THE DIGITALIZATION OF DIPLOMACY MATURITY MODEL (DD-MM): A NEW MODEL FOR OPTIMIZING DIPLOMATIC DIGITALIZATION

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Received: 30.03.2024 Accepted: 30.06.2024

ABSTRACT
This paper introduces the Digitalization of Diplomacy Maturity Model (DD-MM), a comprehensive framework designed to assess and enhance the digital capabilities of diplomatic institutions. The DD-MM encompasses four critical dimensions: people, digital visibility, technology and security, and policies, providing a structured approach to evaluate and advance the maturity of digital diplomacy practices. In the people dimension, the model emphasizes role definitions, change management, and specialized training programs, highlighting the need for diplomats to acquire digital literacy and competency. The digital visibility dimension focuses on the strategic use of social media and other online platforms to enhance a nation's presence and influence in the digital sphere, emphasizing engagement with a global audience and proactive digital communications management. The technology and security dimension addresses ICT infrastructure, cybersecurity, and data management, advocating for the adoption of state-of-the-art technologies to support diplomatic activities and ensure the security of sensitive information. The policies dimension underscores the necessity for clear guidelines and regulatory frameworks to govern the use of digital tools in diplomacy, including the formulation of policies that align with international standards and promote ethical practices. The DD-MM outlines a clear pathway for continuous improvement, guiding institutions from the initial stages of digital integration to advanced levels of optimization and strategic alignment.
Keywords: Digitalization of diplomacy, maturity model, model development, digital public diplomacy.


1.0 INTRODUCTION

The world is experiencing a technological and digital revolution with diverse multidimensional effects on daily life. According to the Worldwide Digital Population 2024 report, the number of internet users worldwide has increased to 5.35 billion, representing a further expansion of internet adoption. Notably, 5.04 billion people, or 62.3% of the world’s population, use social media, indicating the widespread use of these platforms for communication, information-sharing, and social networking. These statistics emphasize how people worldwide are becoming more interconnected and engaged in digital activities.

In this digitalized world, diplomacy retains many of its traditional features but has inevitably undergone certain changes and adopted new tools. From its earliest stages, the core of diplomacy could be defined as the art of conducting international relations through negotiation. It involves managing alliances, settling disputes, and promoting national interests among sovereign states (Freeman & Marks, 2024). However, diplomacy has transformed significantly because of ongoing technological and digital revolutions.

Faǐzullaev (2022) defines two basic models of diplomacy. These are the traditional state-centric model and the sociopolitical model. Actors of the first model are predominantly political entities that are state-centric, institutionalized, and internationally oriented. He subsequently broadens the existing definition by defining actors of social diplomacy as either state-centered or non-state-centered; institutional or non-institutional; international, intranational, or transnational; and working among organizations, groups, states, and individuals (Faǐzullaev, 2022).

The shift from “old diplomacy” to “modern diplomacy” marks a significant change in diplomatic practices and strategies. Conventionally, traditional diplomacy focused on formal protocols and state-to-state interactions, being centered around states (Anderson, 2014). However, diplomacy has become more dynamic and multifaceted with globalization and technological advancements. Modern diplomacy recognizes the importance of public diplomacy as a crucial component of diplomatic engagement (Gilboa, 2008), which plays a fundamental role in shaping
international perceptions, fostering relationships with foreign publics, and promoting national interests globally. This shift highlights a move from government-centered information to more collaborative and relational approaches (Huijgh, 2017).

Furthermore, digital diplomacy has transformed how diplomats communicate and engage with others. Diplomats now utilize digital technologies, social media platforms, and online channels to connect with broader audiences, engage in real-time interactions, and adjust to the changing landscape of international relations. Digital diplomacy represents a new frontier in diplomatic practice, underscoring the importance of communication and interaction with global communities. Contemporary diplomacy also encompasses various forms of engagement, including citizen diplomacy and multi-actor networks. This broader perspective acknowledges the role of non-state actors, such as multinational corporations and nongovernmental organizations, in influencing global affairs and diplomatic outcomes. The transition from traditional to modern diplomacy reflects a fundamental shift towards more dynamic, inclusive, and technology-driven diplomatic practices. This transformation underscores the need for diplomats to adapt to evolving global dynamics, engage with diverse stakeholders, and harness digital tools to navigate the complexities of the contemporary international landscape effectively.

Barston (2019) suggests that the emergence of information and communication technology (ICT) has brought about four fundamental changes in diplomacy. First, the cross-border nature of information technology has redefined the interplay between temporal and spatial dimensions. Second, albeit inconsistently, the media focus on specific issues has the potential to alter the pace of diplomatic interactions, reducing the constraints imposed by geographical distances. Third, the pursuit of competitive advantages has accelerated the development of integrated personal communication systems, establishing them as essential tools in diplomatic practice. Fourth, the evolution of this technological landscape has introduced numerous new threats targeting diplomatic and commercial infrastructures (Barston, 2019). In essence, Barston argues that in the wake of the ICT revolution, physical distances have become less significant, access to information has become easier, and the use of information in diplomacy has sparked competition to adapt among states while also presenting new security challenges.

In addition to the conventional application of soft power in public diplomacy, a novel dimension has emerged, characterized as digital diplomacy. This contemporary approach entails
the strategic utilization of soft power via the internet, including the online presence of embassies and the use of various information and communication platforms (Kos-Stanišić & Car, 2021).

Public diplomacy is a diplomatic practice that involves targeting a wider audience than merely the immediate government’s diplomatic counterparts. With the advent of ICT, foreign ministries now have new possibilities for public diplomacy, which is becoming increasingly important (Pilegaard, 2017). Furthermore, it is widely agreed that implementing ICT can significantly improve the internal organization of various ministries, not just foreign affairs. This investment in digitalization can lead to increased efficiency and effectiveness. At the same time, it is essential to recognize that while ICT can enhance the practice of diplomacy, it does not alter its core principles (Westcott, 2008).

In this respect, this paper aims to propose a new model called the Digitalization of Diplomacy Maturity Model (DD-MM) to assess the digitalized diplomacy of a state as an actor in the international relations literature.

2.0 DIGITAL DIPLOMACY OR THE DIGITALIZATION OF DIPLOMACY

In the 1980s, Joseph Nye, a former US official and academic, made a significant conceptual advancement with policy implications by introducing the term “soft power” as a contrast to hard power. According to Nye, soft power entails attaining desired outcomes through attraction rather than coercion or financial incentives. A nation’s soft power emanates from the magnetism of its culture, political values, and policies, and it can be augmented by cultivating the perception that the nation’s policies are justifiable (Nye, 2004). Nye’s writings on the connections between public diplomacy and soft power have significantly influenced the literature on and the practice of public diplomacy, which is seen as one of the critical instruments of soft power.

Digital public diplomacy is a modernized approach to diplomatic activities in the digital age. As defined by Gilboa (2016), it involves using ICT to connect with foreign audiences. ICT has significantly impacted the practice and theory of public diplomacy, creating a global platform for direct information-sharing and interaction. Today, nearly all states and non-state actors maintain websites and blogs to showcase their history, policies, values, culture, science, achievements, and positions on current affairs and policies (Gilboa, 2016).

