer network. The moderator was skilful in group discussions, as he works in an environment that requires managing team of people in a government telecommunication department. The moderator used pre-determined questions prepared by the researcher, which covered the usefulness, appropriateness, effectiveness, and efficiency of the proposed e-diplomacy framework.

The focus group comprised of the following experts: -

- A senior manager at the IT department (P<sup>11</sup>)
- A public diplomacy officer at the Qatari embassy in London (P2)
- An Ambassador, also a former ICT manager (P3)
- A senior IT official at the IT department (P4)
- A senior diplomat, also a former IT official (P5)

The following are the reasons for recruiting the above listed experts:-

- All five experts have at least five years of experience in ICT management within the foreign ministry
- Most of them are diplomats, who understand how ICT can contribute to enhance the function of diplomacy
- They have different technical ICT experience in different fields, such as development, telecommunication, computer network, programming, etc.
- Most of them hold senior positions with enough experience to evaluate the proposed e-diplomacy maturity framework
- All of these participants have already participated in interviews conducted earlier for this research to validate the proposed framework (see chapters 5 and 6)

The following table lists the questions used in the focus group study along with the expert responses: -

<b>Participants</b>	P1	P2	P3	P4	P5
<b>Usefulness</b>					
Does the framework help you plan/ implement e-diplomacy projects?	Yes	Yes	Yes	Yes	Yes
Are you satisfied with what the framework offers?	Somehow satisfied	Very satisfied	Not very satisfied	Satisfied	Satisfied
Is the follow of steps of maturity logical?	No	Yes	No	Yes	Yes
<b>Appropriateness</b>					
Do you find the framework a useful guide to	Yes	Yes	Yes	Yes	Yes

<sup>1</sup> P denotes participants (e.g. Px is participant x)



achieve e-diplomacy maturity?					
Does the framework fit with your existing setting?	Yes	Yes	Yes	Yes	Yes
To what extent is the framework achieving the intended results?	Medium	Long	Medium	Long	Long
<b>Effectiveness</b>					
Do the outcomes of applying such a framework represent added value for your organisation?	Yes	Yes	Yes	Yes	Yes
<b>Efficiency</b>					
To what extent is the framework efficient?	Efficient	Very efficient	Not very efficient	Very efficient	Very efficient
What can be done to enhance the framework?	See comments below in section 8.43				

**Table 8.1: Evaluation Questionnaire**

### 8.4.3. Findings of the Delphi process

As shown in table above, the questions used for this study assessed four factors: usefulness, appropriateness, effectiveness, and efficiency of the e-diplomacy maturity framework. Each of the four factors was assessed using a set of questions. The results of the study are presented based on the participants' responses for all four factors.

#### **Usefulness**

The first set of questions assessed the usefulness of the framework as a basis for establishing e-diplomacy. This section had three questions with each question designed to provide insights into users' attitude towards the current e-diplomacy framework. The results from the survey indicate that the framework is useful, and acts as a useful guide for implementing e-diplomacy projects. The first question enquired if the framework helped the participants plan and implement e-diplomacy projects in their respective organisations. All participants responded positively to this question, indicating the framework was a useful tool for planning and implementing e-diplomacy projects. The

respondents agreed that the framework is a backward model, which could be used to increase people's understanding of reality and communication using a bottom-up approach, as opposed to a top-down approach. The second question assessed the satisfaction levels of the users with respect to the framework. Four respondents gave positive responses, while P1 was not satisfied with the framework. P1 gave some suggestions to enhance the framework which are outlined later. Going by the described responses, it may be concluded that most participants were satisfied with the framework. The last question assessed the step logic outlined in the framework. Three respondents approved the current steps, while two of them expressed their displeasure. They argued that the model represented a broad concept in which some steps might be missing or not easily understandable. They also proposed reviewing the steps, and adopting a matrix type system to make the overall system more effective.

### **Appropriateness**

The second set of questions assessed the appropriateness of the framework in achieving e-diplomacy. Question one specifically enquired about the participants' perceptions regarding the appropriateness of the framework in achieving e-diplomacy maturity. All respondents confirmed that they were confident that the current structure was helpful in achieving e-diplomacy. Given that all respondents gave a positive answer to this question, the findings can be generalized. It can be concluded that the framework can be used by relevant authorities to achieve e-diplomacy maturity. The second question assessed the compatibility of the framework with the respondents' settings. Again, all respondents gave a positive answer, which implies that they believed that the framework was an adequate fit for their current setting. P4, however, stated, *'Yes, but not to its full capacity, it is slowly rolling the stages to make sure that users are familiarized with it before rolling next stage.'* The response indicates that although the framework is presently suitable, more needs to be done to make it user friendly. The third question in this section enquired about respondents' perceptions of the extent to which the framework is achieving the intended goals. Out of the five participants, three answered, 'long'; this indicates that they believed that the framework

successfully achieved the intended goals. The other two participants answered, 'medium'; this indicates that they somehow believed that the framework achieved the desired goals. The difference in opinions, however, illustrate that the framework needs to be improved to adequately meet the desired goals.

### **Effectiveness**

The third section of the survey assessed the effectiveness of the framework in terms of value addition for an organisation. The survey question enquired respondents' perceptions on the value added to their organisations with the adoption of the framework. All respondents answered, 'yes', which implies that they acknowledged value addition in their respective organisations following the application of the framework. The acknowledgement of the benefits by all respondents implies that the framework is effective. Given that all participants gave positive answers, the results can be generalized and deemed as representative of the whole group. Therefore, the framework in its current state helps firms in different industries to achieve e-diplomacy. However, some respondents indicated the need for alterations to the framework for maximizing the benefits. In its current state, the framework achieves some benefits, but its full capacity is not yet exploited.

### **Efficiency**

The last section of the survey sought to unravel the efficiency of the framework in its current state. To achieve the objective, two questions were posed to the respondents. The first question enquired about the extent to which they thought the framework was efficient. Three participants answered 'very efficient', implying that they greatly approved its efficiency. One respondent, on the other hand, answered 'efficient', indicating that they somehow approved the framework's efficiency. The last participant responded with 'not very efficient', implying that they did not like the way the framework operated. The varied responses for this question indicate that although the framework is efficient in its face value, it needs to be improvised to suit the needs of every organisation. Efficiency is at the heart of every organisation,

which necessitates the review of the framework to eliminate any inefficiency that is likely to be present.

The second question in this section was open-ended, requiring respondents to give their views on the possible courses of action for streamlining operations of the framework. One of the proposed improvements suggested was public training on the operations of the framework. One of the respondents mentioned that for the adoption of the framework, the citizens must be educated on what to expect. The public, for example, should be aware of the general requirements and policies, especially, when it comes to the application of the framework in the foreign ministry. The other proposal for change was centered on the need to make the framework more overlapped to increase its efficiency. Both participants, P2 and P3 specifically said that the proposed stages should form overlapping stages. They also added that before the first stage, there should be a step defining the general requirements and policies. This step should also consider the human resource factor in which skilful workers, awareness, training, and trust elements must be incorporated. P3 said *“It is an IT strategy based model rather than a backward model for understanding reality & communication and simplifying it. It Can be used to understand how to make an ICT strategy using a bottom up approach rather than a top down approach. Also, I think the four phases should have feedback.”* P3 also said *“I think, these stages are simplification of steps to achieve a collaborative digital diplomacy (full integration). It should be overlapped stages approach rather than simply stop and jump approach. I think you could potentially **have a matrix type system**”*. Similarly, P2 mentioned that the framework can guide people who apply e-diplomacy tools. *“This plan will be helpful for people to conceptualise what they should be working on, yes I think it would be. I mean I think that would be a helpful model to say, here is where you are, here is where you could go, here is where you need to go”*.

