Digital Diplomacy and Regional Integration in Africa: A COMESA Case Study

Shem Ongati Siteki

United States International University – Africa

DOI: https://dx.doi.org/10.47772/IJRISS.2025.908000062

Received: 25 July 2025; Accepted: 31 July 2025; Published: 28 August 2025

ABSTRACT

Digital diplomacy is regarded as one of the most significant forms of postmodern diplomacy, and a key element in today's strategic (diplomatic) communication. Alongside other numerous changes tied to digitalisation; it challenges traditional methods of conducting diplomacy – in various contexts. One such context relates to African regional institutions, which have adapted digital diplomacy, as an improvement of their public diplomacy. The goal of this study was to highlight how Common Market for Eastern and Southern Africa (COMESA), has utilized digital diplomacy to support its regional integration agenda. The study applied both qualitative and quantitative research approaches, using the case study technique. Data was collected through semi-structured interviews, social media content and documentation reviews. A total of n = 12 participants, consisting of IT personnel, communications officers, administrative diplomats and political diplomats were selected for the study through purposive sampling. Data was analyzed thematically, after using various coding tactics. Findings implied positive progress in the growth status of COMESA's utilization of digital diplomacy on one hand, and existing challenges on the other. Specifically, digital diplomacy has, strengthened COMESA's regional and multilateral collaboration, developed its economic and trade agenda, besides amplification of its public diplomacy. Conversely, the institution faces three key problems – both internal and external. These include, a constantly changing media landscape in terms of algorithm alterations, audience targeting difficulties, regulated internet access coupled with social media restrictions (in some countries), alongside language divide. Thus, the institution needs to undertake innovative approaches such as, expanding its online presence to incorporate other platforms, partnering with ICT development organisations, keeping abreast with social media algorithm changes, internal digital communication (media) trainings, regular online conversation rich content strategies and incorporation of videos – during events.

Keywords: Digital diplomacy, public diplomacy, regional integration, social media, strategic communications

INTRODUCTION

The interconnectedness through the internet and new information communication technology (ICT) tools has narrowed the space between states, politicians and the general population. This has necessitated the growth of digital diplomacy, which has further altered how the 21st-century diplomacy is practiced. Consequently, states are currently forced to keep up with the speed of technological advancement, especially online (digital) technology, where traditional news is experiencing a slow death in favour of social media (digital communications) – that prioritises content. Thus, states cannot afford to be relegated to the back seat – as the times of self-isolation from such global changes are behind us.

Similarly, with the steady progress of digital diplomacy, responsibilities and roles of diplomats have had to change. It has meant they familiarise themselves with using social media, and other digital tools to connect with global audiences. They have been forced to learn how to develop impactful messaging, interact with a variety of stakeholders, while advancing their state's public diplomacy – instantaneously. This has necessitated acquiring new skillsets and proficiency – alongside strategic communication and digital literacy.

Empirically, the concept of digital diplomacy has received major academic scrutiny: These studies have uncovered the opportunities (Snow & Taylor, 2009; Deos, 2015), as well as the threats (Roberstson, 2021;

Sakellariadis, 2023), that exists in digital diplomacy. But, while these studies have focused on understanding digital diplomacy within the western context, there has been insufficient attention paid to regional organisations in Africa such as Common Market for Eastern and Southern Africa (COMESA). This paper sought to fill this research gap.

Thus, the study mainly investigated how COMESA, has utilised digital diplomacy in supporting its regional integration agenda. Specific objectives for the study included: (1) exploring how digital diplomacy has benefited COMESA, (2) surveying the digital diplomacy obstacles experienced by COMESA, (3) exploring COMESA's external (social media) communication tendencies.

The paper aims to contribute knowledge, policy and best practice. Thus, it's applicable to variety of practitioners (audiences) and policy makers within regional organisations, governments, international governmental organisations, civil society and academia. Similarly, the paper is cross disciplinary. Thus, it can be applied in disciplines, such as international relations (diplomacy) and strategic (digital) communications.

LITERATURE REVIEW

Conceptual Framework

Definition of Digital Diplomacy

As a new form of public diplomacy, digital diplomacy, utilises the internet, modern information and communication technologies (ICT) and social media – with the intention of strengthening diplomatic engagements (Hanson 2012, Raschica, 2021). The US Secretary of State office considers digital diplomacy as, "the 21st century statecraft"; the UK Foreign and Commonwealth office categorises digital diplomacy as, "solving foreign policy problems using the internet"; the Canadian department of Foreign Affairs, Trade and Development denotes it as "open policy" (Yahya, 2016).

Potter (2002) argued that digital diplomacy is a system of diplomacy utilising networks based on digital technology. The technology is made up of internet, mobile devices and social media platforms. The notion of digital diplomacy, which stresses social media usage, normally links digital diplomacy with the internet, and social media for diplomacy. Similarly, digital diplomacy, is normally termed as e-diplomacy, cyber diplomacy, or twiplomacy (Adesina 2016).

In terms of digital diplomacy roles, Dizzard & Fischer (2001) outlined three roles: firstly, cultivation of foreign policy issues, which encompass complex skills in collecting and handling information. Additionally, categorising and adjusting information sources tied to the office of foreign affairs – as well as its's diverse overseas units. Lastly, impacting public opinion in addition to channelling the interest of the public, to assume a part in public diplomacy.

Objectives of Digital Diplomacy

According to Hanson (2012), digital diplomacy has eight general objectives: (1) knowledge management, whereby digital diplomacy is utilised to collect data from all stakeholders to attain institutional objectives; (2) disaster responses: to be utilised as communication in disaster assistance; (3) communication and consular replies: to steer communication with citizens staying overseas for key, critical and emergency circumstances; (4) information management: to utilise information in making decisions, and in giving responses concerning development of social circumstances: (5) to exercise public diplomacy (to keep communication with citizens living overseas) and to shape other online media, too through; (6) policy planning to be applied in elevating synchronisation and planning in attaining national goals. (7) for internet freedom, where the internet can be utilised as a stage to assess free speech and democracy, and (8) As External resource, to widen opportunities, to gain national interests (Adesina 2016).

Evolution of Digital Diplomacy

The principles of diplomatic communication were altered in the nineteenth and twentieth centuries by technological revolutions. During the nineteenth century, the dawn of steamships and railways, improved the travel of diplomats considerably (Marks & Freeman, 2024). This happened simultaneously with the telegraph development, allowing speedy communication amongst governments, foreign ministries and embassies.

During the twentieth century, the expansion of air mobility and information technology (IT), supplemented the simplicity and speed of mobility, as well as communication (Jonsson & Hall, 2005). Three international occurrences in the 1920's and 30's changed the meaning and exercise of diplomacy. First, was the extensive usage and enormous acceptance of the radio. Second, was the 1917 Bolshevik revolution, and the 1933 rise to power by the Nazi's, and the final event was the applied usage by both the Nazis and the Bolsheviks of the radio, with a view of spreading revolutions in adjacent countries. With that, public diplomacy was introduced.

Public diplomacy can be understood as the means in which states aim to attain their foreign policy goals, by communicating with their publics externally. Additionally, it is a tool for enabling positive relations, between foreign populations, with a view to enabling the approval of one's programs. It was conceived by Edmund Gullion, a US career diplomat, and plainly goes beyond traditional diplomacy, directed towards the development of public opinion by governments in other nations (Siracusa, 2010).