In the era of Diplomacy 1.0, ICT provided opportunities for actors to present themselves in creative textual and visual formats to gain support or criticize opponents, but this
communication was one-directional. The term “Diplomacy 1.0” refers to a form of engagement characterized by the unilateral dissemination of information through emails and websites, a common practice during President George W. Bush’s tenure. On the other hand, “Diplomacy 2.0,” introduced in 2008, has entailed a shift towards a more interactive and participatory communication model. This model leverages platforms such as blogs, forums, Wikipedia, and various social media networks to facilitate the exchange and co-creation of content among users. In contrast to the top-down, one-way flow of information inherent in Diplomacy 1.0, Diplomacy 2.0 is characterized by horizontal, multidirectional interactions, enabling a more dynamic and democratic discourse (Gilboa, 2016).

According to Manor (2019), the intersection of diplomacy and digital technology has confused the literature, resulting in the fragmentation of terminology. Hanson (2012) defines digital diplomacy as the use of the internet and other ICT platforms to achieve diplomatic goals. In contrast, Manor and Segev (2020) argue that “digital diplomacy” refers explicitly to the use of social media platforms to advance a country’s foreign policy objectives and manage its image and reputation (Bjola & Holmes, 2015). On the other hand, Potter (2022) highlights the importance of an online presence and diplomatic practices through digital and network technologies, including the internet, mobile devices, and social media channels. Hedling and Bremberg (2021) define the term “digital diplomacy” as encompassing much more than leaders’ use of social media platforms such as X (formerly Twitter); rather, they describe it as an essential dimension of contemporary international politics. While Hanson’s definition of digital diplomacy aligns with Manor’s concept of the digitalization of diplomacy, Manor prefers the latter term and uses it instead of “digital diplomacy” (Manor, 2019).

The era of globalization has brought about increased and intensified political, economic, and cultural exchanges across borders. In the twenty-first century, international actors include governments, ethnonationalist factors, multinational organizations, intergovernmental organizations, nongovernmental organizations, various transnational movements and networks, and even individuals (Rashica, 2018).

The rise of digital technologies has significantly impacted diplomacy. Ministries of Foreign Affairs (MFAs), embassies, and diplomats continually embrace new technologies and platforms, reshaping the environment in which diplomacy is conducted. There is also growing academic interest in the intersection between diplomacy and digital technologies. Researchers have begun
exploring how diplomats engage with new audiences using digital means, overcome the limitations of traditional diplomacy, collaborate with new actors, and promote intercultural communication (Manor & Pamment, 2019).

While taking a more critical view, Wallin emphasizes that the digitalization of diplomacy presents cost-saving advantages. However, unless it is assessed following predetermined strategies, it will continue to be unpredictable within the digital domain (Wallin, 2013).

Sandre (2015) points out that Macon Philips of the US State Department emphasized the need to measure public diplomacy and digital diplomacy processes. He noted that the relevant departments are examining this issue and that success often depends on setting concrete policy objectives. It is crucial to set clear objectives before designing components of digital strategies. He also noted that it is imperative to contextualize these objectives within broader dynamics. Ultimately, Philips stated that public and digital diplomacy elements should proceed from measurable policy objectives though it can be difficult.

3.0 OVERVIEW OF EXISTING APPROACHES TO THE ASSESSMENT AND ANALYSIS OF DIGITALIZED DIPLOMACY ACTIVITIES

This section reviews various methodologies and frameworks for the assessment and analysis of digitalized diplomacy activities. It highlights the Twiplomacy study, which evaluates the use of X (formerly Twitter) by global leaders; the Soft Power 30 index, which measures a country’s digital engagement and reputation; and the Digital Diplomacy Index (DDI), which assesses social media and website effectiveness. Additionally, it discusses Bjola’s (2016) application of quantum theory to measure digital diplomacy impacts, comparative studies between nations, and the e-diplomacy maturity model proposed by Almuftah and Sivarajah (2016). These approaches collectively emphasize the importance of metrics such as engagement, network analysis, content evaluation, and strategic online presence in understanding and enhancing digital diplomacy efforts.

Twiplomacy, a study conducted since 2012 by the multinational public relations and communications firm Burson Cohn & Wolfe, headquartered in New York City, analyzes the use of X by global leaders and governments to conduct diplomacy. Key metrics include engagement, which measures official accounts’ reach and interactions in the form of followers, retweets, and mentions. Network analysis assesses the connections and interactions between different diplomatic
accounts. Content analysis evaluates the nature of messages shared, focusing on specific themes and diplomatic narratives (Reshetnikova & Samokhina, 2023).

The Soft Power 30 index measures a country’s ability to attract and co-opt through culture, political values, and foreign policies. It combines the digital evaluation of digital infrastructure and online presence, engagement assessments of interactions with global audiences via digital platforms, and reputation measurements of international perceptions shaped by digital diplomacy efforts (Park et al., 2019).

The DDI is another relevant measurement tool. It facilitates detailed and uniform analysis of the digital diplomacy landscape, leveraging quantifiable data from internet discussions. Its foremost aim is to allow the accurate and unbiased assessment of how global powers are faring online as the new frontier of international relations. This index helps countries and diplomatic entities understand the changing online landscape, compare their levels of effectiveness, and monitor trends influencing online diplomacy. Data are obtained from the official diplomatic X accounts of G20 countries, updated every 24 hours. The DDI was specifically created to assess the overall influence and effectiveness of a country’s diplomatic communications online. Scores are determined by a weighted combination of nine key indicators: diplomatic network reach, diplomatic influence, vocal presence, message effectiveness, global visibility, communication proficiency, momentum, diplomatic centrality, leader traction, and language diversity.

Bjola (2016) claims that quantum theory principles can be also useful for improving the understanding and measurement of the impact of digital diplomacy. Building on a foundation taken from quantum theory, he proposes that the method used for measuring impact shapes the type of impact that is captured. This approach assesses the impact of five principles: listening, prioritization, hybridization, engagement, and adaptation.

In their work, Park et al. (2019) compared and contrasted social media usage between South Korea and Japan and also illustrated how decentralized networks and extensive engagement with social media enhance soft power more effectively. Manor and Pamment (2019) examined the impact of digital diplomacy on diplomatic reputation, particularly for countries with limited resources. They apply traditional methods for measuring diplomatic influence in the digital domain, concentrating on aspects such as internet visibility, importance, and public opinions, and they study how the X accounts of 67 foreign ministries and 33 United Nations missions reveal that traditional signs of diplomatic importance do not necessarily carry over into the online world.
Their results suggest that maintaining prestige in online diplomatic networks requires considerable effort and strategic planning. Diplomatic actors can benefit from prestige mobility due to online networks’ flexibility and their temporary nature, and this implies that digital diplomacy allows nations to address prestige shortages and boost their diplomatic reputation by engaging strategically online (Manor & Pamment, 2019).