#### **8.4.4. Validating the findings**

Internal validity was used to ensure the robustness of the findings from the focus group data. Therefore, the above discussed findings from the Delphi

method were sent back to the moderator and the five participants to check and resolve any inconsistencies that may have occurred, including interviewer bias (Pan and Tan, 2011).

### 8.5. Conclusion: The revised Framework

Chapters 5, 6 and 7 presented the gathered data to validate the e-diplomacy maturity framework proposed in chapter 3. The purpose of doing so was to identify factors that support or conflict with the research themes, in relation to deploying these factors in the field of e-diplomacy. At this occasion, it should be noted that the aim of this section is to describe a case study that allows others to relate their experiences with the reported findings. The result is a broader understanding of the emerging phenomenon of e-diplomacy from an organisational point of view. In doing so, a revised model (figure 8.3) is presented that can be used as a frame of reference during the implementation of e-diplomacy. Chapters 5, 6, 7 offer details on the undertaken data collection exercise to develop the revised framework after validating and evaluating the elements of the conceptual framework.

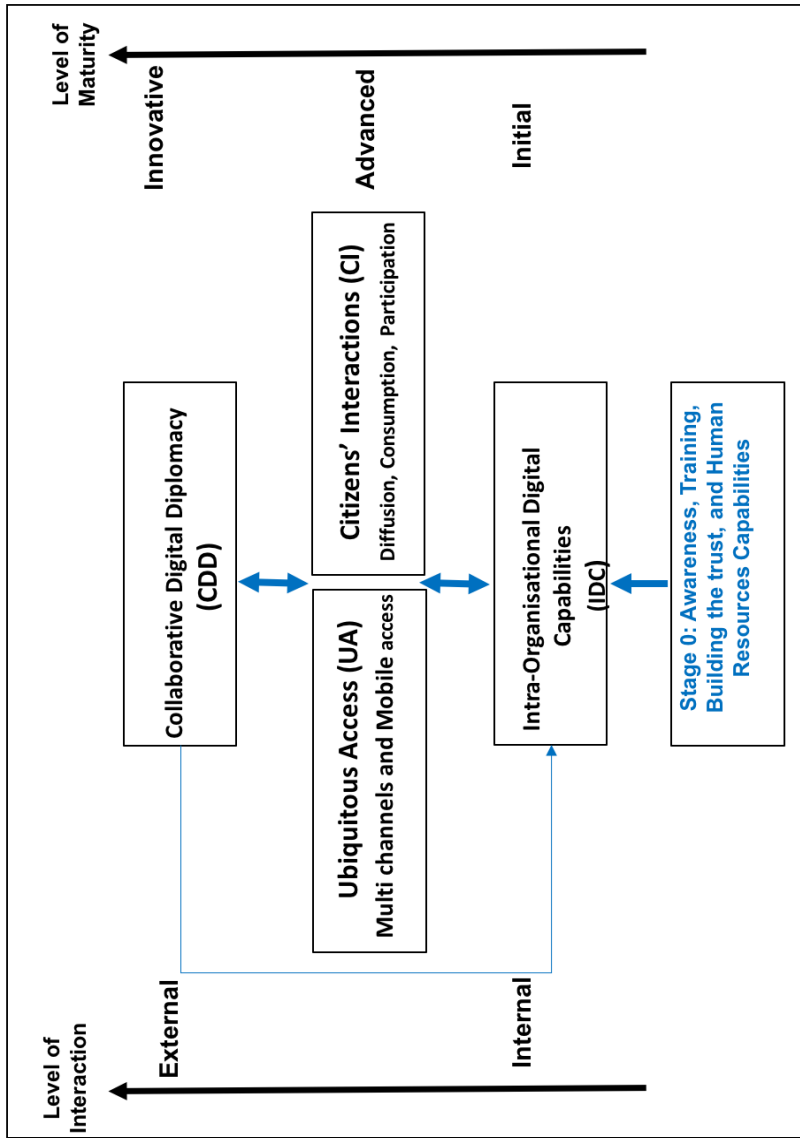
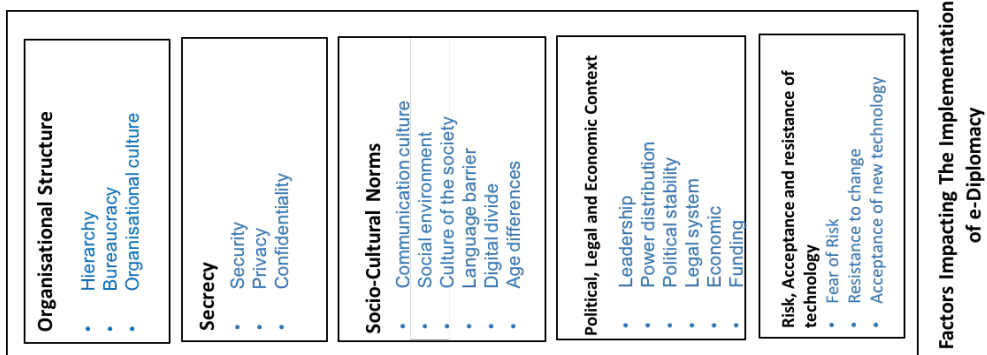


Figure 8.3, The revised framework of e-diplomacy maturity an implementation

As mentioned earlier, the amendments to the framework were based on both the validation process from the case studies (interviewing experts) and the evaluation process (focus groups based on Delphi technique). The changes are discussed and presented as concluding remarks in the following sections.

### Conclusions from the case studies

Overall, there is substantial evidence that the participants' responses on e-diplomacy maturity and implementation are a close match to the conceptual framework proposed in chapter 3. In particular, there is evidence that using existing literature to define the stages and factors impacting e-diplomacy implementation and maturity is an effective approach. The table below shows the factors impacting e-diplomacy's maturity and implementation mapped against the case studies findings.

Themes	Sub-themes	Demonstrated in literature	Case study findings
<b>Stage 0 (new stage)</b>	User training/ awareness	X	√
	Human resource capability	X	√
	Building trust	X	√
<b>Intra-organisational digital capabilities</b>	Provide internal ICT infrastructure	√	√
	Modern, Internet and web access based applications	√	√
	Provide information to decisions makers	√	X
	Improve financial, HR and archiving systems	√	√
	E-learning	√	√
<b>Ubiquitous access</b>	Support secure mobile and desktop computing	√	
	Provide range of wireless devices and wireless infrastructure	√	√
	Integration of all enterprise applications into mobile devices	√	√
<b>Citizen interactions</b>	Utilizing social media	√	√
	Enhancing consular affair services	√	√
	Interacting with the public	√	√
	Promotion and image building	√	√