The transformation of communication, which started just after the Second World War and persists today, makes it a possibility to speedily spread information, of all manner, beyond oceans and above mountains, to the farthest areas of the globe, ignoring state boundaries and passing through the unbreakable strong holds of brain control. Transistor radios, television, satellite broadcast, turbo plane transportation, global computer connections, electronic information processing and telefax, allow people universally to obtain and relay information that may in the past have taken long to get to them, as the case may be (Tuch, 1990).

The conclusion of the Cold War fostered the growth of democracy and its principles into several countries, and amplified people's reception of global information. Nye conceived the phrase "soft power" to signify a country's power of control, that is mainly grounded on professed worth, social norms and image (Golan et. al, 2015). Exerting soft power, is usually geared towards persuading the other party, through charm and not force.

Further to the two types of diplomacy, the traditional and the public, there is also a third (new) type, social diplomacy – popular in the current era. A key common social diplomacy trait is either, the capacity to select a mild and complex condition with civility, preference, insight, or a unique way of engaging with people (Reka, Bashota & Sela, 2016). Social diplomacy permits the sovereign state power to move towards regular citizens, from states, consequently forming suitable spaces for the involvement or engagement of other global actors, like non-governmental bodies and multinational establishments.

Globally, a lot of people have realised that by linking with NGOs, they can push for issues they endorse. Another type of social diplomacy practice is lobbying. Initially applied in the US, and the United Kingdom, but currently also implemented in the European Union. Lobbyists endeavour to exercise power on the design or accomplishment of certain policies. By the end of the twentieth century, a new type of public diplomacy was emerging. It was known as digital diplomacy.

E-diplomacy, as it was referred to as then, offered continuity and transformation in our digital era. E is the acronym of the term electronic, a depiction of the initial commodification of the internet. The Earth Summit in Rio de Janeiro in 1992, was a pivotal event in the growth of e-diplomacy – as it evidenced emails being used by civic institutions for lobbying, during consultations. Concurrently, the Mediterranean Academy of Diplomatic studies in Malta, played host to the first unit for computer applications in diplomacy (Diplo, 2021).

The Arab Spring is regularly perceived by diplomats as the start of digital diplomacy (Russo, 2013). But the use of digital (online) media in diplomacy had begun, slightly earlier. In 2008, it was projected that the internet was accountable for some 80% of the enlistment of youth to Jihadi activities. Recognising the necessity to offset Al-Qaeda's enrolment strategies, and its online storyline, an initiative dubbed Public Diplomacy 2.0 was

launched. The initiative introduced by the President's Bush's undersecretary for public diplomacy and public affairs witnessed the migration of the State department to Facebook. This was in addition to the introduction of a departmental blog and the creation of a digital outreach team, charged with offsetting Al Qaeda's online recruitment.

The second landmark of digital diplomacy was the 2010 Wikileaks offence of 2010, whereby WikiLeaks distributed some 250,000 diplomatic communications dispatched amongst Washington and US missions (Cull, 2011). It was WikiLeaks that informed diplomats that secrets can barely survive in the digital era. That information embodies freedom, and that it can unchain itself. Further, the digital era would need new working practices, measures and instruments. Subsequently, and during the Arab Spring, young protesters utilised social media to diffuse rebellious speech, influence stories, and broadcast and transmit live airing of revolutions (uprisings) internationally.

Serious considerations regarding social media started in the aftershock of the uprisings, and the resulting civil strife in Middle East in 2011 (Bjola & Holmes, 2015). The phrase twitter diplomacy developed due to the shaky usage and the very crucial place of social media, specifically Twitter (now known as X). Presently, it is the most used platform, which has become a crucial communicative instrument for a lot of heads of state, prime ministers, foreign ministers, diplomats and ambassadors – globally (Sandre, 2013).

Advantages of Digital Diplomacy

Audience Accessibility. Previously, the physical distance between Ministry of Foreign Affairs (MFAs) and foreign missions was a crucial element. However, this is not that important – presently. Globally, the internet, websites, social media and blogosphere have interested a lot of politicians, diplomats as well as ordinary people. States have for a long time connected with overseas audiences whenever an opportunity to promote certain political and economic objectives (Snow & Taylor, 2009). Blogs can lead to the creation of a chief personal identity for a new blogger, which can be lively, collaborative, thoughtful and multifaceted. Social media allows diplomats to spot events, collect information and find crucial influencers. They also offer channels to impact past the traditional audience. They can assist in the practice of consultation, policy conceptualisation, as well as in exchanging viewpoints.

Inexpensive. There has been a sharp drop in the cost of utilising new technologies. This can be attributed to the progressive advancement in technologies. Evidence from global practices indicates that expert utilisation of digital diplomacy tools can lead to huge gains to those that capitalise on it (Riordan, 2017). Furthermore, digital diplomacy does not always need financial backing. Conversely, it is usually intended at lowering costs. For instance, twitter posts can assist in identifying and scrutinising thorny matters and uncovering those liable, by forcing the public, media and political-diplomatic encounter with a view of achieving positive transformation. This element renders digital diplomacy more appealing to governments, MFAs and embassies for promoting their work, as it does not lead to a budget shortfall.

Boosting International Relations. Diplomacy takes many forms. It is through the direction of heads of state and prime ministers along with attorneys, aid practitioners, economists, scientists and diplomats. Collectively, they have illustrated the multiplicity of prospective diplomatic players, but additionally, the logic of what we may label the "diplomatic style" – the determination to enhance power and impact, via original partnerships and strategies, as opposed to autonomous actions of power (Hutchings & Suri, 2015).

The age of globalisation is typified by an amplification and escalation of political, economic and cultural exchanges past national boundaries (Salmon, 2000). In the contemporary world, global politics bears numerous international actors, comprising states, ethno-nationalist elements, transnational companies, regional bodies, non-governmental organisations, numerous global movements and networks, as well as people (Mingst, 2008). Currently, a system of global organisations, of diverse dimensions and forms, connects people from all states. The quick advancement of this network, in addition to the strong and increasing communication and interface within it, are pointers of growing global correlation. These organisations offer the possibility of a sustained network even when the world order or the leaders and situations change or when rules are diluted by unforeseen variations of power relations (Goldstein, 2003).

But, diplomacy in the postmodern era, as a conception has always existed. It has adopted several features in the modern era, however, the notion of posting envoys to another country is ancient and was customary to several cultures (Chan, 2017). Digital diplomacy is not a substitute of traditional diplomacy; however, it can boost a country's agenda in international relations, speedily and more efficiently. Currently, it is an indispensable component for attaining foreign policy. Digital diplomacy enables a country to marshal global support, while touching people who never stepped into any of the embassies of the world. Immediate public engagement and the inclusion of non-state actors make states to utilise social media and digital diplomacy, as a means to sustain authenticity and cultivate or boost linkages in a dynamic world (Deos, 2015).

Quick and Efficient. Fast acquisition of information regarding certain situations can be beneficial to a country's national interest. Online technologies are exceedingly valuable for collecting and analysing information concerning diplomatic actions, in addition to quick communications in critical circumstances. They aid governments to consider the outcomes of events in various parts of the world, and how their country is impacted.

For instance, during a crisis, embassies can form groups in WhatsApp, that consists of the ambassador, consular agent, press officer, personnel who collect online info, diplomats from the head office and call centre personnel (Fasinu, & Olaniyan, 2024). This group can operate as a crisis management centre, that enables the gathering of instantaneous information, resolution and spreading of information.

Dictatorial governments normally curtail people's capacity to communicate internally and externally. However, these people can circumvent such challenges with the aid of online technologies, which aid the free articulation of doubts to certain matters, besides impacting the minimization of dictatorship (McGlinchey, 2017). The almost immediate media coverage of events can be attributed to handheld devices (smartphones) and social networks, and not traditional media. As demonstrated by the crisis within the Arab region during the spring of 2011, dictatorial regimes found it hard to influence the surge of information.