Almuftah and Sivarajah (2016) introduced a new framework for assessing the maturity and effectiveness of e-diplomacy. This model combines established e-government maturity models and ICT development theories, incorporating both theoretical concepts and practical aspects of diplomacy. The proposed framework identifies different stages of e-diplomacy maturity based on variables such as complexity and interactivity. One key concern highlighted is the sensitivity and discretion required in diplomatic activities, which may affect organizational structures and the effectiveness of communication among diplomats. Additionally, the framework recognizes the influence of sociocultural and politico-economic factors on digital diplomacy practices. A nuanced and adaptable approach is recommended for evaluating and implementing digital diplomacy strategies to address the complex challenges involved (Almuftah & Sivarajah, 2016).

4.0 DEVELOPMENT OF THE PROPOSED MODEL

4.1 Building a Maturity Model for the Digitalization of Diplomacy

This section presents the development of the DD-MM, which is crafted to evaluate and improve the digital capabilities of diplomatic institutions. The model is based on a comprehensive approach, encompassing four primary dimensions: people, digital visibility, technology, and policies. The DD-MM aims to offer a systematic framework for assessing digital maturity by defining and categorizing processes within these dimensions. Drawing from Capability Maturity Model Integration (CMMI), the model’s maturity levels span from initial to optimizing, providing a clear path for continuous enhancement. This methodical approach ensures that diplomatic missions can effectively leverage digital tools to connect with global audiences, oversee technological infrastructure, and establish robust digital policies.

The CMMI approach, developed by the CMMI Institute, constitutes a hierarchical framework used to assess and enhance the maturity of an organization’s processes. The C stands for “capability,” representing a single process area for implementing a desired process improvement, while the first M signifies “maturity,” referring to predefined processes for
implementing a desired process improvement. Initially introduced to enhance software development processes, this framework has since evolved into various subtypes tailored for different sectors and purposes. It outlines five distinct levels that illustrate an organization’s ability to deliver high-quality products and services consistently.

The Maturity Model (MM) is a framework built on successfully implementing organizational capabilities, comprising a series of objectives and sequential levels or stages. The underlying principle of the MM is that as maturity levels increase, so do business excellence and operational performance. This approach is often used to assess current maturity levels and develop roadmaps for advancing to the next level (Röglinger et al., 2012). As a result, the MM was chosen as the foundational framework for this study.

The CMM was initially introduced to create software projects completed on time, on budget, and with fewer defects. Conversely, the CMMI approach offers integrations of CMM-based models that can be developed for different sectors and fields. Although the number of levels varies depending on the model developed, five primary levels exist. The first level, labeled “Initial,” represents an organization with immature processes. Work is often performed haphazardly, with little predictability or control. Projects are susceptible to delays and often exceed their budgets due to a reactive approach to problem-solving. Progressing to the “Managed” level signifies a shift toward project-level process management. Such organizations establish basic project management practices, enabling them to effectively plan, execute, measure, and control projects. The “Defined” level marks a significant improvement, characterized by standardized processes implemented across the organization. This proactive approach fosters consistency and facilitates knowledge-sharing, improving efficiency. At the “Quantitatively Managed” level, organizations leverage quantitative data to measure and control their processes. This data-driven approach allows for the proactive identification and mitigation of risks, further enhancing process performance. Finally, the “Optimizing” level reflects a culture of continuous process improvement. Organizations at this level actively seek ways to optimize their processes, focusing on innovation and exceeding customer expectations (Chaudhary, 2017).

The proposed DD-MM suggests that MFAs gradually adopt digital technologies for public diplomacy activities. This gradual process involves diplomats and their institutions experimenting with various digital tools. Both internal and external factors impact this process. The level of digital
enthusiasm displayed by senior policymakers is an internal factor influencing the process (Manor, 2019).

The following steps are taken to develop the DD-MM. First, the principles of the model are explained. We then utilize the methodology outlined by de Bruin and Rosemann (2005) to create the model. Their methodology offers a systematic framework for MM development, consisting of six structured steps: scope, design, populate, test, deploy, and maintain. In the scoping phase, the model’s scope is determined, which can be generic or domain-specific. In the design phase, the structure/architecture of the model is determined according to the target audience, the method of implementation, the driving force of the implementation, the participants, and the criteria for implementation. The dimensions and sub-dimensions of the model that need to be measured are defined in the populate phase. In contrast, the test phase involves model validation, which demonstrates that the evaluation result of the model is valid and reproducible. Case studies, expert interviews, and literature reviews can be used to validate the MM. Following validation, the MM is made available in the deployment phase for generalization and standardization. As the final step, in the maintenance phase, the MM is validated continuously through a longitudinal study (de Bruin & Rosemann, 2005).

4.2 Steps in the Model Development
The DD-MM is developed in line with the framework of de Bruin and Rosemann (2005). This development process consists of six steps, as described below. The structure of the developed model will be explained in the following section.

Scope:

**The focus of the model:** The scope of the MM is determined to be domain-specific for the digitalization of diplomacy. Organizations, particularly MFAs and embassies, adopt emerging technologies for public and digital diplomacy. The model has a holistic approach that encompasses all processes performed during digital diplomacy activities.

Design:

**Target group:** The target group includes policymakers, in-house managers, and management staff (i.e., individuals responsible for social media, public diplomacy, and digitalizing diplomacy).

**Implementation method:** The model is developed based on CMMI and assessment is carried out accordingly. Interviews with managers from the target audience and observations are used (e.g.,
social media presence, website functionality, or multilingual support). In addition, policy documents published by the organizations themselves will enable them to follow the model processes.

**Implementation:** The model is based on a holistic approach and can be applied at headquarters, MFAs, and representations/consulates in different countries.

**Populate:**

**Model dimensions:** The DD-MM covers 22 digitalization processes defined within the four main process groups of people, digital visibility, technology, and policies. These processes were identified using an iterative approach. In the first iteration, a comprehensive literature review and interviews with expert practitioners in the field of digitalization of diplomacy were conducted, and the data collected were discussed by an academic committee, resulting in the final version.

**Maturity stages:** The levels of the DD-MM are developed based on CMMI. The maturity levels are adapted to the study area, leading to five maturity levels as defined in the following section. First the processes are defined and explained in light of the literature. The model’s maturity levels are then described. Finally, processes are populated at the related levels as a requirement of the model (de Bruin & Rosemann, 2005).

In the next sections, the model’s dimensions will be defined, along with the processes and requirements specified for each dimension. In CMMI, these requirements are grouped within process areas as specific and general goals. The general objectives of this model were categorized according to the relevant dimensions as a result of the extensive literature study conducted in the previous stage. The first dimension was determined to be the human dimension since the human factor is essential. Official social media accounts and official websites, which are the channels through which foreign ministries, consulates, and permanent representations are visible in the digital world, are examined with the second dimension of digital visibility. The technology used throughout the organization and the potential security issues that occur in the digital world are examined within the third dimension of technology. Lastly, and most importantly, the policy dimension assesses the policies developed by the institution regarding the digitalization of diplomacy.
4.3 Model Development Principles
This section sets out the principles for establishing the framework and objectives prior to the development of the model. In designing a maturity model for digital transformation, Gökçalp and Martinez (2022) identified nine criteria. They discuss those criteria in the context of the resulting models at the end of their study to monitor model success. Similarly, the following five principles were recognized before the development phase of the model in the present study:

1) Following a specific framework as a guideline when developing the model.
2) Ensuring that the model holistically encompasses the digitalization of diplomacy processes for different dimensions instead of addressing only one dimension.
3) Clearly defining the model’s processes and requirements.
4) Targeting a model that functions as a scale and can be applied to different countries and institutions.
5) Using the level criteria specified in CMMI when determining the levels of processes and requirements.