<b>Collaborative digital diplomacy</b>	Provide internal infrastructure for all missions to support full integration	√	√
	Secure communication of officials and diplomats	√	√
	Linking all stakeholders including foreign missions	√	√
<b>Hierarchy and organisational factors</b>	Hierarchy	√	√
	Bureaucracy	√	√
	Organisational culture	X	√
<b>Secrecy, privacy and confidentiality</b>	Secrecy	√	√
	Privacy	√	√
	Confidentiality	√	√
<b>Nature of communication / Socio-Cultural norms</b>	Communication culture	√	√
	Culture of the society	√	√
	Language barrier	√	√
	Social environment	√	√
	Digital divide	X	√
	Age differences	√	√
<b>Political, legal and economic context</b>	Leadership	√	√
	Power distribution	√	√
	Political stability	√	√
	Legal system	√	√
	Economy	√	√
	Funding	√	√



Risk, acceptance and resistance towards new technology	Resistance to change	X	√
	Acceptance of new technology	X	√
	Fear of Risk	√	√

**Table 8.2: e-diplomacy maturity and implementation factors v/s case studies**

It can be noticed from the table above that in addition to gaining support for the basic framework, the interviewees supported majority of the factors identified in chapter 3. The changes based on interviewee responses are summarized as follows:-

- Based on empirical findings, it can be noticed from the figure above that stages 2 and 3 have been merged into one level, instead of two different levels, as they are closely related. The interviews also confirmed that the factors should have different effects on different stages, which is represented by a dotted arrow in the revised framework.
- The sub-factors that impact e-diplomacy implementations are now shown in the revised framework to assist decisions makers in gaining better understanding of these factors (for instance, under the organisational factors, hierarchy, bureaucracy and organisational culture are now listed)
- The nature of communication and the socio-cultural norms have been merged into one main factor, because they are very closely related. Also sub-factors, such as communication nature, social environment, culture of the society, language barrier, digital divide, and age differences, have been incorporated in the framework.
- Organisational culture was introduced by the respondents, and therefore, has been incorporated under the organisational factors in the framework.

The outcomes from the case studies and the Delphi method together identified a new critical factor, *Risk, Acceptance and Resistance toward*

*technology* . This is now incorporated in the revised model. In effect, the data gathered from the case studies contributes to the normative literature by:

- a. Combining and extending existing *research on e-diplomacy implementation and maturity*
- b. Improving the quality of e-diplomacy platform assessment and evaluation.
- c. Providing increased insights to decision makers and senior managers on e-diplomacy

### ***Conclusions from the Delphi (evaluation) and the ISM (data analysis) processes***

- The evaluation process used the Delphi technique. Almost all respondents gave positive responses confirming that the e-diplomacy framework is useful, appropriate, effective, and efficient. Two respondents recommended modifications to the framework to maximize its utilization. An additional phase was added before the intra-organisational digital capabilities phase, which includes tasks, such as awareness, training, building trust, and providing skilful human resources. These suggestions were made by the experts during the case study interviews.
- The connection between the initial, interaction, and the integration phases should be a two-way connection with feedback links. In other words, the stages should be overlapping.
- The ISM data analysis confirmed the casual relationship amongst all variables impacting e-diplomacy maturity, which increases the credibility and robustness of the revised framework.
- The ISM-based model shows that the stages of e-diplomacy maturity are located at different levels. (i.e. stage 1 is located at the lowest level)
- Based on the ISM model, it can be noticed that most impact factors are located at the lowest levels (e.g., organisational, legal, political, cultural, economic, and social factors). This confirms they have high

impact on the e-diplomacy maturity, which is also acknowledged in the literature and the case study findings. Only secrecy was located at level 3 of the ISM-based model, which confirms that it has a close and direct impact on stages 2, 3 and 4 of maturity that were also located at the same level.

- It can also be noticed from the ISM-based model that the factors have different effects on the stages of e-diplomacy maturity, which confirms the responses concluded from the case study findings.

Additionally, the revised framework makes an important contribution to the embryonic literature on e-diplomacy by synthesizing factors in the existing literature, which is now supported by empirical data. Importantly, this means the conceptual framework has been established by:

- Combining a wide variety of research studies on maturity model, diplomacy, and e-diplomacy into a single holistic framework.
- Providing a comparative validation and evaluation of factors affecting e-diplomacy implementation with practical experience, and generating more robust results.
- Opening new research avenues for exploration in the future.

The revised model, therefore, has clear and specific theoretical and practical implications for both field experts and researchers. The next chapter will outline the theoretical and practical contributions of the proposed framework, alongside its limitations and areas for future research.

# Chapter 9: Conclusions and further work

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## **Abstract**

This chapter provides a comprehensive summary and conclusion as well as limitations of the current research and recommendations for future research.

## Chapter 9: Conclusions and further work

### 9.1. Introduction

This research showed that e-diplomacy is an efficient tool for diplomacy if handled with care. Moreover, it offers transparency, information, and interaction. As shown in chapter 2, the innovation of digital diplomacy has changed the role of diplomats. On one hand, it has reduced the burden of carrying information, and on the other hand, it has brought them into the court of people. The diplomats are now required to interact with the masses, and they are liable for answering questions raised by the public. This research examined the literature on e-diplomacy and addresses the significant research gap surrounding the application of digital diplomacy. Therefore, this research develops a comprehensive framework that shows the stages of e-diplomacy maturity and the factors that affect its implementation. This study has constructed a framework that aids decision-makers in applying e-diplomacy tools for both internal work purposes, such as management and knowledge sharing, and external diplomatic tasks, such as interaction with the public and citizens. This research contributes at both the knowledge and empirical levels towards an enhanced understanding of the significance of e-diplomacy.

This final chapter begins by acknowledging the research aims and objectives achieved by this study. Next, the main findings drawn from the literature and empirical studies are offered alongside limitations of this work. Finally, the theoretical and practical research contributions are presented and, recommendations for further work are proposed.

### 9.2. Meeting the Research Aim and Objectives

To achieve the aim of this thesis, some objectives were defined in chapter 1 that informed the literature review, research design and the findings that were reported in chapters, 2, 3, 5, and 6. These objectives are summarized in table 9.1 and analysed in the following paragraphs.

Objectives	Chapters
1	Chapters 1 and 2
2	Chapters 2 ,3 and 6
3	Chapter 2,3
4	Chapter 3
5	Chapters 4, 5, 6 and 7
6	Chapter 8
7	Chapter 9

**Table 9.1: Research objectives mapped against thesis chapters**

**Objectives 1 and 2:** *To critically review the published literature in the research area.*

Based on critical analysis of the literature, several research gaps were recognised. Chapter 2 outlined a comprehensive literature review in the field of diplomacy, foreign affairs, the influence of ICT within these contexts, and the systematic literature review of e-diplomacy research. In particular, Section 2.10 ( chapter conclusion) identified the gaps in the normative literature of e-diplomacy and through doing so offered a list of the concepts necessary to formulate the conceptual framework of e-diplomacy maturity. The section also illustrated the conclusions of the literature review as well as the contributions to underpinning the proposed conceptual framework. In addition, both chapters 3 and 6 provided secondary analysis of e-diplomacy practices. The undertaken literature review helped identify variables impacting e-diplomacy maturity and implementation for this research. It revealed the absence of a conceptual framework that deals with e-diplomacy.

**Objectives 3 and 4:** *To conduct a literature review of technology maturity models in growth theories of ICT and e-government. Also, formulate the basis for maturity model of digital diplomacy and translate the research need into a conceptual model.*

Chapter 2 provided a focal theory that could be used to formulate the e-diplomacy maturity framework. Due to the lack of literature on e- diplomacy and maturity of diplomacy, this chapter focused on the literature about maturity models in general, ICT maturity within organisations, the stage of growth theories, and the e-Government maturity models covered both

normative literature as well as grey literature (e.g. white papers, reports, government e-diplomacy's strategies.. etc. ) This helped in formulating the e-diplomacy maturity framework (presented in chapter 3) that was used as the basis for this research.