Steady communications and regular relay of information leads to bearable relationships between international players and further assist in managing joint interests (Memon & Alhajj, 2010). Like other types of technology, social media is not only transforming societies to be more democratic, but they are also providing them with more control using modern tools of power.

Obstacles of Digital Diplomacy

Loss of Personal Touch. Traditional diplomacy has always been characterised by nuance, subtlety and personal contact in its conduct. These elements can be regarded as the customs enabling isolated contact, that have persisted from when the earliest human ancestors encountered their neighbours, and agreed to stay separate, but at peace. Over the years, these patterns developed features of diplomatic structures across culture and time.

However, this is not the case with digital diplomacy, where engagement of diplomats is through the online technologies. In such digital diplomacy situations, there are no breaks, small talks, friendly, or in between pauses to cool tempers, build friendship, or discover new opportunities (Berridge, 2021). It lacks the spirit of diplomacy. For instance, videoconferencing, which is a type of digital diplomacy, enables interaction in the organisational and public debating styles, but strictly controls contact in the symbolic and ceremonial, group and private connection and intermediate contact approaches. Thus, video conferences do not foster trust. This implies that a considerable amount of the spirit of diplomacy is missed.

Still, Roberstson (2021) insists videoconferencing reinforces long standing trends that diminish the spirit of diplomacy. The most notable of these is the rising inclination of the cabinet to not only devise a strategy but also apply policy. When the cabinet effect policy, private and party advocates assume tasks earlier allotted to diplomats. The cabinet no longer gets counsel originating from institutional memory and expert knowledge entrenched in foreign ministries, but somewhat advice originating from ideology and/or political insight. Most significantly, the wisdom of using mediators in interaction with associates, is overlooked.

Digital Divide. The difficulty in usage of digital or online technologies amongst individuals with low capability in the use of internet, creates a digital gap. This is because despite the push by global governments towards digitalisation and digital inclusion, there are several people who have challenges in access and usage of the internet, social media and ICTs. Thus, while diplomats may try to obtain public opinion from these digital platforms, they may not get the sufficient information. This is because these digital platforms are readily accessible and mostly used by the middle and upper classes – who represent a minority (Nengo, 2016). Still, on the other hand, several countries don't have the means to purchase and set up the latest ICT tools in their missions (diplomatic centres) – as result of financial challenges. This results in diplomats having poor ICT (digital) skills (Nengo, 2016).

Cyber Terrorism. Cyber terrorism or hacking is another challenge that has been in existence since the start of the internet. It is thought to be the greatest digital diplomacy obstacle since many heads of state, governments and diplomats globally have fallen prey, to the point of threatening their careers. For example, in 2020, the Japanese Foreign Ministry's private diplomatic information exchange platforms were hacked. This was due to an attack supposedly by Chinese hackers, which resulted in leaking of data (Aliyeva, 2023). Similarly, in 2023, the U.S Ambassador to China, Nicholas Burns was among other diplomats whose emails were spied on, by suspected Chinese hackers. Experts believed that the spying campaign, which had started earlier in May, seemed to intersect with a phase of critical diplomacy amongst U.S and China (Sakellariadis, 2023).

Identity Shielding. Identify shielding, which is commonly referred to online anonymity, is a situation where someone can assume a persona, with the intent of attacking someone (Yakovenko, 2012). It can be categorised under the same topic of cybersecurity (Adesina, 2016). As engagement on the internet and social media can only happen virtually, physical communication is constrained. This puts people in a position where they only engage through words they type, alongside shared images and sound files. As a result of this, it is very convenient for users to camouflage behind a computer screen and feign their identity. Such a situation can lead to unnecessary discontent, particularly if the society depends on social media pages as their key information resource – as regards the government agents. If they unknowingly pursue a page that is managed by an imposter, they may likely be consuming misleading information.

Additionally, the knack to be anonymous has been perceived to foster harmful conduct. An example of this was in 2019, when a Kenyan UN Diplomat, Koki Mulli was harassed through 1,000 text messages by an anonymous source. This occurred while she was hosting a women's conference in New York. Prior to the text messages, she had received an email demanding her to disapprove abortion and gay families. According to her, the email message was filled with inaccuracies and misinformation (Lee-Lassiter, 2019).

Theoretical Framework

The Actor Network Theory (ANT)

The Actor Network theory (ANT) was implemented as an explanatory cornerstone of probing digital diplomacy. Ziemkendorf (2017) notes that ANT sprung up in the mid-1980s and is specifically tied to Michael Callon (2016). The theory is crucial in the understanding of socio-technical practices (Nweke 2012). In the recent past the theory has acquired great effect in international relations including organisational and state studies. Nweke (2012) asserts that while ANT exponents have typically inclined towards science and technological actions, it cannot be said that science is entirely dissimilar from social events.

Based on this understanding, ANT was crucial to this paper as it admitted human actors besides non-human actors in an organisation. The theory recognises two key parties in a communication situation that is the actor and the actant. Drawing from the theory, the actor is tied to the non-human features hence machines, hybrids and texts inter alia. Additionally, the actors can be regarded as the "identities", "things", relations or networks that have the possibility of overlapping with other various networks. Thus, "actants" are the proxies who can, in this instance, be people or joint groups that can cut associations with other agents. Basically, actants are accountable on the part of developing associations.

With respect to the paper's study area – digital diplomacy, the actors epitomised digital information and communication technologies, while the actants epitomised all the agents – for instance diplomats (officials) who represent COMESA, or external institutions, bodies and individuals. As ANT touches on digital communication technologies, this study endeavoured to broadly explore how digital communication, using social media platforms is exercised by COMESA in its diplomatic engagements.

The link between actors and actants is clearly illustrated by ANT, which also proceeds to illustrate its importance in international relations and diplomacy (Nweke 2012). This is especially how diplomats and diplomatic institutions (agents), utilise the internet and social media networks, in addition to attaining shared resolve and interest in the global arena. All these create an endless loop of input and output of social media engagement needed in conveying international and diplomatic services. Certainly, based on the superseding relevance and application, the ANT sufficiently shows the internet as a social experience as opposed to a technological tool.

Empirical Framework

As regards the empirical review is concerned, Ghazounane & Katman (2022) works can be quickly cited. Their study examines the major elements of the digital transformation in European Union's (EU) public diplomacy and digital change regarding digital diplomacy. Their findings reveal how the EU began executing digital tools, like social media platforms, to apprise of its political activities and the application of its foreign policy. Generally, the transformation was very positive, as it didn't occur on the institutional side, but at an individual level as well. Contrary to this positive outlook, McConnell & Manby (2024, as cited in Bjola & Manor 2024) argue that non-governmental and transnational organisations encounter considerable cybersecurity challenges and decreased access to digital connectivity, technology, and assistance. They add that the move towards digital diplomacy should have a balanced analysis.

This view is supported by Azocar & Erlandsen (2018). In their Latin America analysis, they argue that transitioning toward the institutionalisation of digital public diplomacy (DPD) needs additional reflection and consolidation. They further question the extent to which it can be logistically feasible to include civil society in the DPD agendas of the state actors. Since focusing individual state actors (as in the non-virtual world) is hardly sustainable.