4.3.1 First Dimension: People
As the executors of digitalized diplomacy, people constitute one dimension of the model. People’s awareness of digitalization and tool skills are essential for managing digitalization processes. It is necessary for the organization to develop the skills that are missing as needed. Since digitalization and digital transformation constitute a set of processes rather than a state, people’s efforts in these processes are significant for improvement.

Accordingly, the subsequent processes are delineated within this specific process group:

(Peo1) Definition of roles and tasks: The first process requirement for this dimension is to comprehensively define the digital tools and software that employees use in their business processes. In this way, the digital tools used within the organization will be applied quickly and effectively in line with the organization’s objectives (Riordan, 2007).

(Peo2) Realization of change management: Second, the organization’s transformation process involving the innovations provided by ICT is examined through transformation management. The activities carried out by the organization, consular procedures, document management, and the
establishment of an intranet-like structure where all stakeholders can share their experiences are the focus of this process.

The concept of change management encourages a mentality of ongoing enhancement and flexibility, which is crucial for the changing environment of the digitalization of diplomacy. Organizations must be flexible and prepared to modify their plans in response to feedback and evolving situations (Hedling & Bremberg, 2021). Furthermore, Bjola and Holmes (2015) assert that effective change management involves engaging stakeholders throughout the digital transformation process. This includes diplomats, foreign ministries, and the public. Engaging stakeholders ensures that their needs and concerns are addressed, leading to smoother implementation and greater acceptance of digital diplomacy initiatives.

(Peo3) Specialized training in digital media and ICT security: This involves providing diplomats and staff with comprehensive training programs focused on effective digital media use and ICT security principles.

**Digital Media Training:** This component ensures that staff use social media platforms, content creation tools, and digital communication strategies proficiently. The training should address the best practices for engagement, content management, analytics, and crisis communication. Effective digital media training helps diplomatic missions leverage social media and other digital platforms to enhance their outreach and public diplomacy efforts (Bjola & Manor, 2022; Vevera, 2022).

**ICT Security Training:** Due to the growing cyberthreats faced by diplomatic missions, it is crucial to provide specialized training in ICT security. This training should involve educating staff about cybersecurity principles, threat detection, data protection, and incident response. It is vital to ensure that all personnel are aware of and able to mitigate cybersecurity risks in order to protect sensitive information and maintain the integrity of digital operations (Kumar, 2022).

4.3.2 Second Dimension: Digital Visibility

The organization’s visibility in digital space is examined within the second dimension. Social media presence, which is extensively covered in the literature, is included within the scope of this dimension. In addition, the organization’s website can also be examined as a digital asset.

(DV1) Creation of official social media accounts: This a fundamental requirement for the digitalization of diplomacy. This basic-level requirement involves establishing verified and
official social media profiles for diplomatic missions and institutions. Creating official social media accounts ensures that diplomatic entities can communicate directly with the public, disseminate information, and engage with global audiences credibly and authoritatively. These accounts serve as the primary channels for digital public diplomacy, allowing for real-time communication and outreach. Most states maintain official social media accounts to enhance their online diplomatic presence. According to the 2020 Twiplomacy report, over 95% of UN member states had official social network accounts, indicating governments’ widespread adoption of social media for diplomatic purposes. Similarly, the DDI highlights the prevalence and importance of social media in modern diplomatic practices. Creating official social media accounts is a basic yet crucial step for any diplomatic mission entering the digital age. These accounts provide a platform for effective communication, public engagement, and the promotion of national interests on the global stage.

(DV2) Being reactive on social media: This is another basic requirement for the digitalization of diplomacy. It entails responding promptly to posts, comments, and events on social media, albeit in an unstructured manner that is not yet fully integrated into the institution’s central policies. At this stage, the success of social media interactions often depends on the individual efforts of personnel rather than coordinated, organization-wide strategies. Diplomatic missions have the opportunity to interact with the public and address emerging issues. However, reactive approaches lack the consistency and alignment with broader strategic goals that more mature policies would provide. According to Gregory (2015), the evolution of public diplomacy practices often begins with basic reactive measures before the development of comprehensive strategies. Similarly, Bjola and Holmes emphasize that early social media efforts in diplomacy often rely heavily on the initiative and creativity of individual staff members. While being reactive on social media is an essential early step for diplomatic missions, it is important to recognize the need to develop more structured, strategic policies to ensure consistent and impactful digital diplomacy (Bjola & Holmes, 2015).

(DV3) Extensive website presence: An extensive website presence is a basic requirement for the digitalization of diplomacy. This involves maintaining comprehensive and user-friendly websites that provide detailed information about the diplomatic mission, its activities, and its services.
Having a strong website presence ensures that a wide range of information is readily accessible to the public, including news updates, policy statements, consular services, and contact information. This foundational digital presence enhances transparency, improves accessibility, and supports the mission’s communication goals. Kent and Taylor (1998) first coined the term “extensive website presence” to highlight the importance of robust online platforms for effective communication and public relations. Kampf (2015) further developed the concept, emphasizing that well-maintained websites are crucial for engaging with diverse audiences and disseminating information efficiently. Melissen (2005) discusses the role of digital platforms in modern diplomacy, noting that well-designed websites are essential for public diplomacy and outreach. Similarly, Manor (2019) underscores that an extensive web presence is crucial for any digital diplomacy strategy, serving as the primary portal for information and engagement. It provides a central hub for information dissemination, enhances public engagement, and supports the mission’s broader digital diplomacy efforts.

**(DV4) Special teams for social media management:** This mid-level requirement involves establishing dedicated teams responsible for managing and optimizing the institution’s social media presence. These teams should be skilled in content creation, engagement strategies, analytics, and crisis communication. Their role includes developing and executing social media campaigns, monitoring online discourse, and responding promptly to interactions. By having specialized personnel, diplomatic institutions can ensure that their social media activities are professional, strategic, and impactful. Effective public diplomacy requires specialized teams dedicated to managing social media. Duncombe (2019) argues that platforms like X and Facebook are important for diplomats to engage with foreign and domestic audiences. Dedicated social media teams also play a crucial role in combating digital misinformation by swiftly countering misleading narratives (Helding, 2023). Crafting content that resonates with the target audience is essential for maintaining a positive reputation and effectively communicating a nation’s policies and values (Spry, 2018).