**Objective 5:** *To formulate methodological approach for validating and evaluating the theoretical framework by conducting empirical research. Also, apply this framework to collect qualitative data from selected embassies of leading countries to refine and formalize the maturity of digital diplomacy.*

To do so, chapter 4 outlined an explanation of the overall research design and methodologies with justification for the choices made. Chapter 5 presented the findings of the pilot interviews, and showed how they contribute to the development of case studies shown in chapter 6. On the other hand, chapter 6 explored the practical issues affecting e-diplomacy by conducting interviews with experts responsible for e-diplomacy in the US state department, the UK FCO and the MOFA in Qatar. Lastly, chapter 7 showed a further data analysis of the interview findings by using Interpretive Structural Modeling (ISM). The findings from these two chapters led to the achievement of objective 6 of this research.

**Objective 6:** *To review the empirical results and extrapolate some data that can be translated into a revised e-diplomacy maturity framework.*

Using the research methodology set out in chapter 4 to empirically validate the proposed conceptual framework, chapters 5, 6 and 7 analysed and presented the empirical data collected from the interviews. In chapter 8, the findings of the previous chapters were discussed and synthesised to refine the conceptual framework and reveal novel contributions.

**Objective 7:** *To offer conclusions and recommend further work.*

Chapter 9 started by summarising the study and sketching conclusions resulting from the literature and empirical research reported in this thesis. Finally, the research limitations, novel contributions, and the recommendations for future work are presented.

### 9.3. Research Findings, Validation and Evaluation

The research findings in chapter 8 are founded on two bases. Firstly, it is the literature review outlined in chapters 2 and 3, which are drawn together

in the conceptual framework (chapter 3). Secondly, the results of the three case studies in the foreign ministries that are the UK, Qatar and the US illustrate the actual practice of e-diplomacy. The key conclusions from this research are listed below:

- Foreign ministries (e.g. USA, UK, and Qatar) have introduced e-diplomacy tools, such as networking sites (e.g., Facebook), Microblogging (e.g., Twitter), online video and photo sharing sites (e.g., YouTube and Flickr), and RSS feeds to enhance consular services. These services include e-services, such as e-visa, and internal work applications, such as e-archiving, e-learning, and e-training. However, the most popular tools are social networking sites, which can be used for many diplomatic tasks, such as interaction with the officials and the public, providing consular services and image building and branding of the home country. Although these tools have enhanced the diplomatic tasks, these improvements have not received attention in academic research, and a need clearly exists for a high-quality theory-building in the field of diplomacy and e-diplomacy.
- The results from the literature on e-diplomacy maturity and factors that impact its implementation highlighted that e-diplomacy tools could have significant influence on the way foreign affairs departments engage in diplomatic tasks. Therefore, a systematic evaluation of these tools is needed before their adoption. Such justifies the need for the development of a conceptual framework.
- The empirical findings suggest that the foreign ministries have been using some of the e-diplomacy tools. However, some obstacles, as identified in the literature and the case studies, have limited the use of these advanced tools. These obstacles are secrecy, organisational, social, cultural, political, economic, and legal factors.
- The introduction of e-diplomacy technologies has not had a big impact on diplomacy, as suggested in some of the literature. The findings from the three case studies emphasised that e-diplomacy tools were not being exploited to their maximum potential.



- The findings suggest that the combination of applying the stages of e-diplomacy maturity model (i.e., initial, interaction, and integration stages), and the impact factors (i.e., organisational, political and cultural factors) will provide better assistance to the decision-making process and lead to an effective utilisation of digital diplomacy.

#### 9.4. Research Novelty

The novelty of this research is based on the development of a conceptual framework of e-diplomacy maturity and implementation that was built around the scaffolding of conjectures that were tested to determine their validity (within the confines of the three case studies). This was done in the broad e-diplomacy domain in which the conceptual framework could be used to guide e-diplomacy implementation. In doing so, addressing the critical functions of foreign relations in today's global environment. The framework introduced 4 levels of maturity that can help implement the tools of e-diplomacy that can enhance the function of any modern diplomats. The stages of the maturity proposed include intra-organisation digital capabilities, mobility and ubiquitous access, interaction with citizens and with the host country's public, and full integration and collaboration of all diplomacy stakeholders. The revised framework following the empirical enquiry, saw the introduction of a new stage named stage 0 which includes tasks such as *awareness, training, building trust, and providing skillful human resources*. Furthermore stages 2 and 3 have been merged into one level, instead of two different levels, as they are closely related (i.e. interaction). It is therefore offered that the contribution to knowledge proposed in this research has been to develop and empirically validate through a robust methodology those construct that *defined the stages of e-diplomacy maturity as well as identified a portfolio of factors and sub-factors that restrict the successful implementation of e-diplomacy*. The following provide the broad scope of the research conducted.

#### **Broad scope of the research conducted**

- The main gap, identified in chapters 2, was the need for more literature development on modern or new diplomacy and particularly e-diplomacy. Besides, the literature review in the chapter has contributed

to other fields of knowledge such as e-government, ICT in the public services, and maturity models literature.

- Section 2.5 illustrated that ICT use by foreign ministries was ignored in the discussion of ICT and public services and e-government. Therefore, this research has filled a significant gap in the normative literature of e-government as well as ICT and public services by introducing a new field area of electronic public services, which is e-diplomacy.
- The systematic literature review of e-diplomacy studies presented in chapter 2 aimed at providing e-diplomacy researchers with a comprehensive summary of current research in the field of e-diplomacy. Therefore, it is the first study to contribute a systematic review in the area of e-diplomacy such as visiting its definition, areas of focus, tools used, risks and challenges, empirical cases and many others. This review could assist researchers who are seeking knowledge and references in the area by providing them with useful resources for further investigation and studies. The profiling table presented in chapter 2 offers a starting point for new researchers interested in the field of e-diplomacy that requires further investigations.
- Section 2.8 presented a comprehensive literature review of maturity models, ICT maturity, and growth of stages models. This section contributes to the field of ICT maturity, which can be used as a basis to conceptualise ICT maturity models. Thus, the results can aid researchers in this field as well as ICT maturity model developers.
- Section 2.9 (E-government Maturity models) aimed at providing e-government maturity models researchers with a comprehensive summary of current research in the field. The main aim of this section was to formalize a new basis for a maturity model that can be used to develop new models. This review could assist researchers who are seeking knowledge and references to develop a new maturity model by providing them with useful resources for further investigation and studies

- This research developed a conceptual framework that contributes to the existing limited knowledge of e-diplomacy by outlining descriptive stages of e-diplomacy maturity and impact factors that impact its implementation.
- The conceptual framework presented was justified using the results of three case studies. The literature and the empirical results led to the development of a useful framework of e-diplomacy maturity and implementation. The need for such a framework to address the stages of e-diplomacy maturity and implementations is widely recognized in the existing literature.
- Moreover, limited studies analysed the influence of ICT on diplomacy. Both the revised conceptual framework and the ISM-based model constructed for e-diplomacy were empirically validated by exploiting important indicators for assessing the maturity associated with ICT impacts on diplomacy.
- The revised framework offers a point of references for diplomats, practitioners and the research scholars who wish to explore the discipline of digital diplomacy.
- A further key contribution is in the method adopted. This study is the first to utilize the ISM method for determining the causal relationships among factors impacting e-diplomacy implementation. The pyramid or level of variables presented in the ISM-based model specifies the relative importance of different variables as drivers, dependent or independents factors, which will allow researchers to select these factors for further framework development and validation.
- Another key contribution is in the evaluation method adopted to evaluate the empirically validated conceptual framework of e-diplomacy maturity. Delphi technique is a great method of identifying the most suitable answer from experts (Mengual-Andrés et al., 2016).