With regards to this question, Intentilia et al (2022), whose study focuses on the Asian region, examine the state and non state actors involved in the digital diplomacy of Association of Southeast Asian Nations (ASEAN). According to them, ASEAN acts as a state actor, in advancing digital diplomacy – whose content covers both internal and external cooperation as part of its network diplomacy. Still, their findings indicate non state actors constitute youth organisations, think tanks and educational organisations. All these actively partake in publishing information concerning ASEAN internal and external issues. However, when it comes to non-actors, alternative conceptual lenses to those presently used in digital diplomacy scholarship cannot be ruled out (McConnel & Manby, 2024, as cited in Bjola & Manor 2024).

With respect to the African region, digital diplomacy presents several opportunities. Most notably, economic diplomacy, public diplomacy and regional collaboration and lastly multilateral diplomacy and regional collaboration (Manumwa 2023). However, other than general challenges (Muaka, 2019) (Kesande, 2022) (Zou & Bilate 2022), there lies a few unique challenges. These include resource limitations, digital infrastructure connectivity regulatory frameworks. In view of these challenges, Adesina (2017) suggests that African countries need to expand their diplomatic goals through digital development. Similarly, Africa governments need to encourage research in African digital diplomacy (Edong, 2020).

In summary, much – if not the largest part – of the literature on the topic has focused on activities of the global north, and less to do with the global south (Africa in particular). Numerous features of the phenomena in Africa – notably digital transformation (fluency) among African regional organisations, non state actors, other technologies (like Twitter – X) and network analysis – are still not fully understood.

METHODOLOGY

A mixed methods approach, using the case study technique, was applied. The study applied both qualitative and quantitative methodology. It was anticipated that using a single case of COMESA, as a regional body, would provide insights into the digital diplomacy practices of regional organizations in Africa.

The target population primarily consisted of officials working in the COMESA secretariat. A total of n =12 participants, consisting of IT personnel, communications officers, administrative diplomats and political diplomats were selected for the study through non-probability sampling – specifically purposive sampling. These respondents were selected based on their knowledge, familiarity, and practice of the subject matter of this study.

Data was collected through semi-structured interviews, based on questionnaires that were shared electronically (e-mail). Additionally, social media network (content) analysis and communication strategy (policy) documents by COMESA, provided extra data collection methods. Principally, the X platform (formerly Twitter) served as the main social media platform where content information was sourced.

Data was analyzed manually. Particularly, descriptive information provided by the respondents was processed into content analysis, whereby main themes were identified, assigned meanings and finally integrated. On the other hand, categorical data (from X content analysis) was transformed into numerical values, before listing the data values in the form of frequency distribution. This data was then graphed.

RESULTS

How Digital Diplomacy Has Benefited COMESA

The first objective of the study sought to explore how digital diplomacy has benefited COMESA. The results are highlighted below.

Regional and Multilateral Co-operation

Pertaining to regional and multilateral co-operation, digital diplomacy provides a variety of opportunities for COMESA. The regional institution has been able to engage with both the international community, and regional member states, through summits and conferences –conducted through digital platforms. As confirmed by respondent (R6) who noted that, “I remember one of the very first conferences that was held in hybrid format was in 2021. The event which was the 21st COMESA, Heads of State, in November 2021, was meant to discuss the institutions regional integration agenda using digital platforms due to the shocks occasioned by COVID-19. Since then, we’ve been accustomed to conduct virtual or hybrid meetings or engagements, occasionally – when feasible.”

The hosting of virtual meetings was also confirmed by respondent (R7), who noted, “In 2022, the 8th Joint Ministerial meeting, conducted virtually, saw in attendance: the ministers responsible for Agriculture, Natural resources and Environment – from COMESA member states. This is just an example of how digital platforms (tools) can be used to empower diplomats (representatives) in real-time joint initiatives (cooperation).”

Economic Diplomacy and Trade Advancement

Digital diplomacy has fostered the growth of trade and investment within the COMESA region on three levels.

First, it has promoted investment partnerships among states, non-state entities and individuals. As confirmed by respondent (R8), “digital social media platforms have created an avenue where COMESA member countries can attract foreign investments and collaborations from countries such as China, India, Norway, United Kingdom, United States. Similarly, member states have also moved beyond local markets to interact real time with other markets in other countries – as well as small medium enterprises (SMEs).”

Second is the element of access to information. As noted by respondent (R4), "through our online presence and engagements, we've enabled investors and traders to become aware of tons of credible information regarding markets, news, analysis, insights, best practices from industry gurus and other dealers. Such details have enabled better choices for traders and investors within the region."

Third, is the element of knowledge acquisition. In this regard, respondent (R2) noted, that, "the interaction and engagement has served as a knowledge repository where not just the members states, and other actors can learn about the region and markets, but also the institution itself."

Public Diplomacy Amplification

Digital diplomacy has also enhanced COMESA's public diplomacy in a variety of ways.

First, it has improved its image. This is as evidenced by respondent (R3) who noted that, "for a very long time, COMESA has had a challenge of not being able to counter the less diversity of trade within the region. But, the regional organisation, through its digital public engagements, has been able to promote synergies of local values within the region. This has in turn enhanced market penetration and trade."

Similarly, it has used digital diplomacy to try and promote private enterprise. In this regard respondent (R1) noted, "one of the problems of COMESA is that that, we've not been able break the barrier of a weak private sector involvement. As a remedy we have capitalised on the digital channels, alongside other initiatives, to try and advocate for private enterprise, as information spread, through these channels, is cheap and can reach the private investors faster, within the region."

Additionally, COMESA has been able to engage in public diplomacy to attain its main objectives. As confirmed by respondent (R5), who observed, "digital channels of engagement have assisted the institution to advance its vision of becoming a centre for competition and consumer regulation by 2030. This is aside from supporting the promotion of its 2021-2025 medium strategic plan."

Digital Diplomacy Obstacles Experienced by COMESA

The second objective of the study sought to determine the challenges COMESA encounters in advancing its digital diplomacy. Results are highlighted below.

The Fast-changing Media Landscape

Most of the respondents alluded to the speed of changes in media – elaborated on three levels.

First, the growth of algorithms – which are hidden formulas that prescribe what content gets noticed and by whom. According to respondent (R9) "from sequential feeds to algorithmic timelines, from engagement grounded categorisation to personalised recommendations, catching up with algorithm changes has been a periodic problem in trying to sustain visibility and engagement."

Second, relates to the change towards credibility. This has meant abandoning refined, excessively curated social media posts. This is because, generally, audiences want genuineness and openness from the institutions they follow. As noted by respondent (R12) "the change regarding being authentic has meant that as a public transnational institution, we are required to display a human face, share factual narratives, and partake in worthwhile discussion with our audience."

Third, is the rise of data and analytics – which enable public officials and institutions track performance of their online engagement efforts. There is a realisation of such, however, it hasn't been given priority. As evidenced by respondent (R10) "there is an appreciation of such analytical tools. Indeed, they would come in handy in fostering a culture of data driven decision-making. However, this hasn't been given much attention owing to skilled personnel (who can make sense of the data), aside from resource bottlenecks, in acquiring the appropriate software (tools) – given our prospective audience reach."

Difficulty in Targeting an Audience

It was also evident that reaching the ideal target audience is a complicated and multidimensional undertaking. This was explained using three factors.

First, is the issue of data overload. As explained by respondent (R11) "Based on the nature of managing the institutions digital communication platforms, we find ourselves synthesising a lot of information to gain insights into our target audience. Besides, there are situations when the denseness of data makes it hard to comprehend it, leading to analysis paralysis. As a result, this can be difficult in attempting to reach our set audience."

Second, is the changing interest of the audience. As confirmed by respondent (R2), "audiences in the digital world are not usually static. Thus, what interested them about the institution today, may not be the same for tomorrow. As they are always subjected to a wide variety of data and impulse. This makes us miss out on opportunities especially when promoting various programmes."

