HOW SCIENCE AND TECHNOLOGY SHAPES DIPLOMACY

Kipngeno James Ronoh
University of Nairobi, Institute of Diplomacy and International Studies, University of Nairobi, Kenya

Full Length Research

ABSTRACT

Rapid development of information and communication technologies (ICT) has led to significant changes in social, economic and political relations of the modern society. Access to information and control over it contribute to the prevalence of soft power in politics of digital age, and empower the non-state actors in international relations. Contemporary diplomatic service, besides being faced with enhanced roles, requests for extended outreach and accountability, yet shrinking resources, is also challenged with multi-stakeholder and multidisciplinary international arena.

Key Words: *science and technology, diplomacy, information and communication technologies (ICT)*

INTRODUCTION

The rapid development in information and communication technologies had a multiple effect on the tools, forms and overall nature of diplomacy. The work with information has a major share in the activities of Foreign Service and in those of a diplomat[1]. Over the past decades, however, the collection and processing of information underwent major changes as a result of the revolution in ICT. The approach to and use of information itself changed and the analytical approach to information processing in diplomacy has become crucial. Despite the initial incompatibility of the internet and social networks with diplomatic activities – unlike diplomacy, social media tend to be a more informal communication tool – a number of examples in diplomatic practice show synergy possible also in this field. The ICT is not an end in itself, but represents a means and/or communication tool for a ministry of foreign affairs to increase efficiency in some of its operations. The innovation process in diplomacy and within the context of progressive development in new ICT is likely to continue to affect the future of diplomacy considerably[2].

Diplomacy has also been affected by the economic revolution that has erupted, driven by the forces of liberalization, privatization, and globalization. This revolution has created an insatiable demand for information and transparency, as well as for open political processes. This revolution has also increased the number of players of concern on the global stage and change in global world-market transform the nature of diplomacy as well. In this case, it is clear that the rapid development of information and communication technologies (ICT) has led to significant changes in social, economic and political relations of the modern society[3]. Access to information and control over it contribute to the prevalence of soft power in politics of digital age, and

---

[1]Batora, J. (2008). *Foreign ministers and the Information revolution*. NL: Martinus Publishers

[2]Malik, M. (2012).Technopolitics: how technology shapes relations among nations. *The Interface of Science, Technology & Security*, *12*, 21-29.

[3] Malik, M. (2012).Technopolitics: how technology shapes relations among nations. *The Interface of Science, Technology & Security*, *12*, 21-29.

empower the non-state actors in international relations. Contemporary diplomatic service, besides being faced with enhanced roles, requests for extended outreach and accountability, yet shrinking resources, is also challenged with multi-stakeholder and multidisciplinary international arena.

THEORETICAL PERSPECTIVE

Old Diplomacy

Traditional diplomatic work and diplomatic personnel use information and data gathering, analysis and evaluation concerning individual countries and regions in form of information, intelligence and analytical searches that focus on specific areas. Information gathering in diplomacy in terms of the means of collection is set out in the 1961 Vienna Convention on Diplomatic Relations. Article 3 paragraph 1d) stipulates conditions for identification of developments in the host state by "any legal means". The work with information has an internal character – thus it is not aimed at the general public, but rather serves the state administration as a background for further reference when formulating official positions, and conceptual decisions.

The traditional diplomatic way of arguing a case or getting ideas into circulation has been to deliver a Ministerial speech or publish a pamphlet, and pass the key messages to the radio, TV and print media. However, the diplomats in the modern age are now engaged in arrangements dictated by the trends in the global community: democratization, globalization, integration, information and communication technology and transnationalization[4]. Many countries have come to realize the global system is changing and there is need, more than ever, to redress their foreign policy objectives and project new policies to adhere to their national interests. As a result of globalization such issues as refugees, human rights, transnational crime and terrorism, drugs, international trade, financial flows, trade, intellectual property and technology concerns, labour standards, and negotiations have now become increasingly key issues in relations between and among states.

Diplomatic Bag

For centuries, governments and their envoys stationed abroad have used diplomatic bags[5]. The diplomatic bag, which is usually a canvas sack, is intended for the confidential conveyance of documents between a government and its missions abroad. States have long required a safe and confidential means to communicate with diplomats stationed abroad." Traditionally, receiving states have granted foreign diplomats this privilege in order to receive the same right of free

---

[4] Malik, M. (2012).Technopolitics: how technology shapes relations among nations. *The Interface of Science, Technology & Security*, *12*, 21-29.