**(DV5) Language diversification for digital assets:** The need to broaden the reach and impact of digital diplomacy makes this mid-level requirement essential. This requirement pertains to providing content in multiple languages across various digital platforms such as websites, social
media, and digital publications. Language diversification guarantees that diplomatic messages can be accessed by a wider audience, accommodating the linguistic diversity of the global public. This approach promotes inclusivity and facilitates understanding and engagement with non-English speaking populations. Berridge (2022) underscores the significance of language diversification in diplomacy, emphasizing that multilingual content is vital for effective communication and engagement in a global context. Manor (2019) also underscores the role of language diversity in digital diplomacy, asserting that providing content in multiple languages significantly expands the reach and impact of diplomatic efforts. Additionally, Zaharna (2010) discusses the importance of cultural and linguistic considerations in public diplomacy, noting that effective communication often requires tailoring messages to the linguistic preferences of different audiences. Similarly, Melissen (2005) emphasizes that language diversity is crucial for successful international communication and public diplomacy. Overall, language diversification for digital assets is a critical requirement for diplomatic missions. By offering multilingual content, missions can ensure broader accessibility, foster greater international understanding, and enhance the effectiveness of their digital diplomacy initiatives (Melissen, 2005).

(DV6) **Targeted social media campaigns aligned with strategic objectives:** This mid-level requirement entails the development and execution of social media initiatives that specifically aim to advance the broader strategic objectives of diplomatic missions. Targeted campaigns are essential to ensure that content and engagement strategies are centered on key issues, audiences, and outcomes that align with the institution’s priorities. By customizing messages and activities to specific goals, diplomatic missions can effectively promote national interests, shape public opinion, and achieve desired diplomatic outcomes. According to Cassidy and Manor (2016), aligning social media campaigns with strategic objectives is crucial, as targeted efforts can significantly enhance the impact and efficiency of digital diplomacy. Bjola and Cassidy (2015) further emphasize the importance of strategic alignment in digital communication, highlighting how it ensures effective resource utilization and the precise achievement of goals. In summary, targeted social media campaigns aligned with strategic objectives ensure that efforts in digital public diplomacy are focused, relevant, and impactful (Bjola & Cassidy, 2015).
Measuring social media campaigns: It is crucial to meet this requirement to ensure the effectiveness and alignment of digital diplomacy efforts with strategic goals. This intermediate-level requirement entails the implementation of social media campaigns in accordance with established strategies and policies, as well as the systematic measurement and analysis of their outcomes. Organizations should establish clear objectives for their social media campaigns to fulfill this requirement, such as increasing engagement, expanding reach, or influencing public opinion. Following the execution of the campaigns, their results should be measured using key performance indicators such as engagement rates, reach, impressions, follower growth, sentiment analysis, and conversion rates. These metrics are instrumental in evaluating the effectiveness of such campaigns.

In order to measure social media campaigns, first, the organization must clearly define its goals, which are aligned with strategic priorities. After defining them, campaigning is initiated in line with the strategies and policies. The organization can then collect data on various predefined performances. Finally, experts can compare results with objectives at the end of the campaigns. These results help the organization review and adjust strategies and goals as needed.

Kaplan and Haenlein (2010) discuss the importance of measuring social media activities to understand their impact and effectiveness. Similarly, Macnamara and Gregory (2018) highlight the role of evaluation in public relations and communication, emphasizing that systematic measurement and analysis are crucial for refining strategies and improving outcomes. Measuring social media campaigns is essential for aligning digital diplomacy efforts with organizational goals. By systematically evaluating campaign performance, diplomatic missions can ensure that their social media activities are effective, impactful, and continuously improving.

4.3.3 Third Dimension: Technology and Security

The concept of digitalization of diplomacy largely centers around the use of digital technologies for diplomatic purposes, with a particular emphasis on public diplomacy. However, MFAs are increasingly exploring the potential for digitizing consular services, policy management, and international negotiations. The future of digital diplomacy hinges on MFAs’ capacity to seize the opportunities presented by technological change, such as ecosystem-based, proactive, and network-oriented adaptations, while also being mindful of potential drawbacks that early success
could bring about, such as emotional contagion, algorithmic determinism, and policy fragmentation (Bjola & Kornprobst, 2018).

ICT management is a fundamental dimension of an organization’s digitalization journey. In the digitalization of diplomacy, it is vital to measure the adequacy of the infrastructures possessed by the institution (be they MFAs or representations/consulates), the usage practices, and, if possible, the effectiveness of these infrastructures and tools. Cybersecurity is another issue in the literature that critically affects the technology dimension. In particular, the attacks on Estonia’s critical infrastructures in 2007 followed by the Georgian crisis in 2008 served as “wake-up calls” for states. It is for this reason that cybersecurity-related objectives have been added to the technology dimension of the proposed model.

Accordingly, the following subsequent processes are delineated within this specific process group:

(T1) Consular services managed with the help of ICT: The technology dimension of digital diplomacy has a foundational requirement, which involves leveraging ICT to improve the efficiency, accessibility, and effectiveness of consular services. This can be achieved by implementing ICT solutions such as online appointment systems, electronic visa applications, digital document processing, and virtual assistance using chatbots or video conferencing. These technologies streamline operations, reduce processing times, and enhance the overall user experience for both citizens and foreigners engaging with consular services.

Melissen (2020) underscores the significance of integrating ICT into consular services, emphasizing how digital tools can revolutionize how consular affairs are handled, making them more efficient and user-friendly. Using ICT in consular services ensures that diplomatic missions can efficiently manage a higher volume of requests, provide timely updates, and maintain improved records. Bátor (2008) examined the role of technology in modernizing consular services, highlighting how ICT can significantly enhance the capacity and quality of consular functions (Bátor, 2008). Similarly, Copeland (2009) emphasizes the potential of digital tools to enhance consular service delivery and ensure accessibility for a broader audience, including those in remote areas.
(T2) Existence of a knowledge-sharing system in the local domain: The technology dimension of digital diplomacy necessitates that a system be established within a consulate, embassy, or MFA to facilitate the sharing of information, best practices, and expertise among staff members. This particular knowledge-sharing should be limited to the local domain, occurring within individual consulates, embassies, or MFAs but not among them. Such systems may encompass internal databases, intranets, document management systems, and collaborative platforms, enabling staff to upload, access, and exchange information relevant to their roles. A local knowledge-sharing system brings benefits such as improved operational efficiency, enhanced decision-making, and more knowledgeable and capable staff. It helps ensure that critical information and expertise are readily available to those who need it, reducing redundancies and enhancing the overall effectiveness of the mission. Wenger et al. (2002) discuss the role of communities of practice in fostering knowledge-sharing within organizations. They highlight how localized systems can significantly improve an organization’s information flow and expertise. Additionally, Nonaka and Takeuchi (1995) emphasize the importance of knowledge creation and the sharing of knowledge within organizations to drive innovation and performance.

(T3) Existence of an intranet infrastructure for knowledge-sharing in the whole organization: This is a mid-level requirement for the technology dimension of digital diplomacy. It involves establishing an intranet system that facilitates the sharing of information, best practices, and expertise across all consulates, embassies, and the MFA.