Platform limitations is the third element. In this regard, respondent (R9) noted, "We rely on at least two main digital platforms, and most of the time, the same exact content format is also posted on these key platforms. Thus, its is possible we may not be fully maximising these platforms in terms of audience targeting – as what might work for a particular platform, may not work for another, in terms of content formats."

Restricted Internet Access and Social Media Censorship

Additionally, implementation of digital diplomacy is made difficult because there are some countries that don't value the digital freedoms of its society. This happens when certain governments limit access by directing internet service providers (ISPs) to curtail access to their subscribers. Consequently, this leads to blocking of widely used social media sites by diplomats (officials).

In more severe cases, the authorities can mandate service providers to limit all internet access. As affirmed by respondent (R12), internet access in various COMESA countries are not uniform. "There are governments which permit its growth, while there are others who stifle it fully. As foreign diplomats (officers) we are normally inconvenienced when we cannot access the internet." It makes it even worse when they cannot go around the restrictions or find alternative means. As confirmed by respondent (R5), "the use of Virtual Private Networks (VPN) when such internet restrictions occur is an option, however, governments can also block them – leaving us with no other option."

Usually, these limitations occur due to specific cultural situations. In this regard, respondent (R8) confirmed that, "some states within the region highlight security concerns as part of the circumstances that may impede their choices of shutting down internet – or by extension supporting digital diplomacy."

Cyber Attacks

Findings also indicated cyber attacks as an impediment to digital diplomacy. This is despite previous steps by COMESA and member states to curb the vice. As highlighted by respondent (R6), "granted, there has been some investment into prevention of cyber crime within the region, however, the attackers have become shrewder. Cases have arisen where unsuspecting delegates and or staff are tricked through social engineering practices – such as being asked to open links that allow the attackers to enter their or the institution's system."

This situation can be transposable from one member country to another especially since most countries in the region don't have strong cyber security laws. As noted by respondent (R5), "The slow pace by African countries to formalise regional and international protocols governing cyber crime can have detrimental implications. This can mean that a cyber crime incidence that occurs in one country, can easily find its way in another."

Still a general lack of technical know-how, and a narrow level of awareness of ICT- related security issues by diplomats and delegates further aggravates the situation. In this regard, respondent (R6) confirmed that,

"Advanced skillset and knowledge is missing in terms of dealing with cybercrime within the region. Worse still is that the level of understanding amongst stakeholders, in ICT security risks while engaging online, remains an issue."

Language Barriers

As digital communication relies on English as its lingua franca, it has been effective at enabling diplomatic reach and engagement – in many parts of the world. However, much as its widely accepted and used in cross-boundary diplomatic (online) engagement, there are some societies who interpret this language differently. This is usually because of their culture. Such nuances in language signify huge variances in perception, eventually leading to confusion between parties and ultimately exclusion. As noted by respondent (R4), "Even though there is a common language used in diplomatic circles that extends to our online engagement, there are occasions where language barrier makes it hard to shape and influence regional public opinion. You may think that your message has reached far and wide. But, it is not unusual to find that your message, because of the common language, has marginalised others."

Still, the issue of language interpretation was highlighted, but the question of the means to do it effectively, and in what framework presented an issue. This was highlighted by respondent (R1) when he noted, "In physical setting it is easier to engage interpreters, but language interpretation is challenging as it is hard to know or what language to interpret to, considering the massive and varied reach of the institution."

Generational and Digital Divide

Despite the uptake and transformation of digital diplomacy, there are several diplomats who haven't fully embraced this change. As highlighted by respondents (R2, R7), "the older generation of diplomats are against the idea of adapting ICT tools in diplomacy, as it goes against the traditional rules of diplomacy – this is despite social media boosting two-way communication with the public." Thus, if such diplomats do not perceive the web as a network for exchanging opinions, they may be indifferent to the comments posted on a social networking site (SNS) by a user.

Still, there are several countries that have poor ICT infrastructure compared to other countries. This makes it difficult to reach people in such countries. As confirmed by respondent (R4) "while we may be using the digital platforms to advance diplomacy, the reality is that not all COMESA member countries have the equal access to digital technologies. This presents a gap that inhibits diplomats (field officers) or the institution from successfully promoting various programmes or gaining useful insight that may be adopted into the process of policy formulation."

COMESA's Regional Strategy and Strategic Communication

The quest to develop public awareness and stakeholder support in the twenty-one (21) member states has been the main drive towards strengthening COMESA's strategic communication. The regional organisation's strategic communications document, for instance, was developed in the context of a progressively digitalised world (Communication Strategy, 2022). Still, the regional institution recognises the fact that the COVID-19 pandemic irreversibly changed the way the world connects, impacting what were once physical engagements to online interactions.

Within the strategic document, the organisation enlists social media as part of its external communications tactics repertoire. Thus, it notes that to realise an effective social media strategy, it is crucial to employ social media management tools to jointly execute campaigns beyond several social media platforms including LinkedIn, YouTube, Instagram, Facebook and X (formerly twitter). Additionally, the institution recognises that using a social media strategy without these tools turns out to be time-consuming, ineffective and quite costly. Thus, these tools help with posts and campaign scheduling, listening and monitoring activities, as well as overall analysis.

COMESA's Social Media Communication Tendencies

Social Media Channels Popularity

In terms of COMESA's social media platform popularity – among its followers, LinkedIn is the most popular with 19,000 followers. Facebook is the second most popular with 17,000. The third most popular is X with 15,100 followers, while YouTube is fourth, with 694 followers. The regional organisation doesn't have an Instagram, TikTok, Telegram or WhatsApp channel. This is as shown in Figure 1.

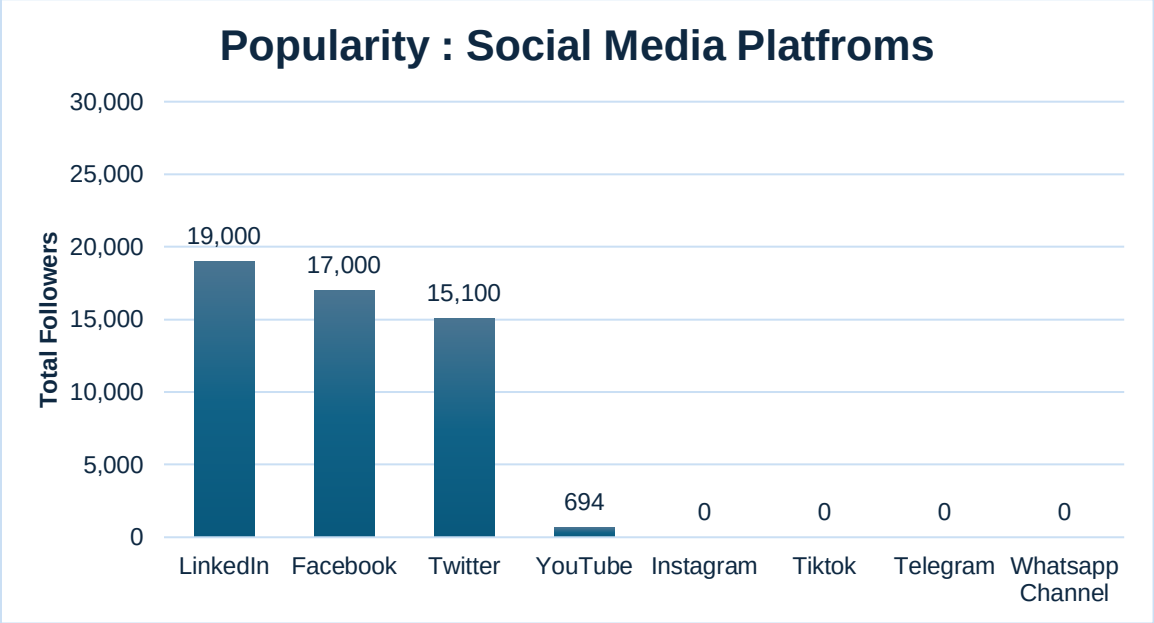

Figure 1: Popularity of COMESA's social media platforms

Interactive Strategies: X (Twitter) Behaviour and Discourse Analysis

The total number of tweets (Ts), retweets (RTs), comments and photos (images) collected in 2022, were 178, 990, 85 and 80 respectively. In 2023, the total Ts, RTs, comments and photo (images) were 198, 773,106 and 90 respectively. Further, in 2024, the total Ts, RTs, comments and photo (images) were 131, 403, 207 and 63 respectively. This is as displayed in Figure 2.