[5] Lee, G. (1991). The Status of the Diplomatic Bag: A Proposed United States Position. *Houston Journal of International Law*, 13(2), 221-257.

communication. Customary international law identifies two principles which underlie this free communication privilege: no delay and no censorship. The no delay, no censorship rule extends to the courier as well as to any physical instrument used by the courier. Over time, the preferred instrument has come to be referred to as the diplomatic bag.

The diplomatic bag also serves as a convenient vehicle by which a sending state can respond to any number of exigencies. It is not difficult to postulate certain conditions that might tempt a state to use the protection of the diplomatic bag. For example, if an embassy is located in a country which absolutely prohibits import of weapons, it is possible that the sending state might determine that emergency conditions warrant protection and defense of the embassy.

The use of the diplomatic bag is much more extensive. Its value rests not only in providing a totally secure but also a rapid means of transport, especially for large articles. Most governments considered the diplomatic bag to be indispensable for transportation of sensitive material and thus a basic requirement of day-to-day diplomatic activities.

Traditional customary law respected the diplomatic bag but agreed that a receiving state, based on valid suspicion of abuse, could either inspect or return the instrument. The Harvard Convention strongly influenced drafters of the Vienna Convention to grant the diplomatic bag additional protections previously unknown in customary law.

Modern Diplomacy

In the era of the advanced global information networks, information itself has an ever-growing value. Similarly to other fields, information is not seen merely as a means, but also a product. All of these factors contributed to the changing nature of the role of intelligence in diplomacy to the benefit of analytical work and practical use of information, and to the detriment of the traditional factual reporting.

In the era of conventional diplomacy, innovations in information and communications technologies (ICTs) start with telegraphy and transoceanic cables allowing near real-time communication of negotiating instructions and diplomatic reports--increasingly tethered ambassadors to their home capitals and partially eroded the independence of diplomats abroad[6]. But telegraphy, and especially submarine cabling were expensive, in several senses--the messages were brief and encoded at two levels. The widespread availability of convenient long-distance air travel, direct-dial intercontinental telephone circuits and worldwide real-time communication, has continued to redefine the role and duties of the diplomat. In ICT, the real-time enable multiple channel communication, like the telephone call-that connects many missions with headquarters by a toll-free voice-over-IP secured telephone lines. This allowing

---

[6] Pahlavi, P. C. (2003, May). Cyber-diplomacy: A new strategy of influence. In *Canadian Political Association, General Meeting, Halifax, NS* (Vol. 30).

mission to consult regularly but also for diplomats, whose dynamics of posts across the globe often separates colleagues for a while, to keep in touch with one another.

In addition, the World Wide Web, has replaced radios, telephones and televisions and has compelled them to include themselves in making the World Wide Web the primary source of information and communication in the world. File sharing; video conferencing, audio and visual streaming have transformed the simple presentation of information to be more complex but yet interactive, efficient and speedy.

Comparison

Information Gathering: Information is an essential aspect of diplomacy. Most if not all actions in iplomacy are taken based on information. Information dealt with by diplomats is highly sensitive and confidential. As a result, diplomats have the responsibility to negotiate with the sensitivity and confidentiality of information. However, ICT plays a vital role provides necessary tools to ensure efficient management. The economic, political, and social conditions and giving feedback to the headquarters remains a key role and function of a diplomat. However, this has transformed in the technologized age. Prior to this, diplomats, had the responsibility of collecting newspapers and transporting them to the foreign missions. But the information age has enabled diplomats to adopt sensitivity to local and cultural relations to provide analytics of crucial information filtered out of media and other important actors such as NGOs and the public at large by following online information dissemination and social media tools. Fact finding is no longer as tedious and difficult as it used to be. Information on demographics, is available at the beck and call of a diplomat through internet services such as goggle scholar, Wikipedia, CIA WORLD FACT Book etc.

The traditional 'diplomatic bag' has been replaced by the use of the 'intranet' which can be customized to suit the extreme confidentiality levels necessary in diplomatic communications with access limitations for different level of the hierarchy. Collecting information and data from various sources via the internet and distributing and disseminating it through a structured intranet has and will compress the time and the cost factors that are involved with diplomatic information management. Information thus acquired has lost its former purpose, particularly in terms of the speed and currency. In the recent decades its former exclusive status among information and communication activities of diplomatic missions has come to face direct competition with the new information technologies and equipment which enables relatively fast and accessible forms of information gathering. Yet the speed is not directly linked with any thorough exploration of the local environment, reading between lines and particularly understanding the wider context where the diplomatic missions retain their stronghold.