At this level, knowledge-sharing activities extend beyond individual consulates or embassies to encompass the entire diplomatic network. An intranet infrastructure provides a secure, centralized platform where staff from different locations can access and share information, collaborate on projects, and disseminate best practices. Features might include document repositories, discussion forums, collaborative workspaces, and internal communication tools. Such an intranet system enhances the overall efficiency and cohesion of the organization by ensuring that valuable knowledge and resources are available to all employees, regardless of their location. It supports consistent practices and policies, fosters a culture of collaboration, and enables faster and more informed decision-making. Alavi and Leidner (2001) discuss the role of knowledge management systems in organizations, emphasizing how intranets can facilitate the sharing and application of knowledge across different units. Similarly, Davenport and Prusak (1998)
underscore the value of knowledge-sharing infrastructures in creating a competitive advantage and enhancing organizational effectiveness.

In times of crisis, an effective knowledge-sharing system can greatly improve an organization’s ability to respond promptly. The intranet serves as a central hub for disseminating intelligence reports, policy updates, and strategic directives, reducing the risk of misinformation and ensuring a cohesive approach. Coombs (2012) emphasizes the importance of effective internal communication during crises, highlighting the need to share information and coordinate actions quickly to mitigate the impact of the crisis. In essence, having an intranet infrastructure for knowledge-sharing throughout the organization is a crucial requirement for the technology dimension of digital diplomacy. It enables consulates, embassies, and the MFA to efficiently share information and collaborate, leading to more cohesive and effective diplomatic efforts.

(T4) **Proactive risk assessment dedicated to cybersecurity:** Continuously identifying, evaluating, and mitigating potential cyberthreats and vulnerabilities that could compromise diplomatic activities is essential. This requires having specialized digital security experts to monitor and protect digital infrastructure, ensuring that sensitive information and communication channels remain secure. These personnel are responsible for implementing advanced security protocols, conducting regular security audits, and responding swiftly to any security breaches or incidents, thereby safeguarding the integrity and confidentiality of diplomatic operations. Tikk (2020) argues that integrating operational and strategic risk management models with audits can mitigate risks in daily operations. Risk assessment has also found its way into government policy documents. One example is the “Risk Assessment and ISO 27001” Green Paper published in the United Kingdom, addressing publicly available policy documents on information technologies.

Historical cyber incidents such as the 2007 Estonia and 2008 Georgia crises highlight the importance of threat analysis. In 2007, Estonia experienced a massive cyberattack that targeted its government, banking, and media websites, disrupting communication and services nationwide. Similarly, during the 2008 conflict between Russia and Georgia, Georgia faced coordinated cyberattacks that crippled its governmental websites and hindered its communication capabilities (Kumar, 2022).

(T5) **Technical infrastructure performance measurement:** This requirement involves regularly evaluating the efficiency and reliability of the digital tools and platforms used in diplomatic
activities. It ensures that the technical infrastructure can support high-performance demands, identifies potential bottlenecks, and optimizes resources for better functionality. Consistent performance measurement allows for timely upgrades and maintenance, ensuring digital diplomatic initiatives’ smooth operation and effectiveness.

4.4 Fourth Dimension: Policy

Overall, organizational policies offer significant benefits to organizations. First, they provide a framework of guidance and consistency for the sector or area of activity. Generally, policies contribute clear frameworks for decision-making, ensuring consistency in actions and behaviors across organizations. They also facilitate processes, enabling effective coordination between different departments and individuals. Additionally, they ensure that an organization complies with laws and regulations, creating accountability mechanisms. Furthermore, they enable risk management through policies that help identify and mitigate risks, protecting the organization from potential threats and liabilities. Lastly, they support a positive and inclusive environment by promoting fair treatment and equality among employees and stakeholders.

Accordingly, the following processes are delineated within this specific process group:

(Pol1) Existence of policies related to ICT usage: These guidelines are essential to establish clear standards for the usage of ICT within diplomatic institutions. They play a crucial role in regulating the appropriate usage of digital tools, protecting sensitive information, and ensuring adherence to legal and ethical standards. Well-defined ICT policies are vital in promoting consistent and secure digital practices throughout the organization.

(Pol2) Existence of strategies for digitalized public diplomacy: This requirement entails creating detailed plans that delineate the utilization of digital tools and platforms for interacting with international audiences, advancing national interests, and promoting mutual understanding. Strategies for digital public diplomacy should encompass the leveraging of social media, online campaigns, and digital content to communicate with the global public in a compelling manner. These strategies enable diplomats to disseminate information, participate in meaningful conversations, and cultivate connections with diverse audiences.
Manor and Segev (2020) highlight the importance of a strategic approach for successful digital public diplomacy. They stress the need for diplomats to skillfully utilize digital platforms to create engaging narratives and interact with online communities in real time. Such an approach amplifies the reach and effectiveness of diplomatic efforts, making them more dynamic and adaptable to global developments (Manor & Segev, 2020).

(Pol3) Existence of strategies for information security: This requirement entails the development and implementation of comprehensive plans to safeguard against cyberthreats and ensure the integrity, confidentiality, and availability of sensitive diplomatic information. Effective cybersecurity strategies should encompass risk assessment, threat detection, incident response, and recovery plans. These strategies assist diplomatic institutions in proactively identifying vulnerabilities, defending against cyberattacks, and mitigating the impact of security breaches. Nye (2011) underscores the necessity of robust cybersecurity measures in international relations, emphasizing how cyberthreats can undermine national security and diplomatic efforts. Similarly, Singer and Friedman (2014) stress the importance of detailed cybersecurity policies and strategies to counteract the increasing sophistication of cyberthreats.

(Pol4) Strategies for advanced consular services: This requirement involves the development of comprehensive plans aimed at improving the delivery of consular services through digital and innovative methods, with the goal of ensuring that citizens abroad receive timely and practical assistance. Enhanced consular services encompass the use of digital platforms for visa applications, virtual support for distressed citizens, and online consular appointments. These strategies are designed to streamline processes, reduce wait times, and enhance the overall experience for citizens in need of consular support.

Melissen (2020) underscores the significance of digital transformation in consular services, emphasizing that modern diplomatic missions must embrace new technologies to meet the expectations of increasingly tech-savvy populations. Similarly, Bátor (2008) discusses how the integration of advanced ICT tools can improve the efficiency and effectiveness of consular services, making them more responsive and accessible to citizens.

(Pol5) Policies focused on measuring the effectiveness of technological infrastructures and cybersecurity: It is necessary to establish clear guidelines and metrics for evaluating the
performance and contributions of digital components to diplomatic objectives. These policies should encompass performance indicators for technological infrastructure, regular cybersecurity audits, and analytics for social media engagement. Such measures are essential for identifying strengths and weaknesses, enabling continuous improvement, and ensuring that digital tools effectively support diplomatic missions. Choucri (2012) emphasizes the importance of systematic assessment in cybersecurity to maintain strong defenses against evolving threats. In essence, well-defined policies for evaluating the effectiveness of technological infrastructures, cybersecurity, and social media activities are crucial for maintaining high performance, security, and impactful communication in diplomatic missions. These policies provide a framework for ongoing evaluation and improvement, which is essential in the dynamic field of digital diplomacy.