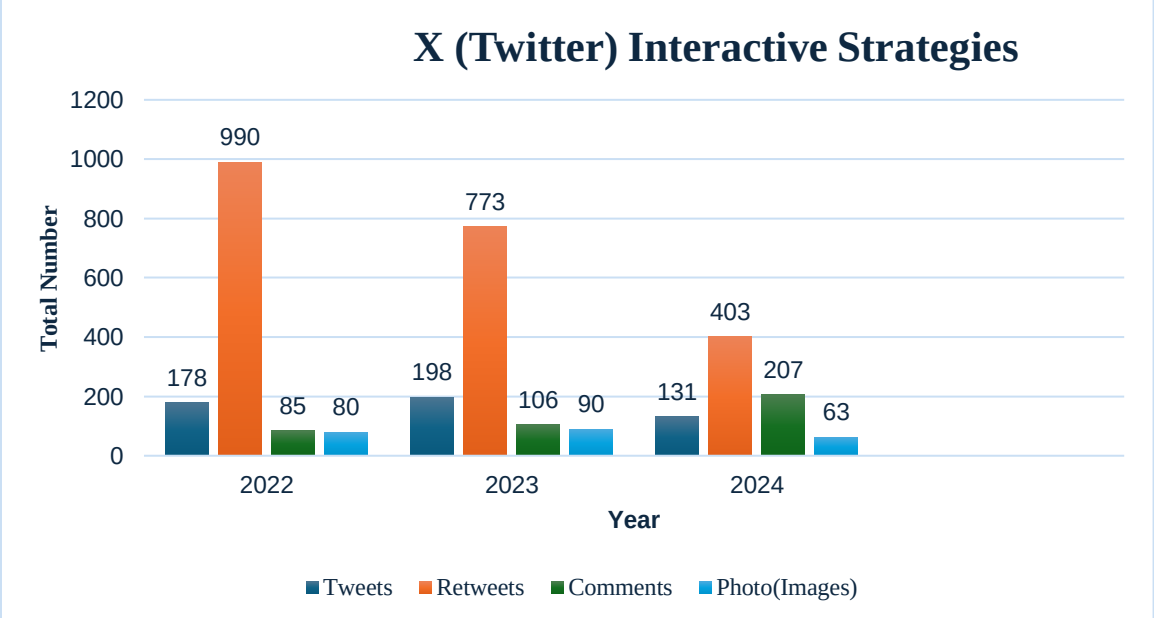

Figure 2: COMESA's interactive strategies on X (Twitter)

The primary internal sources of retweets include, the COMESA field officers (representatives), COMESA agencies and COMESA spokespeople (Secretary General & Ass. Secretary General). On the other hand, the key external sources of retweets include, industry professionals, media (news) blogs, industry bodies and international non-governmental organisations (INGO's). Other notable external retweet sources include, regional organizations, foreign missions, foreign affairs ministers, regional associations, regional body representatives, diplomats and regulatory bodies. This is as displayed in Table 1.

Table 1: Sources of COMESA's retweets - Internally and Externally

Retweets Sources	**2022**	**2023**	**2024**
COMESA Internal Sources	COMESA SG (spokesperson), COMESA agencies COMESA field officers and/or reps COMESA	COMESA SG/Ass. SG (spokespeople) COMESA programmes COMESA agencies (@ Comesa_Business Council, @Comesa COMESA field officer and or/reps	COMESA agencies COMESA field officers and/or reps. COMESA agencies (@ Federation of Women in Business, @Comesa_Comission)
COMESA External Sources	INGO's (@IOM, Save the Children) International bodies (@ World Bank, AfDB, AGRA) Regional Organisations (SADC, EAC, IGAD) Business forums	Industry professionals Foreign Missions Regional Diplomats Industry bodies INGO's Industry professionals Diplomats	Regional Organisations (@Comesa Competition commission, (@AU, IGAD) Regulatory bodies News blogs Regional body reps. Diplomats Foreign missions Industry bodies Industry professionals Government officials of member states

Discursive Strategies

The are a few notable activities (events), that feature as discursive strategies of COMESA. These events vary in frequency of occurrence – with given percentage values. Meetings have the highest occurrence at 32%. Workshops come in second at 29%. This is followed by partnerships at 20%. The fourth is trainings at 18% while other activities come in at 1%. This is as presented in figure 3.

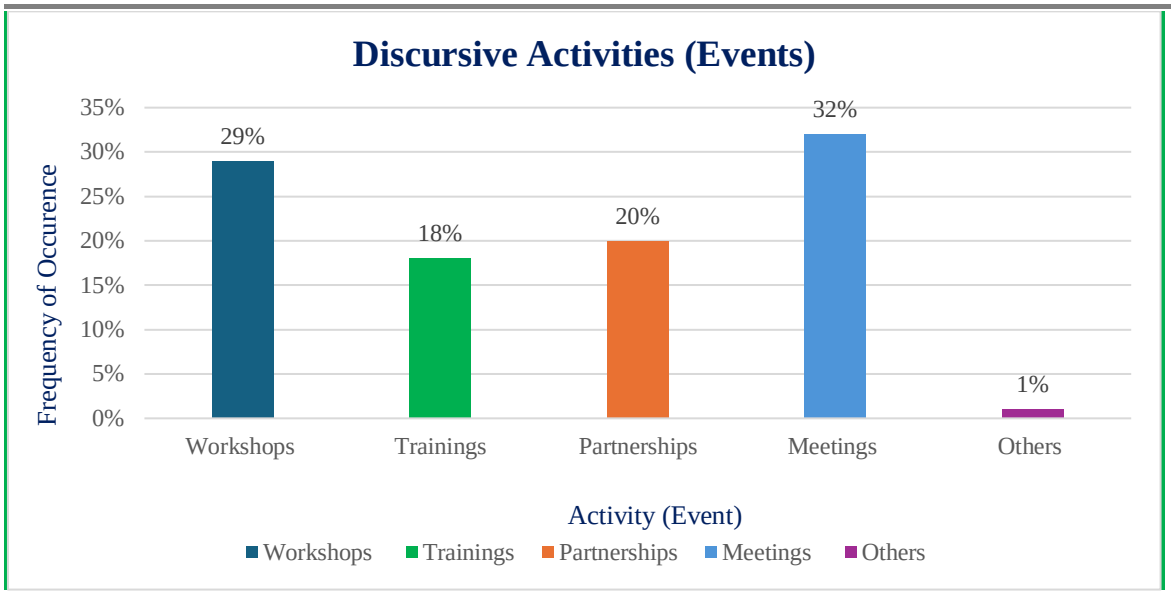

Figure 3: Discursive activities on X (Twitter)

Themes (Topics)

The discursive themes of the COMESA secretariat page features nine (9) key topics – with varied popularity in percentage values. Trade is the most popular theme at 25%. This is followed by Women (Gender) at 14%. Business, peace and security both come in third place at 12% each. The fourth place is held by Youth and ICT at 9% each, while elections and aviation (air transport) come in fifth, at 8% each. The sixth, is food sheet balance at 2% and other themes feature at 1%. This is as displayed in figure 2.