Mediation: In circumstances, where a face to face dialogue will not be conducive, ICT can help by not only saving time but costs and lives in most cases. Computer led communications can create a safer and non-confrontational channel of dialogue between groups. An example of this is

when the Unite States institute of peace mediated an ICT led peace initiative to put a halt to a 14 year civil war in Liberia Bryant, the leader of the National Transitional Government of Liberia in a virtual town hall meeting with Liberian Diaspora on the prospects of peace for the country (Radunovic, 2010).

Negotiation: Negotiation is an essential role of a diplomat. Bilateral and multilateral negotiations have gained insight from ICT advancements reaping benefits from the time, space and even cost compressions that have taken place. In a post-recession era where overheads of ministries have dwindled and budgets have been e-concentrated on militarization, ICT has and will be tremendously helpful in the negotiation process. Before the actual negotiation, ICT can play a major role in re negotiation and preparation by creating new channels of information both internal and external that helps. There are many situations that take place before actual negotiation between two or more parties, and the use of ICT has made each phase of the process more productive.

Another glaring difference between the way diplomacy is practiced today and the way it was practiced before the information revolution is due to the death of secrecy. Even before the dangerous and destructive antics of Edward Snowden and Julian Assange, judicious diplomats have been coming to terms with the fact that "strictly between us" and "off the record" are fast becoming empty pleasantries. Young cadets in diplomatic academies today are being taught to never write something in a diplomatic cable that they would not want to see in the next day's headlines. This brings with it a deep seated change in the approach one takes to the profession. It means that you avoid taking actions and making statements that you are not willing to stand behind in public and dovetails with what we already saw regarding the shift of focus towards public diplomacy.

Conflict Resolution, Preventive Diplomacy and Reconciliation: Effective information sharing acts as the key to conflict resolution, reconciliation and preventive diplomacy. ICT through main stream media platforms and new media can play a big role in supporting diplomats in conflict resolution, reconciliation and prevention efforts. Most especially in situations where engagement of international actors, local activists, citizens and diaspora is necessary for the efforts to succeed, ICT can be used to create awareness and publicity for policy initiatives adapted to address core issues, to create open discussions and receive feedback on 'state thinking' amongst non-state actors.

The Si Lankan government's initiative through the Ministry of external Affairs is a good example where e-diplomacy has been employed to educate the Diaspora and the international community on efforts taken in reconciliation and prevention of the re-escalation of the armed conflict which ravaged the country for over thirty years.

ICT as a Booster of Soft Power in International Relations: Cyber power can be used to produce preferred outcomes within cyberspace or it can use cyber instruments to produce preferred

outcomes in other domains outside cyberspace (Nye, J, S. 2012). An enormous number of people are beginning to rely on ICT for information and communication. The diplomat's audience is no longer confined to his external counterparts and internal colleagues. He is force to interact with individuals supplying their own sources a blogs to terrorists producing and web publishing graphic videos of killings (Grant, R. 2004). The following are situations where ICT can be used in achieving two major elements of Public diplomacy

Relationship Management amongst Key Diplomacy Players: A diplomat's relationship is no longer exclusive. Diplomacy has lost its exclusivity and ability to operate in insular, protected circles. Influence is no longer in a single direction i.e. from diplomats to citizens. Diplomacy has become more democratized (Granter. 2004). Therefore, diplomats should embrace this democratization and expand their outreach and use ICT tools to manage the old and new players in the system. Virtual desks and networks connecting key players such as the academia, NGOs, corporate, citizens and the Diaspora, active participation/interactions in the 'blogosphere' and social media can induce confidence and trust and credibility amongst the new players such as NGOs, corporate, citizens and the Diaspora, active participating/interactions in the 'blogosphere' and social media can induce confidence and trust and credibility amongst the new players such as NGs and citizens who have immense mobilizing power in the public domain. Finally, the sheer volume of information has led to an increased professionalization and specialization in every productive sphere from medicine to marketing. Diplomacy is no exception. In the past, a diplomat was expected to be a "well-rounded gentleman" with an education broad enough to sustain so many dinner table conversations but with no specialized professional training.

ROLE OF SCIENCE AND TECHNOLOGY IN SHAPING DIPLOMACY: CRITICAL ANALYSIS

Science and technology are found to influence diplomacy. However, it is clear that diplomats are still in the 'catch up' phase, whilst citizens have embraced the new technologically advanced environment. Nevertheless, the World Wide Web, the internet, digital imagery have changed the environment in which diplomacy operates. The three factors that enhanced the transformation of the environment in which diplomacy operates are: shrinking costs, increase in capacity, speed of application.