(Pol6) Policies measuring the effectiveness of social media activities and campaigns: This requirement involves establishing clear metrics and evaluation frameworks to assess the impact and reach of social media initiatives. These policies should include performance indicators such as engagement rates, follower growth, content reach, sentiment analysis, and conversion rates. Regular analysis of these metrics helps diplomatic missions understand the effectiveness of their social media strategies, allowing for data-driven adjustments to enhance engagement and communication outcomes. Bjola and Holmes (2015) emphasize that systematic evaluation of social media diplomacy is essential for understanding its impact and refining strategies. Similarly, Manor (2019) highlights the role of metrics in public diplomacy, noting that effective measurement can significantly improve the design and execution of social media campaigns.

The DDI website is a practical example of these policies in action. This platform ranks countries based on their digital diplomacy efforts, providing metrics and analysis of their social media engagement and online presence. The index offers insights into how well states utilize social media for diplomatic purposes and serves as a benchmark for measuring the effectiveness of digital diplomacy strategies.

(Pol7) Policies regularly reviewed to ensure effectiveness and comparisons of results to goals: This is a high-level maturity requirement for any organization, particularly in the context of the digitalization of diplomacy. It involves systematically evaluating and updating policies across four
key dimensions: people, technology (infrastructure and security), digital visibility (social media and websites), and the policies themselves. Continuous improvement is vital at this level.

1. **People:** Regular policy reviews are essential to ensure that the workforce remains skilled, adaptive, and aligned with strategic goals. This includes assessing training programs, staff performance, and engagement initiatives to ensure that personnel effectively support digital diplomacy efforts.

2. **Technology:** Continuous evaluation of the technological infrastructure and cybersecurity policies is crucial to keep pace with advancements and emerging threats. Regular reviews help maintain robust, secure, and up-to-date digital infrastructure, ensuring that the tools and systems used for digital diplomacy are reliable and secure.

3. **Digital visibility:** Ongoing assessment of social media and website policies is vital to ensure that these platforms are effectively managed and aligned with strategic communication goals. Regularly updated policies help maintain high levels of engagement, reach, and influence while ensuring that the contents are current, relevant, and accurate.

4. **Policies:** Regular reviews of policies are necessary to ensure that they remain relevant, effective, and aligned with the organization’s overall strategy. This includes evaluating the outcomes of digital diplomacy initiatives, comparing them to predefined goals, and making necessary adjustments to policies and strategies.

Choucri (2012) emphasizes the need for continuous cybersecurity assessments to keep pace with new threats and technological advancements. Similarly, Kotter (2012) highlights the importance of continuous improvement in organizational change management, which can be applied to the context of policy reviews. Regularly reviewing policies to ensure effectiveness and comparing results to goals is crucial for achieving high maturity in the digitalization of diplomacy. This process ensures continuous improvement across people, technology, digital visibility, and policies, enabling diplomatic missions to adapt and thrive in a dynamic digital environment.

### 4.5 Levels of Maturity Model

In the following sections, the requirements defined in the previous section will be placed at the appropriate levels in the model according to both the CMMI method and the literature. Basically, as described in Section 3.1, CMMI provides a model framework consisting of five levels defined
as “initial,” “managed,” “defined,” “quantitatively managed,” and “optimizing.” In this study, the levels are referred to as follows: initial, defined, managed with integrated processes, predictive and improved processes, and sustainability. The following text explains the creation of the DD-MM levels and the distribution of the processes and requirements specified in the previous section to those levels.

4.5 Distribution of Processes to DD-MM Levels
This section details the assignment of specific processes to the various maturity levels within the DD-MM. Each level of maturity, ranging from initial to optimizing, is defined according to the CMMI framework. At the initial level, processes are reactive and rely on individual efforts, with roles and tasks loosely defined. As organizations progress to higher levels, processes become more structured, proactive, and integrated. At the highest level, processes are optimized through continuous improvement and strategic alignment. This systematic allocation ensures that digitalization efforts are methodically developed, managed, and refined, enhancing overall diplomatic effectiveness and adaptability. Table 1 illustrates the levels and dimensions of the model. The proposed model only focuses on the organizational maturity of CMMI.

Table 1: DD-MM maturity levels
<table>
<thead>
<tr>
<th>Level/Dimension</th>
<th>People</th>
<th>Digital Visibility</th>
<th>Technology / Security</th>
<th>Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>Peo1: Definition of roles and tasks</td>
<td>DV1: Creation of official social media accounts</td>
<td>T1: Consular services managed with the help of ICT</td>
<td>Pol1: Existence of policies related to ICT usage</td>
</tr>
<tr>
<td>Defined</td>
<td>Peo2: Realization of change management</td>
<td>DV2: Being reactive on social media</td>
<td>T2: Existence of a knowledge-sharing system in the local domain</td>
<td>Pol2: Existence of strategies for digitalized public diplomacy</td>
</tr>
<tr>
<td>Managed with Integrated processes</td>
<td>Peo3: Specialized training in digital media and ICT security</td>
<td>DV4: Special teams for social media</td>
<td>T3: Existence of an intranet infrastructure for knowledge-sharing in the whole organization</td>
<td>Pol3: Existence of strategies for information security</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DV5: Language diversification for digital assets</td>
<td>T4: Proactive risk assessment dedicated to cybersecurity</td>
<td>Pol4: Strategies for advanced consular services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DV6: Targeted social media campaigns aligned with strategic objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictable and Improved processes</td>
<td></td>
<td>DV7: Measuring social media campaigns</td>
<td>T5: Technical infrastructure performance measurement</td>
<td>Pol5: Policies focused on measuring the effectiveness of technological infrastructures and cybersecurity</td>
</tr>
<tr>
<td>Sustainability</td>
<td></td>
<td></td>
<td></td>
<td>Pol6: Policies measuring the effectiveness of social media activities and campaigns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pol7: Policies regularly reviewed to ensure effectiveness and comparisons of results to goals</td>
</tr>
</tbody>
</table>

**Level 1: Initial**

At this level, digitalization processes have begun but are still unpredictable. They are controlled at this level, but not competently. Furthermore, all processes are reactive and success is reliant upon personal achievements. The organization has defined all roles and tasks according to employees’ competencies (Peo1). The MFA and consulates have created official social media accounts in the digital realm (DV1), and consular services are managed with the help of ICT (T1). The organization performs consular services that are totally digitalized with the help of the ICT systems at this level (Pol1). This level’s requirements and processes are thus as follows:

- (Pol1) Existence of policies related to ICT usage
- (Peo1) Defined roles and tasks
- (T1) Consular services managed with the help of ICT
- (DV1) Creation of official social media accounts
Level 2: Defined

At this maturity level, the organization has recognized and established change management processes to ensure that digital media and ICT security transitions are handled systematically and effectively (Peo2). Regarding digital visibility, the organization responds to social media interactions by addressing comments, queries, and mentions, although it does so in a primarily reactive manner rather than proactively (DV2). The organization also maintains a comprehensive and well-developed website that provides detailed information and services, enhancing its digital footprint and accessibility (DV3).