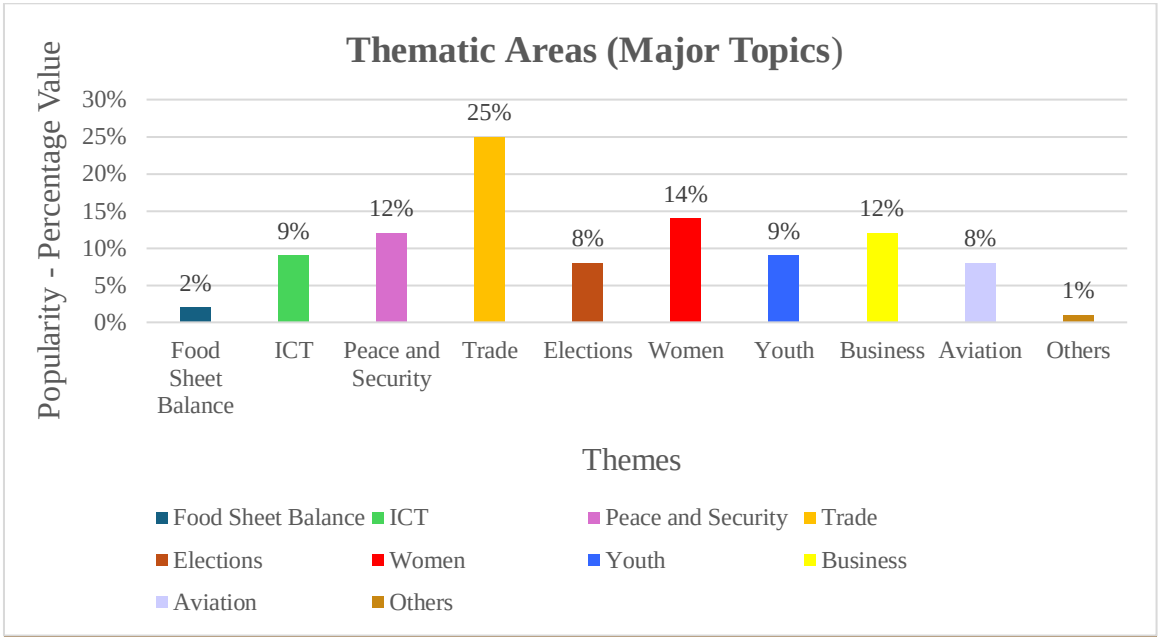

Figure 2: COMESA's Thematic areas (major discussed topics) on X (Twitter)

DISCUSSION

The outcomes of this research have highlighted how COMESA, has utilised digital diplomacy, to support its regional integration agenda. Specifically, the findings imply positive progress in the growth trajectory of COMESA's use of digital diplomacy on one hand, and existing challenges on the other.

The study's findings are consistent with a few other studies. First, Deos (2015) suggests that social media (digital diplomacy) can be utilised to maintain legitimacy, cultivate and strengthen relations in a dynamic

world. Similarly, as evidenced by this study, COMESA has progressively boosted its credibility and relations with both state and non-state actors through various social media platforms. Secondly, as a downside, Nengo (2016), notes the inability of several countries to boost their ICT architecture – because of financial challenges. A resulting effect is inadequate capacity of ICT (digital) skills for their populations – and diplomats as well. Equally, as noted from the results, inequality of member countries exists in ICT access within the COMESA region. Consequently, promotion of various public diplomacy programmes and feedback is hindered.

Other than similarities, the results present a key contradiction. Snow and Taylor (2009), suggest that states have for an extended period connected with overseas audiences, whenever they get a chance to advance political and economic objectives. However, their claim negates the results of this research, which highlight the difficulty in reaching audiences due to elements such as data overload, changing interests of audiences and platform limitations. This implies that while it may have previously been easier to acquire audiences, the changing nature of social media platforms and audiences' tastes, presents a growing challenge. Still, this finding, adds fresh insight, to the other general digital diplomacy challenges (Muaka, 2019) (Kasande, 2022) (Zou & Bilate, 2022).

Whereas this study provides understanding into how COMESA as a regional organisation in Africa, utilises digital diplomacy, it is limited to the COMESA region – in terms of scope. Thus, generalizability of the findings cannot be fully applied to other African regional organisations. This is because, while regional organisations have a common goal of regional integration, they mostly differ in their roles and structure. Hence, their digital diplomacy practices may also vary. Thus, avenues for future research of digital diplomacy in Africa should consider other regional organisations.

CONCLUSION

By conducting a qualitative and quantitative analysis, on how COMESA has executed its digital diplomacy practices, to achieve its objective of regional integration, this study has revealed clear growth, alongside prevailing challenges. Specifically, in terms of digital diplomacy benefits, the results established a boost of COMESA's regional and multilateral cooperation, development of its economic and trade agenda, alongside magnification of its public diplomacy. Conversely, findings showed digital diplomacy obstacles exist for COMESA: a changing media landscape in terms of algorithm alterations – has made it hard for it to adapt, audience targeting difficulties – due to their shifting preferences, regulated internet access – coupled with social media suppression, in addition to, language divide. In terms of COMESA's strategic external (social media) communication, findings suggest that the regional organisation hasn't effectively maximised its existing and available social media platforms, as well as trade, being the most discussed topic – amongst other themes.

Based on these findings, potential exists for COMESA to further leverage digital diplomacy, with an aim of bolstering its regional integration strategies. Key innovative approaches that need to be adopted include, expanding its online presence to incorporate other platforms, partnering with ICT development organisations, keeping abreast with social media algorithm changes, internal digital communication (media) trainings, regular online conversation rich content strategies (hosting X spaces, webinars) and sharing of videos (impact, long form and live videos) – especially during various events.

REFERENCES

1. Adesina, O, S. (2016) "Foreign Policy In An Era Of Digital Diplomacy," African Journal For The Psychological Study Of Social Issues, vol 19, number 3, http://ajpssi.org/index.php/ajpssi/article/viewFile/198/pdf_150
2. Adesina, O. S. (2017). Foreign policy in an era of digital diplomacy. Cogent Social Sciences, 3(1), 1297175. doi:10.1080/23311886.2017.1297175
3. Aliyeva, A., (2024 February 5). Media: Japanese diplomatic correspondence network hacked by Chinese hackers. AZER. https://www.azernews.az/region/221271.html