New diplomatic leadership on using science and technology to solve global challenges is starting to emerge from smaller nations working closely with developing country partners. Diplomats are constantly trying to deal with the consequences of the development of ICT, forcefully changing their method of diplomatic conduct to adapt to the fast rising media and non-state actors who have complicated the diplomatic profession, which is now operating in a multi polar international system.

The first and most important change is a shift in balance from government-to-government diplomacy to people-to-people diplomacy . Communication between political leaders by

diplomatic proxy still has an important role to play, and some form of public diplomacy was also practiced in the past. But nation states and their governments no longer play the preeminent role in our lives that they did 100 years ago. Being a government official no longer gives you the privileged status of the past if anything, it only earns you suspicion.

In today's world, it is increasingly corporations, civil society groups, cultural movements and, most important, ideas which know no national boundaries and are not citizens of any state that shape our lives. Online platforms have more of an effect on more people today than most governments, and the essential thing about these platforms is that they make their impact by facilitating direct interaction between infosumers across political divides.

In the international arena, nations receive and exchange evidence through many channels with the ministries of foreign affairs at the center of statecraft. For diplomacy among nations in our digital age the evidence is unprecedented with the volume, variety and velocity of the deluge that is now known as 'Big Data'.[7]   Sorting out the signal from the noise of the evidence that nations must address individually and collectively with urgency in our globally- interconnected civilization now is a matter of science diplomacy.

In the conventional diplomatic services, there was a strict internal protocol for delivering confidential messages, instructions and reports. However, the introduction of ICTs reshaped the evaluation of work of the Ministry Foreign Affairs (MFA); diplomats are now encouraged to provide personal feedbacks on how their work can be improved[8]. Regular meetings of headquarter with missions or diplomats away, or even meetings among heads of MFA central administration within cross-border or regional dialogue initiatives can be done voice or video conferencing or telepresence. In addition, ICTs has triggered the use of database document and submission, unlike the era of traditional diplomacy when communications were based on formal notes; periodic bulletins and circulars. Digital and rapidly broadcast and direct contact among departments or rather individuals through messenger system makes their coordinated work more effective.

Internet message and social network can enable easy share of more informal information of lower importance thereby make the diplomatic team more coherent. Furthermore, forum discussions, shared personal and department calendars and task-list can save time in synchronization of work, thereby increase productivities However, regarding reporting and document submissions, ICT has upgraded the procedure. Instead of advancing all submissions up the hierarchy from various divisions which is time consuming, now division directly submit to

---

[7] Nye Jr, J. S. (2008).Public diplomacy and soft power. *The annals of the American academy of political and social science*, *616*(1), 94-109.

[8]Dickie, J. (2004). The New Mandarins: How British Foreign Policy Works. New York: I.B.Tauris

the state secretary with copies going to the various directorates[9], using e-mail facility. The email is a formally accepted way of exchanging formal document yet encrypted; the encryption is done over secured network of computers.

Communication tools and environments have paved way towards the compression of space and time in the international political environment. For example, the attack of the twin towers in New York in September 2011 was transmitted around the world instantaneously; however, "the transmission of the news of the independence of America in (1776) to Southern America, took about the same time it took to reach England by ship". This is the ability of ICT to narrow space and time differences between states[10].

Advantages

Science and Technology have been used as a means to resolve global challenges. Responding to various challenges for the international society is one of the important pillars of science and technology diplomacy. Japan supports joint research activities conducted by universities and research institutions in Japan and other developing countries through ODA (Science and Technology Research Partnership for Sustainable Development (SATREPS). It contributes to finding solutions for global challenges in the areas of Environment/Energy, Bioresources, Disaster Prevention and Mitigation, and Infectious Diseases Control. For example, in Zambia, researchers led by Professor Ayato Takada of Hokkaido University are working with researchers of the University of Zambia to find out the infection routes of the Ebola virus, etc., and the development of diagnosis methods.

Science and Technology has enhanced bilateral relations. The enhancement of cooperative relations in the area of science and technology brings benefits to both Japan and its partner countries, broadening their bilateral relationship. Since each country is facing different circumstances of Science and Technology, it is necessary to take Japan's strength and the needs of the partner country into consideration. For instance, at the 14th U.S.-Japan Joint Working-Level Committee (JWLC) Meeting on Science and Technology Cooperation in July 2014, Japan hosted the 2nd Open Forum for STIE (Science, Technology, Innovation and Education) Cooperation following the intergovernmental meeting. At the forum, experts of academia and industry from both countries discussed scientific knowledge, decision-making, and the development of innovative human resources. Also, the aforementioned joint research associated with ODA contributes to advancing bilateral relationships between Japan and developing countries.