### 9.5. Practical implication

- This study is of significant relevance to the foreign affairs sector, the IS researchers, policymakers, diplomats, ICT managers, and practitioners

as it provides them with a greater understanding of knowledge stages and factors that encourage or hinder e-diplomacy implementation and maturity.

- The Revised conceptual framework can be used to
- ISM when making decisions regarding the implementation of e-diplomacy for internal work, such as service delivery, and external work, such as interacting with the citizens. Therefore, the revised framework provides senior management with clear guidelines that can be used while applying e-diplomacy tools, which will help decision-makers in the application of their available resources. Also, it will help foreign ministries identify the stage that they ascribe to with the usage of ICT in diplomatic tasks
- All three cases (USA, UK, and Qatar) suffer from almost similar challenges when it comes to e-diplomacy implementation. These challenges are security, privacy, confidentiality, and organisation structure, economic, social, legal political and cultural barriers that can significantly impact the success of e-diplomacy implementations. Despite these challenges, the revised e-diplomacy framework should improve the ability of the practitioners, policy, and decisions makers to relate closely to the challenges and hence try to overcome them. Moreover, the proposed ISM base model can aid in locating and overcoming these challenges.
- Particularly, regarding the ISM-based model, the driving power and dependence power diagram (figure 7.2) show that there is no factor located in the autonomous section, which has weak drivers and weak dependent power; therefore, they do not have much impact. The lack of an autonomous element in this study suggests that practitioners should pay attention to all identified factors as being related to e-diplomacy implementation. Only “resistance to change” falls under the driver cluster with weak driving power and relatively high dependence power; therefore, understanding it should be a matter of high priority for the practitioners.

- As mentioned in this study, social media, and Twitter, in particular, is one of the main essential tools of digital public diplomacy. The findings of this study can help policymakers when setting up the social media strategy and communication guidelines for a particular foreign ministry/embassy. Strauß (2015) accomplished a similar study to this research and suggested that such studies can target and help achieve relation building, information, and content management, promotion, and image repair strategies.
- The study also suggested that to attain positive outcomes from the concept of e-diplomacy, there is a need to acquire trained digital diplomacy diplomates and managers. This will help in utilising the various tools of e-diplomacy such as for communication during time of crisis and the need to have immediate real-time access to other diplomats to formulate the right digital diplomacy content (Cassidy and Manor, 2016).
- Finally, foreign ministries and embassies can apply the revised framework interactively to achieve proactive and strategic communication messages to both their citizens and the international community.

#### 9.6. Research Limitations

As with any research, there are several limitations in this work which are discussed below:

- **Lack of available and/or reliable data:** Lack of reliable data has limited the scope of this analysis. This research needed more interviewees with increased experience in the field of digital diplomacy. For instance, the researcher only managed to get two participants from both the UK FCO and the US state department.
- **Lack of prior research on the topic:** As mentioned in chapters 1 and 2, the literature discussing e-diplomacy is very limited, and there are hardly any studies examining its implementations and adoption.
- **Access:** This study relied on gaining access to people, organisations, and official documents. However, for security and

other reasons, access was very limited. This study investigates sensitive issues, such as diplomacy and foreign affairs in countries where access to such information is very limited (e.g., the USA and the UK). A significant obstacle was not being able to access many departments (such as the media, the political, and the consular departments) within the selected foreign ministries that are applying digital diplomacy technologies.

- **Longitudinal effects:** Unlike, professors and other academics, who can devote years to examining a single topic, the time available to examine this research problem was very limited.
- **The number of case studies:** This research was restricted to three case studies. Cases from other parts of the world, for instance, Africa, Far East, or South America should also have been considered. Therefore, it may be difficult to generalize the results of this research to other parts of the world. However, the close relevance of research findings with the themes discussed in the literature suggests that these differences may be less critical in practice.
- **Method applied in the research:** This research used qualitative method for collecting data for this study. The qualitative method enables the generalization of rich contextual data, which is related to human and organisational issues. However, this approach has some drawbacks; it is time-consuming. A lot of time has been spent in processing, collecting, and analysing the data. The amount of data collected from the case studies was more contextual, which interpreted the challenge. The contextual data also made the mapping of the findings to conceptual framework very difficult and time-consuming.

However, despite these limitations, this study delivers significant empirical evidence to support the proposed conceptual framework of e-diplomacy maturity. The next section will outline some recommendations for future research.

## 9.7 Lessons Learnt from the Case Studies

The case studies revealed that the application of e-diplomacy could transform the way foreign ministries operate from both internal and external organisational perspectives. The key lessons learnt from the case studies can guide researchers and practitioners towards better understanding of these tools.

- *Lesson 1:* Foreign ministries should apply e-diplomacy tools, which have demonstrated many benefits, such as cost savings and work efficiency.
- *Lesson 2:* ICT managers within the foreign ministries should apply the stage model of e-diplomacy to learn where they stand with respect to the implementation of ICT in diplomatic functions.
- *Lesson 3:* Foreign ministries should develop a policy document and guidelines for digital diplomacy use (such as the e-diplomacy strategy developed by the US state department).
- *Lesson 4:* Foreign ministries should develop detailed documentation to guide diplomats on the application of e-diplomacy tools (such as the social media strategy developed by the UK FCO).
- *Lesson 5:* The hierarchical and political nature of public sector organisations should be understood to overcome related obstacles, and to ensure e-diplomacy solutions are successful in practice.

## 9.8 Recommendations for Further Work

Although the empirical findings validated the conceptual framework, this research can be further enhanced. In the light of the reflections and limitations, it is recommended that further work be carried out in the listed directions:

- **Apply more cases:** As mentioned in the previous section, the revised framework of the stages of e-diplomacy maturity was based on three case studies in the United Kingdom, United States, and Qatar. Therefore, the results of this research cannot be generalised, despite its good fit with the literature suggesting considerable validity. Thus, the researcher recommends applying this framework in other contexts.