4. Azócar, A, D., & Erlandsen, M., (2022). "Digital Public Diplomacy in Latin America: Challenges and Opportunities". Revista Mexicana De Política Exterior, No. 113 (March):1-17. https://revistadigital.sre.gob.mx/index.php/rmpe/article/view/272.
5. Berridge, G., (2021 April 5). Digital and diplomacy: Pandemic videoconferencing levels off at low institute. Diplo. https://www.diplomacy.edu/blog/digital-and-diplomacy-pandemic-videoconferencing-levels-off-at-low-altitude/
6. Bjola, C. & Holmes, M., ed. (2015). Digital Diplomacy: Theory and Practice. New York: Routledge.
7. Chan, S. (2017). Mediations on Diplomacy: Comparative Cases in Diplomatic Practice and Foreign Policy. England: E-International Relations Publishing.
8. COMESA Communication Strategy 2022-2025. (2022, January 15). https://www.comesa.int/wp-content/uploads/2024/01/COMESA-Communication-Strategy-2022-2025-EN.pdf
9. Cull, N., (2011). Wikileaks, Public diplomacy 2.0 and the state of digital diplomacy. Place branding and public diplomacy. Vol 7. pp 1-8.
10. Deos, S., A. (2015). Digital Diplomacy & Social Capital. New Zeland: University of Otago.
11. Diplo (2021). 20+ years of Digital diplomacy. Diplo. https://www.diplomacy.edu/topics/digital-diplomacy/
12. Dizard, W., & Fischer, B. (2001). Digital Diplomacy: US Foreign Policy in the Information Age International Journal Canada s Journal of Global Policy Analysis 56(3):552 DOI:10.2307/40203598
13. Edong, F, P. (2020). Digitization of African Public diplomacy: Issues, Challenges, Opportunities. International journal of digital society (IJDS), Vol 11, (2).
14. Fasinu, S, E., & Olaniyan, T, J, B., (2024). Digital diplomacy in the age of social media: challenges and opportunities for crisis communication. African journal of social sciences and humanities research. Vol 7. (3).
15. Goldstein, S., J. (2003). Marrëdhëniet Ndërkombëtare. Botimi i 4-të. Tiranë: Dituria
16. Golan, J., G., Yang S.,U. & Kinsey F., D., ed.(2015). International Public Relations and Public Diplomacy: Communication and Engagement. New York: Peter Lang Publishing.
17. Ghazouane, M, M., &Katman, Filiz. (2022). Digital Diplomacy, an improvement for the public diplomacy transformation during the twenty first century European union case. International research journal of modernization in Engineering technology and science. Vol 4. (5).
18. Hansen, F., (2012). Revolution @State: The Spread of Ediplomacy. Lowy institute for international policy.
19. Hutchings, R. & Suri, J., ed. (2015). Foreign Policy Breakthroughs: Cases in Successful Diplomacy. UK: Oxford University Press.
20. Intentilia A, A., Haes, E, P., & Suardana, G., (2022). Utilizing digital platforms for diplomacy in ASEAN: A preliminary overview. Journal of Communication Studies and Society. Vol. 1, No. 1, pp. 1-7.
21. Jönsson, C., & Hall, M., (2005). Essence of Diplomacy. USA: Palgrave MacMillan
22. Kesande, C., (2022). The benefits and risks of digital diplomacy on Uganda's diplomatic practice in the 21st century. Master's Thesis. Makerere University.
23. Latour, B. (2017). Science in Action: How to Follow Scientists and Engineers Through Society. Cambridge, MA: Harvard University Press.
24. Lee-Lassiter, S., (2019, May 14). The case of Harassing a UN Diplomat via 1,000s of text messages. Pass Blue. https://www.passblue.com/2019/05/14/the-case-of-harassing-a-un-diplomat-via-1000s-of-text-messages/
25. Manby, A., McConnel, F., (2024). Digital geographies of diplomacy: The uneven digital mediation of spaces and encounters at the UN Human Rights Council. Political Georgrpahy. Vol 113.
26. Manumwa, T., (2023). The digital transformation of diplomacy: implications for the African union. East African scholars journal of Education, humanities and Literature. Vol 6. (8).
27. Marks, S., & Freeman, W, C., (2024 September 13). The spread of the Italian diplomatic system. Britanica. https://www.britannica.com/topic/diplomacy/The-Concert-of-Europe-to-the-outbreak-of-World-War-I
28. McGlinchey, S., ed. (2017). International Relations. England: E-International Relations Publishing.
29. Mingst, A., K. (2008). Bazate Marrëdhënieve Ndërkombëtare. Tiranë: Albanian Institute for International Studies.

30. Muaka, D, T., (2019). The role of social media in facilitating diplomatic engagements in east Africa. A comparative study of Kenya and Rwanda. Masters's Thesis. Nairobi University.
31. Nengo, G., (2016). An assessment of the role and impact of technology on diplomacy and foreign policy. Master's Thesis.
32. Nweke, E, N., (2012). Diplomacy in Era of Digital Governance: Theory and Impact. In information and knowledge management, 2 (3):22-26
33. Potter, E. H. (2002). Cyber-diplomacy: Managing foreign policy in the twenty-first century. Ontario: McGill-Queen's Press.
34. Rashica, V., (2018). "The Benefits and Risks of Digital Diplomacy,", South East European University Review, vol. 13, number 1, pp. 75-89, 2018, doi: 10.2478/seeur-2018-0008.
35. Reka, B., Bashota, B. & Sela, Y. (2016). Marrëdhëniet Ndërkombëtare. Shkup: Instituti
36. për Studime Politike dhe Ndërkombëtare.
37. Robertson, J. (2021, October 13). Zooming out of digital diplomacy. The Illustrator. https://www.lowyinstitute.org/the-interpreter/zooming-out-digital-diplomacy
38. Riordan, S., (2017 March 27). Digital diplomacy in 2016: The need for strategy. University of South Carolina. https://uscpublicdiplomacy.org/blog/digital-diplomacy-2016-need-strategy
39. Russo, P., (2013). Digital diplomacy in the middle east and north Africa. University of South Carolina. Foreign, Commonwealth and development office. https://blogs.fcdo.gov.uk/pipparusso/2013/02/28/digital-diplomacy-in-the-middle-east-and-north-africa/#:~:text=The%20Arab%20Spring%20really%20did,information%20about%20UK%20foreign%20policy.
40. Salmon, C. T., ed. (2000). Issues in International Relations. UK: Routledge
41. Sandre, A. (2013). Twitter for Diplomats. Switzerland: DiploFoundation
42. Siracusa, J, M., (2010). Diplomacy a very short introduction. Oxford: Oxford university Press.
43. Snow, N., & Taylor, P, M., (Eds.) (2009). Routledge handbook of public diplomacy. London, UK: Routledge.
44. Sakellariadis, J., (2023 July 20). Top American diplomats on China swept up in Microsoft email hack. Politco. https://www.politico.com/news/2023/07/20/diplomats-microsoft-hack-china-00107508
45. Tuch, N, H., (1990). Communicating with the World: U.S. Public Diplomacy Overseas. Washington: Institute for the Study of Diplomacy.
46. Yahya, T., (2016). "Digital Diplomacy, Sebuah Kebutuhan Mendesak,". Detik News. https://news.detik.com/kolom/d3194614/digital-diplomacy-sebuah-kebutuhan-mendesak
47. Yakovenko, A. (2012 September 7). Russian digital diplomacy: Clicking through. Russia Beyond. https://www.rbth.com/articles/2012/09/06/russian_digital_diplomacy_clicking_through_18005.html
48. Zou, X. & Bilate, G, T. (2022). Digital Diplomacy and implementation challenges in Africa: Case study of Ethiopia. Journal of African Foreign Affairs. Vol. 9, No. 2.
49. Snow, N., & Taylor, P. M. (Eds.). (2009). Routledge handbook of public diplomacy. London, UK: Routledge.
50. Snow, N., & Taylor, P. M. (Eds.). (2009). Routledge handbook of public diplomacy. London, UK: Routledge.
51. Snow, N., & Taylor, P. M. (Eds.). (2009). Routledge handbook of public diplomacy. London, UK: Routledge.
52. Ziemkendorf, M. (2017). Actor Network Theory. Norderstedt: Druck und Bindung Press.