On the technology and security front, there is an established knowledge-sharing system within the local domain, ensuring that information and best practices are accessible to relevant stakeholders (T2). Policy-wise, the organization has formulated strategies to leverage digital tools and platforms for public diplomacy, promoting its interests and values in the digital realm (Pol2). This level reflects a more structured and strategic approach to managing digital presence, technology, and security, emphasizing established processes and reactive engagement. This level’s requirements and processes are as follows:

- Peo2: Realization of change management
- DV2: Being reactive on social media
- DV3: Extensive website presence
- T2: Existence of a knowledge-sharing system in the local domain
- Pol2: Existence of strategies for digitalized public diplomacy

Level 3: Managed with Integrated Processes

At this level, the organization provides specialized training programs for digital media and ICT security to ensure that staff are well prepared to address the specific demands of these areas (Peo3). In terms of digital presence, the organization has formed dedicated teams to manage social media, leading to a more cohesive and impactful approach (DV4). Furthermore, digital assets are available in various languages to reach a wider audience, and social media campaigns are strategically aligned with the organization’s objectives to maximize their impact (DV5). In addition, the organization has the ability to create and execute campaigns through its digital media accounts in line with predetermined targets (DV6).
The organization has established an intranet infrastructure to facilitate knowledge-sharing and enhance internal communication (T3). It also maintains a proactive cybersecurity risk assessment system to instantly identify and mitigate potential threats (T4). Furthermore, the organization has developed strategies to ensure information security (Pol3) and advanced consular services, demonstrating a strong commitment to safeguarding information and enhancing service delivery (Pol4). This level of operation reflects a sophisticated and proactive approach to digital presence, technology, and security, characterized by specialized roles, strategic planning, and comprehensive internal systems. The requirements and processes are as follows:

- **Peo3**: Specialized training in digital media and ICT security
- **DV4**: Special teams for social media
- **DV5**: Language diversification for digital assets
- **DV6**: Targeted social media campaigns aligned with strategic objectives
- **T3**: Existence of an intranet infrastructure for knowledge-sharing in the whole organization
- **T4**: Proactive risk assessment dedicated to cybersecurity
- **Pol3**: Existence of strategies for information security
- **Pol4**: Strategies for advanced consular services

**Level 4: Predictable and Improved Processes**

At this level, the organization has implemented metrics and systems to gauge the impact of social media campaigns, enabling data-driven decision-making and ongoing enhancement in digital interaction. Regarding technology and security, a strong technical framework is established to assess performance, enabling the organization to monitor and enhance its technological resources efficiently.

From a policy standpoint, there is a specific focus on evaluating the efficiency of technological infrastructures and cybersecurity measures to ensure that these systems are not only implemented but are also functioning optimally. Additionally, there are policies in place to assess the impact of social media activities and campaigns, offering a structured method for evaluating and enhancing the organization’s digital presence. This level reflects a sophisticated, data-driven approach to managing digital visibility, technology, and security, with an emphasis on
performance measurement and continuous improvement. The requirements and processes are as follows:

- DV7: Measuring social media campaigns
- T5: Technical infrastructure performance measurement
- Pol5: Policies focused on measuring the effectiveness of technological infrastructures and cybersecurity
- Pol6: Policies measuring the effectiveness of social media activities and campaigns

**Level 5: Sustainability**

At this level, the organization places emphasis on continuously evaluating and enhancing its policies to ensure that they are effective and aligned with organizational objectives. The primary requirement at this level is the recognition of the importance of well-defined, regularly updated policies and strategies. Such comprehensive and adaptable policies are indispensable for modern organizations to remain relevant and effective in a rapidly evolving digital and technological landscape. This level underscores the organization’s dedication to continual improvement and leadership in digital media, technology, and security, ensuring that all processes and strategies are consistently optimized to address evolving challenges and opportunities. Therefore, the sole requirement at this level is the following:

- Pol7: Policies are regularly reviewed to ensure effectiveness and to compare results to goals in four dimensions

**5.0 CONCLUSION**

The development and implementation of the DD-MM revealed several key insights into the current state of digital diplomacy across various diplomatic institutions. The model, structured around the four primary dimensions of people, digital visibility, technology, and policies, provides a comprehensive framework for evaluating digital maturity. Each dimension encompasses specific processes and requirements that collectively offer continuous improvement pathways.

For the dimension of “people,” the analysis highlighted the critical role of personnel in the digitalization process. The defining of roles and tasks (Peo1) and the need for specialized training
in digital media and ICT security (Peo3) emerged as fundamental elements in achieving higher maturity levels. Implementing change management processes (Peo2) further underscores the importance of a structured approach to digital transformation. The dimension of “digital visibility” demonstrated the significance of maintaining a robust online presence through official social media accounts (DV1) and comprehensive websites (DV3). Proactively managing social media interactions (DV2) and establishing specialized teams (DV4) are of pivotal importance in enhancing digital engagement and visibility. Within the dimension of “technology and security,” the integration of ICT in consular services (T1) and the establishment of knowledge-sharing systems (T2, T3) are essential for operational efficiency. A proactive approach to cybersecurity (T4) and the continuous assessment of technical infrastructure performance (T5) are critical in safeguarding digital assets and ensuring resilience against cyberthreats. For the dimension of “policy,” the existence and regular review of policies related to ICT usage (Pol1), digital public diplomacy (Pol2), and information security (Pol3) are fundamental in guiding digital transformation efforts. The strategic alignment of social media activities with organizational goals (Pol6) and continuous improvement through regular policy reviews (Pol7) are essential for maintaining relevance and effectiveness in digital diplomacy.

The methodology adopted for the development of the DD-MM, based on de Bruin and Rosemann’s (2005) framework, proved effective in structuring and categorizing the various processes involved in digital diplomacy. The step-by-step approach ensured the systematic development of the model, allowing for comprehensive coverage of all relevant dimensions. The use of CMMI principles provided a clear pathway for continuous improvement, making the model adaptable to different organizational contexts. The DD-MM can be a valuable tool for diplomatic institutions seeking to enhance their digital capabilities. By providing a clear framework for assessing digital maturity, the model will help institutions identify areas for improvement and implement targeted strategies to achieve higher levels of digital sophistication. The structured approach to digital transformation ensures that all aspects of digital diplomacy are systematically addressed, from personnel training to policy development and technological infrastructure.

One of the primary challenges identified during the implementation of the DD-MM was the varying levels of digital readiness among different diplomatic institutions. Some organizations may have advanced digital capabilities, while others may still be in the early stages of digital adoption. This discrepancy can impact the uniform application of the model and may require
tailored approaches to address specific institutional needs. Additionally, the rapid pace of technological change presents a continuous challenge in maintaining up-to-date digital capabilities. Diplomatic institutions must remain agile and adaptable to evolving digital trends and emerging cyberthreats. Regular updates to the DD-MM and ongoing personnel training are essential in addressing these challenges.

Future research could focus on refining the DD-MM to incorporate emerging digital technologies and trends, such as artificial intelligence and big data analytics, which are increasingly relevant in digital diplomacy. Expanding the model to include more detailed metrics and benchmarks for assessing digital maturity could also enhance its applicability and effectiveness. Furthermore, comparative studies across different geopolitical contexts could provide deeper insights into diplomatic institutions’ unique challenges and opportunities in various regions. Such studies would help tailor the DD-MM to address specific regional needs and enhance its global relevance.

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