- **Mixed method:** There may be benefits to adopting research methods, such as a large-scale survey questionnaire using a mixed method approach. Although the mixed method approach can be time-consuming, it guarantees robust outcomes. Additionally, applying survey as a tool for research can assure participation from large samples, contributing to more results that are empirical.
- **Investigate more impact factors:** Both literature and experts were consulted to suggest factors relevant to e-diplomacy. Similarly, it would be beneficial for future research to improve conceptually current factors using both inductive and deductive methods, and to investigate more factors before the framework is statistically evaluated and validated.
- **Investigating the adoption of E-diplomacy:** Unlike e-government research where scholars have largely focussed on identifying factors affecting the implementations and adoption of e-government, this study focused only on the implementation of e-diplomacy. One can take this further and investigate the user (i.e., diplomat) adoption of e-diplomacy tools.
- **Enhancing the ISM-based model:** The ISM-based model developed in chapter 7 can be enhanced by considering more factors, and by investigating the relationship among the factors that impact e-diplomacy. Such can be achieved by taking the results from the ISM-based model and applying other statistical techniques, which can lead to enriched results. For instance, Interpretive Ranking Process (IRP) can be applied to investigate the factors impacting e-diplomacy implementation and rank them based on their importance.
- **Further evaluation of practicality of the revised framework:** Although the Delphi process was applied to evaluate the revised framework, it has some drawbacks; the size of the focus group was small (five participants), and the framework was evaluated only by experts from one country (Qatar). More participants from different places can be considered to achieve robust outcomes



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## Appendix A: Agenda of the Pilot Interview

### Part 1: Interview Guide

- 1- Give an overview of the study and its aim to participants
  - a. Define what is e-diplomacy (digital diplomacy)

(e.g. it is the incorporation of the information and communication technology (ICT) for attaining foreign policy goals).
  - b. Explain how could ICT tools be used within diplomatic functions:-
    - Bilateral and multilateral relation
    - Mediation, negotiation, facilitating and conflict resolution
    - Promoting and image building of the home country
    - Public diplomacy and social engagement
    - Citizens and consular services
    - Administration and management of the Ministry/Embassy
  - c. Explain the potential factors and challenges that may influence the implementation and diffusion e-diplomacy.
    - Organisational structure
    - Secrecy and sensitivity of the diplomatic functions
    - Nature OF communication
    - Culture and norms
    - Political, legal, and economic
  - d. The results will contribute to formalizing an e-diplomacy maturity framework; explore what the participants thoughts are on the essential components of an e-diplomacy framework

#### NOTES:

- 2- Ask for a permission to use a recorder
- 3- Ask if further contact can be made for more information
- 4- Make it clear to the interview the he/she can refuse to answer any question
- 5- Clarify the nature of confidentiality
- 6- Explain that an opportunity will be available for comments off record at the end

### Part 2: General Interviewee information

- Title:.....

- Name:.....(confirm again that names will not be identified in any work written or otherwise)
- Position: .....
- Organisation: .....
- Email:.....
- Date of interview.....
- Duration: .....

### Part 3: The benefits of applying ICT tools in Diplomacy

- a. Do you realize that ICT can contribute to enhance the functions of diplomacy?
- b. Do you think that E-diplomacy tools are utilised within your Ministry/Embassy?
- c. Do you personally use ICT tools in you daily administration and diplomatic functions?  
The tolls could be ass follow:-

- WWW
- Social Media
- Online services
- The internet as a tool for culture Exchange
- Virtual private network and document exchange
- Online conference and webinars
- Hardware & software

### Part 4: Usages of ICT within the modern diplomatic functions:-

Do you think there are levels / stages of maturities when deploying e-diplomacy? Do you notice any variables when moving between stages of ICT developments?

#### a. Intra organisational use of ICT

Could you please provide your comments on the Intra organisational usage of ICT. (how does ICT improve the internal function of an embassy/ministry?) (e.g. Knowledge sharing, HR, finance, archiving, etc.)

#### b. Mobile access

How could ICT Tools improve the mobility of the employees at a foreign mission?

- Wireless infrastructure
- Wireless devises
- Availability of information any time and any where



- Security

c. Interaction with the citizens

Would you please provide your comments on the contribution of ICT to encourage citizens' interaction with diplomatic services? (i.e. consular services, social media, promoting the home country, etc.)

d. Open Diplomacy

How can ICT tools contribute to integrate all the stakeholders (e.g. diplomats, embassies, public, citizens, etc.) to form what is called "Open diplomacy"

Part 5: the potential factors and challenges influencing the e-diplomacy implementation and diffusion

- a. In your opinion, what are the potential factors and challenges that influence the implementation and diffusion of e-diplomacy
- b. Do you think the following factors can influence the implementation and diffusion of e-diplomacy?
  - Organisational structure
  - Privacy and confidentiality
  - Nature of communication
  - Socio-Cultural Norms
  - Political, legal, and economic

## Appendix B: Interview CONSENT FORM

The participant should complete the whole of this sheet

*Please tick the appropriate box*

YES

NO

Have you read the Research Participant Information Sheet?

Have you had an opportunity to ask questions and discuss this study?

Have you received satisfactory answers to all your questions?

Who have you spoken to?

Do you understand that you will not be referred to by name in any report concerning the study?

Do you understand that you are free to withdraw from the study:

- At any time?
- Without having to give a reason for withdrawing?
- (where relevant, adapt if necessary) without affecting your future care?

I agree to my interview being recorded.

I agree to the use of non-attributable direct quotes when the study is written up or published.

Do you agree to take part in this study?

**Signature of Research Participant:**

**Date:**

<b>Name in capitals:</b>
<b><u>Witness statement</u></b>
<b>I am satisfied that the above-named has given informed consent.</b>
<b>Witnessed by:</b>
<b>Date:</b>
<b>Name in capitals:</b>

<b>Researcher name: Hamad almuftah</b>	<b>Signature:</b>
<b>Supervisor name: Vishanth Werrakkody</b>	<b>Signature:</b>

## Appendix C: PARTICIPANT INFORMATION SHEET

### Dear sir/Madam

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me/us if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part.

### Thank you for reading this.

#### Purpose of the study

The purpose of the interview process is to collect professional opinions of the use of ICT in diplomatic services for the purpose of PhD research. The aim of this research is to formulating a maturity stage framework for e-diplomacy implementation and diffusion

#### Why have been invited to participate?

I have chosen officials and diplomates who work at different diplomatic mission to collect my primary data

I will be interviewing the following:-

From the state of Qatar	<ul style="list-style-type: none"><li>• Qatar Embassy, London, Head of ICT</li><li>• Qatar Embassy, London, Consul</li><li>• Qatar Embassy, London public diplomacy officer</li><li>• Qatar Embassy, USA, Communication officer</li><li>• Qatar Embassy, USA, Ambassador</li><li>• MOFA, Qatar, IT department</li><li>• MOFA, Qatar, Information department</li></ul>
From The USA	<ul style="list-style-type: none"><li>• State department, E-diplomacy team</li><li>• USA Embassy, Qatar The press team</li><li>• USA Embassy, Qatar The ICT team</li><li>• USA Embassy, Qatar , the Ambassador</li><li>• USA embassy, London</li></ul>
From the UK	<ul style="list-style-type: none"><li>• FCO, digital and information team</li><li>• FCO, ICT team</li></ul>

	<ul style="list-style-type: none"> <li>• FCO, consular team</li> <li>• UK embassy, Qatar, Ambassador</li> <li>• UK embassy, Qatar, ICT/digital media team</li> </ul>
--	--

### **Do I have to take part?**

As participation is entirely voluntary. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

Also right to withdraw at any time from the project will in no way influence or adversely affect the participant.

### **What will happen to me if I take part?**

You will only be involved in this interview of about 15-30 mints

No names of individuals will be identified in any work that is published and will remain strictly anonymous. If names of organisations are identified, this will only be done with permission from the authorised person(s) in the organisation. The data collected will be treated in the strictest of confidence and will be stored securely and shared between myself (Hamad Al-Muftah) and my supervisory team of Professor Vishanth Weerakkody

### **What do I have to do?**

You just need to answer few questions and give your opinion. The questions are as follow:-

#### 4. Interview Guide

- Give participants an overview of the study and its aims
- Define e-diplomacy (digital diplomacy)
- Explain the uses of ICT in diplomatic functions

#### 5. General Interviewee information

(such as name, age, education, contact, etc.)