---

[9]Rana, K. (2006). Foreign Ministries: Change and Reform. Working paper presented at the 2005 International Conference "Challenges for Foreign Ministries: Managing Diplomatic Networks and Optimising Value" held in Geneva

[10]L'etang, J. (2012). Public relations as diplomacy. *Public relations: Critical debates and contemporary practice*, 373-388.

Disadvantages

Diplomats are constantly trying to deal with the consequences of the development of ICT, forcefully changing their method of diplomatic conduct to adapt to the fast rising media and non-state actors who have complicated the diplomatic profession, which is now operating in a multi polar international system[11].

The complexity of the tools a diplomat must be able to deploy and the diversity of the audiences she must be able to address require genuine specialist skills. Just to keep abreast of the public sphere in which contemporary diplomacy operates requires high-performance social media skills, the ability to interpret the output of big-data analytics and the same proficiency in the use of focus groups and polling that is expected of a corporate marketing professional. Jack of all trades and ace of none is a losing hand in the contemporary diplomatic game. I believe strongly that technology is making diplomacy a more dynamic, exciting, and creative profession.

Advancements in ICT has revised conventional diplomacy, so much that the new diplomacy is known as 'Public Diplomacy; has been pushed forward as a useful business tool in the international arena connecting diplomats not only with their counterparts but also extending to new activists such as citizens, NGOs, Journalists, etc directly communicating with them in a more sophisticated manner using tools such as image building, reputation management and multiparty dialogue to meet their foreign policy ends which may or may not result into a compromise.

CONCLUSION

The revolution of Information and Communication technologies (ICTs) has revised the practice of conventional diplomacy. Lees evident, however, is the extent of the impact of revolutionized ICT on the role of modern diplomats, and how this will either aid diplomatic roles or augment them. In addition, ICT has contributed immensely towards two important elements in the conduct of diplomacy; namely space and time. Communication tools and environments have paved way towards the compression of space and time in the international political environment. Evolution of ICT's poses fundamental challenges to conventional diplomacy such as breaching confidentiality, promoting openness and transparency, and reducing hierarchy. Despite this, the business case for 'virtuality' in diplomacy and diplomatic relations is compelling in that it is more efficient and acts as a leveraging tool. The use of ICT in international relations is especially beneficial to developing countries and countries that are in post conflict resurgence situations.

---

[11] Malik, M. (2012).Technopolitics: how technology shapes relations among nations. *The Interface of Science, Technology & Security*, *12*, 21-29.

REFERENCES

Acuto, M. (2013). *Global cities, governance and diplomacy: The urban link*. Routledge.

Batora, J. (2008). *Foreign ministers and the Information revolution*. NL: Martinus Publishers.

Copeland, D. (2014). Taking diplomacy public: Science, technology, and foreign ministries in a heteropolarworld.In *Relational, networked and collaborative approaches to public diplomacy* (pp. 70-83).Routledge.

Fukuyama, F. (2006). *The end of history and the last man*. Simon and Schuster.

Grant, R. M., (2014). A knowledge accessing theory of strategic alliances. *Journal of management studies*, *41*(1), 61-84.

Huntington, S. P., Holzman, F., Portes, R., Kiser, J. W., Mountain, M. J., &Klitgaard, R. E. (2015). Trade, technology, and leverage: Economic diplomacy. *Foreign Policy*, (32), 63-106.

L'etang, J. (2012). Public relations as diplomacy. *Public relations: Critical debates and contemporary practice*, 373-388.

LaFeber, W. (2010).Technology and US Foreign Relations. *Diplomatic History*, *24*(1), 1-19.

Lee, G. (1991). The Status of the Diplomatic Bag: A Proposed United States Position. *Houston Journal of International Law*, 13(2), 221-257.

Malik, M. (2012).Technopolitics: how technology shapes relations among nations. *The Interface of Science, Technology & Security*, *12*, 21-29.

Nelson, C. (1988). "Opening" Pandora's Box: The Status of the Diplomatic Bag in International Relations. *Fordham International Law Journal*, 12(3), 494-519.

Nye Jr, J. S. (2004). *Soft power: The means to success in world politics*. Public affairs.

Nye Jr, J. S. (2008).Public diplomacy and soft power. *The annals of the American academy of political and social science*, *616*(1), 94-109.

Pahlavi, P. C. (2003, May). Cyber-diplomacy: A new strategy of influence. In *Canadian Political Association, General Meeting, Halifax, NS* (Vol. 30).