#### 6. Questions about the benefits and implementation of ICT tools in diplomacy

- How ICT can contribute to the facilitation of diplomacy functions.
- The utilisation of e-diplomacy within the interviews' workplace.
- E-diplomacy strategy within the interviews' organisation?

#### 7. Stages and Usages of ICT within diplomatic functions

- General questions about the stages of ICT implementation (e-diplomacy maturity)
- What are some of the intra-organisational digital capabilities within the interviews' organisation
- How can ubiquitous access be archived
- The Interaction with the citizens and public
- Questions about open digital diplomacy

#### 8. Questions about the potential factors and challenges influencing the e-diplomacy implementation and diffusion such as the following:-

- Hierarchy and organisations factors

- Privacy and confidentiality
- Nature of communication
- Socio-Cultural Norms
- Political, legal, and economic

The interview view will last between 15 to 30 mints.

### **What are the possible disadvantages and risks of taking part?**

There are no risks involved or disadvantages

### **What are the possible benefits of taking part?**

There is no intended benefit to the person from taking part in the study. However, your comments and opinion will contribute to the use of ICT in diplomatic services which befits not only academic but also practitioners

### **What if something goes wrong?**

If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for a legal action but you may have to pay for it.'

### **Will my taking part in this study be kept confidential?**

All information which is collected about you during the course of the research will be kept strictly confidential. Any information about you, will have your name and address removed so that you cannot be identified from it.'

### **What will happen to the results of the research study?**

The research results will be hopefully published by September 2017 and will be written up for my PhD

### **Who is organising and funding the research?**

- Myself with some support from the Ministry of Foreign affairs of Qatar in conjunction with the business school, Brunel University.
- The Ministry of Foreign Affairs of Qatar will be supporting my research. The nature of the involvement of the ministry will be in facilitating my work to conduct research with officials in Qatar and also with officials in others embassies like the embassy of Qatar in London and other embassies in Doha such as the UK and the USA embassy in Qatar. A letter of support from the Embassy of Qatar in London is attached.

### **What are the indemnity arrangements?**

- Participation in a study might not affect health-related insurance

- Brunel University provides appropriate insurance cover for research which has received ethical approval

### **Who has reviewed the study?**

The College of Business, Arts and social sciences research Ethics committee, Brunel University, UK

### **Commitment**

Brunel University is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from our researchers during the course of their research.

### **Contact for further information and complaints**

The person to be contacted if the participant wishes to complain about the experience should be the Chair of the principal investigator's College Research Ethics Committee (Prof. James Knowles), Brunel University, UK

## Appendix D: Interview's Agenda

### Purpose

The purpose of the interview process in this research is to explore the professional opinions of selected experts of the usage of ICT in the delivery of diplomatic services. The aim of the PhD research is to formulate a maturity stage framework to capture the implementation and diffusion of e-diplomacy.

Names of individuals will not be identified in the published outcome due to the need to observe the participants' anonymity. Names of organisations will only be used with permission from the authorised person(s) in the corporation. The data collected will be treated in the highest standards of confidence, especially through assurance of security and limited access – it will be shared between myself (Hamad Al-Muftah) and my supervisory team including Professor Vishanth Weerakkody and Dr Sankar Sivarajah of Brunel University, Business School.

### Part 1: Interview Guide

- Give participants an overview of the study and its aims
  - Define what is e-diplomacy (digital diplomacy)  
(E.g. it is the incorporation of the information and communication technology (ICT) for attaining foreign policy goals).
  - Explain the possible uses of ICT tools in diplomatic functions: -
    - Bilateral and multilateral relation
    - Mediation, negotiation, facilitating and conflict resolution
    - Promoting and image building of the home country
    - Public diplomacy and social engagement
    - Citizens and consular services
    - Administration and management of the Ministry/Embassy
  - Explain the potential factors and challenges that may influence the implementation and diffusion of e-diplomacy.
    - Organisational structure
    - Secrecy and sensitivity of the diplomatic functions
    - Nature of communication
    - Culture and norms
    - Political, legal, and economic
  - Explore the opinions of participants on essential components of an e-diplomacy framework as the results will contribute to the formalization of an e-diplomacy maturity framework.

### NOTES:

- Ask for a permission to use a recorder
- Ask if further contact can be made for more information
- Make it clear to the interviewee he/she can refrain from answering any question(s)
- Clarify the nature of confidentiality
- Explain that an opportunity will be available for comments off record at the end



## Part 2: General Interviewee information

- Title:.....
- Name.....(confirm again that names will not be appear in any work written or otherwise)
- Position: .....
- Organisation: .....
- Email: .....
- Date of interview: .....
- Duration: .....
- Education:.....
- Age:.....
- Career (including number of years):.....
- Experience level in ICT: .....
- How would you describe your role in respect to the implementation of e-diplomacy?

## Part 3: The benefits and implementation of ICT tools in diplomacy

- Do you realize that ICT can contribute to the facilitation of diplomacy functions?
- Do you think e-diplomacy tools are utilised within your Ministry/Embassy?
- Do you have a digital / e-diplomacy strategy within your organisation?
- Can you summarise the goals/ plans in relation to the implementation of the ICT in your organisation?
- Do you personally use ICT tools in you daily administration and diplomatic functions?

(e.g.: WWW, Social Media, Online services, The internet, Virtual private network and document exchange, Online conference and webinars, Hardware & software)

## Part 4: stages and Usages of ICT within diplomatic functions

- **Stages of ICT implementation (e-diplomacy maturity)**
  - How would you define ICT maturity?
  - What are the stages/ phases that are followed in your organisation to fully implement e-diplomacy? Or what do you think should be followed (in case no stages of development exist)?
  - How would you differentiate between each stage?
  - Are there variables that you notice when moving among stages? (e.g.: complexity, maturity, interaction...etc.)
  - In which phase of ICT maturity do you think you are currently? (Initial, intermediate, advanced, innovative)
  - What do you think of the proposed e-diplomacy framework? (Show the interviewee the framework diagram)

- What do you think of the proposed stages? Should any stage be eliminated, merged, or added?
- **Intra-organisational digital capabilities (C1)**

The aim of the stage: It involves providing the initial intra-organisational digital capabilities such as ICT infrastructure, hardware, and software. Successful completion of this stage is essential in order to move to the subsequent stages.

- Do you believe that this stage is the main and the first stage of ICT development within an organisation? (Successful completion of this stage is essential in order to move to the subsequent stages)
- What Intra-organisational ICT capabilities are implemented in your organisation?
- Do you use advanced ICT infrastructure?  
(Technical consultants, computers and networking equipment, telecommunication, database management and hosting, servers, security, firewalls, intrusion detection, others)
- Does your internal ICT facilitate external communication with all stakeholders?
- Do you use modern, internet and web access based applications for achieving instant communication and management of different areas of the diplomatic work? Name some of the applications and comment on their uses.
- Are there common web based applications used between the headquarters and the foreign missions?
- Does the internal ICT provide information to decision makers, such as diplomats and ambassador, who need such awareness to help them achieve their foreign policy goals?
- Does your organisation use management suite software? And is this software shared among the entire embassy network?  
(Financial, HR and archiving systems...etc.)
- Do you apply any e-learning programs such as online learning and training in order to educate diplomats and foreign workers and keep them updated on the country's foreign policies and priorities?

- **Ubiquitous access: multi-channel and mobile access (C2)**

The aim of the stage: it involves advanced functions, particularly providing ubiquitous access in the form of multi-channel and mobile access

- Can you comment on the importance of this stage? Do you think this stage can be merged within other stages?
- How could ICT tools improve the mobility of the employees at a foreign mission?

- Do you think that the uses of multichannel access by diplomats can affect the traditional diplomacy core aspects like face-to-face meetings? Is that affect negative or positive?
- Does your organisation support secure mobile and desktop computing? What kind of security methods are applied in your organisation in order to achieve a secure access to information?
- Does your organisation provide a range of wireless devices and wireless infrastructure? What about individual embassies?
- How would these wireless devices help diplomats and other employees to achieve their diplomatic functions?
- Do you have a ministry app store, which contains administrative applications that can be downloaded to the mobile devices? Are these applications accessed by visiting the ministry store at anytime and anywhere with a secured access method?
- **Interaction with the citizens and public (C3)**  
 The stage aim: to ease the communication with the citizens and public by applying advanced ICT tools?
  - What do you think of this stage? Should it be called an advanced stage? (as it requires complex ICT implementation and communication)
  - Please provide your comment on the importance of the communication and interaction between diplomats and citizens/ public? How could ICT facilitate this interaction?
  - Do you think public diplomacy would replace or complement the traditional ways of diplomacy?
  - Is the caring for the citizens abroad a priority in your foreign ministry?
  - How would you describe the communication strategy with the public, especially citizens?
  - Is there any available strategy documentation?
  - Do you measure citizen satisfaction regularly?
  - Do you utilise social media? Do you agree that social media is a key driver to the development of public diplomacy?
  - What kind of social media do you use in your organisation? (Twitter, Facebook, YouTube, Instagram, Snapchat... etc.)
  - Do you have a social media or digital strategy in your organisation to guide the usage of social media?
  - Do you encourage diplomats to use social media?
  - Do you have a personal social media account? Do you use it for work?
  - Does ICT contribute to enhancing consular affairs services in your organisation? Please give some examples? (Visa,

legalisation of documents, travel advices, crises management, renewing document such as passports, online services and online forms...etc.?)

- How would you use ICT in order to achieve promotion and image building of the home country? Do you have a YouTube channel, website... etc.?

- **Collaborative digital diplomacy (C4)**

The stage aim: it entails full integration and maturity. This stage is considered to be an innovative stage, as it is highly complex and requires interaction between all stakeholders in diplomacy.

- What do you think of this stage? Should it be called an innovative stage? Do you think achieving this stage is a dream? (As it requires complex ICT implementation and communication as well as it might be affected by a lot of external factors such as legal, political, financial... etc.)
- Please provide your comment on the importance of this stage in terms of communication and integration of all the diplomacy stakeholders?
- What have you done (or intend to do) in order to reach this level of full integration?
- Do you provide internal infrastructure for all the foreign missions to support full integration?
- Do you provide secure communication of officials and diplomats? What tools are used in order to provide secure external communication?
- Have you considered linking all stakeholders including foreign missions by using virtual private network technology (VPNs)?

#### Part 5: the potential factors and challenges influencing the e-diplomacy implementation and diffusion

- In your opinion, what are the potential factors and challenges that influence the implementation and diffusion of e-diplomacy?

- a. **Organisational structure (C5)**

- What organisational aspects do you think limit ICT implementation in foreign ministries?
- Do you think that the character features of hierarchy can greatly limit the use of ICT tools in the diplomatic functions?
- Would you describe your organisation as a bureaucratic organisation?
- Does bureaucracy affect or slow down the flow of important information across your organisation?
- Would you comment on the communication between the Foreign ministry (head quarter) and the mission abroad. (Fast and effect or slow and difficult)

- If you work at an embassy, do you have to seek ICT approval from the head quarter? How would that affect the ICT implementation at your embassy?
  - What would you do differently to overcome the challenges of organisational structure in ICT implementation?
- b. Privacy and confidentiality (C6)**
- How would the secrecy of the diplomatic information affect the use of ICT in the diplomatic functions?
  - Do you agree that confidentiality nature of the diplomatic information adds great limit to the ICT usage? (Secrecy has for years been a central norm in the organisation of all the various diplomatic establishments)
  - Is privacy of information protected in the organisation's legislation?
  - Are there any rules to permit the use of cryptography, in order to ensure security of data and transactions?
  - Are there any regulations that ensure security and privacy?
- What kind of security tools do you use in your organisation?
  - Do you have security awareness programs and training?
- c. Nature of communication (C7)**
- The accepted norm in the communication between the general public and the foreign ministries usually involves a one-way passage of information in the form of a press release that is conducted in an ex-post fashion. Do you think that nature of communication adds a limit to the use of ICT in diplomacy?
  - To what extent your public interaction should occur?
  - A level of centralisation of public communication where a designated centralised unit, such as press department or a spoke person, is used to communicate with the public and the media in most Florien miniseries. Do you apply the same concepts?
- d. Socio-Cultural Norms (C8)**
- What cultural and traditional aspects do you think limit ICT implementation in diplomacy? (e.g.: dealing with global society),
  - What social aspects do you think limit ICT implementation in diplomacy? (E.g. digital divide, awareness, training, etc.)
  - Is there a portal or website that contains information about e-diplomacy programs?
  - Are diplomats and citizens encouraged to build their skills in ICT?
- e. Political, legal, and economic context (C9)**
- What political aspects do you think limit ICT implementation in diplomacy?
  - What legal aspects do you think limit ICT implementation in diplomacy?

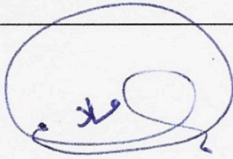

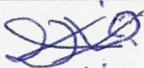
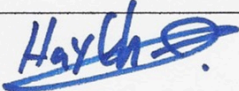
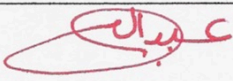

- What economic aspects do you think limit ICT implementation in diplomacy?
- How would you illustrate the support and commitment of the government officials' in e-diplomacy projects?
- How would you describe the support and commitment of the leadership in e-diplomacy projects?
- Would you consider financial issues as a key challenge in developing of e-diplomacy projects?

#### Closing Questions

- Are there any specific areas that you would like to be included and/or excluded in this research instrument?
- What would you have done differently?
- What do you think is the most interesting part of the interview?
- In your opinion, how would you define e-diplomacy?
- Would you consider adding or deleting any stage from the proposed Framework?
- From your practical experience, do you find other factors that are not addressed in the interview, which can affect e-diplomacy implementation?

## Appendix E: The Delphi process validation

The below table is to prove that all the participants of the focus group study (Delphi process, chapter 8) are satisfied with the discussion mentioned with regard to the study.

Participant	Signature	Date
A senior manager at the IT department (P1)		23-March-2017
A public diplomacy officer at the Qatari embassy in London (P2)		20-03-17
An Ambassador and a former ICT manager (P3)		23-3-2017
A senior IT personal at the IT department (P4)		19-March-17
A senior diplomat and a former IT personal (P5)		23-3-2017
The moderator		24-3-2017