

Influence of Digital Technologies on Diplomatic Practices within the Framework of Food Sovereignty and Continental Policy in Africa

Venter Nkatha Mwongera¹, Salvatore Fava (Ph. D)², Dr. Sabrina Mazza Ph. D³

¹Selinus University of Science and Literature

info[at]selinusuniversity.it

+254724964107

Email: nkathaventer569[at]gmail.com

²Professor, Selinus University of Science and Literature

info[at]selinusuniversity.it

³Selinus University of Science and Literature

info[at]selinusuniversity.it

Abstract: *This doctoral thesis intricately explores the influence of digital technologies on diplomatic practices within the framework of food sovereignty and continental policy in Africa. It navigates knowledge exchange, regional cooperation, citizen engagement, and the imperative task of bridging the digital divide. Drawing insights from interviews with various experts such as diplomatic practitioners, policymakers, and food sovereignty experts, augmented by a comprehensive analysis of Twitter data and internet usage patterns, the research unveils the practical implications and challenges entwined with the digital transformation of diplomacy. The findings illuminate the pivotal role of digital diplomacy in cultivating knowledge exchange and collaboration among stakeholders, emphasizing key concepts such as "food sovereignty," "agricultural innovation," "technology transfer," and "sustainable farming." Leveraging digital platforms emerges as a strategic imperative for policymakers, fostering spaces for informed decision-making and contributing to enhanced agricultural productivity, thereby aligning with international development targets, agreements, and conventions such as the SDGs 2, 13, and 15 on Zero Hunger, Climate Action, and Life on Land besides biodiversity conservation. In addressing challenges, the study proposes recommendations encompassing investments in digital literacy, the establishment of online platforms, and the encouragement of public-private partnerships. These measures collectively empower stakeholders, enhance collaboration, and foster transparent decision-making processes in the agricultural sector. Central to the research is the exploration of regional cooperation and policy coordination facilitated by digital diplomacy. The study reveals the potential of digital platforms to facilitate regional dialogue, policy alignment, and partnerships among diverse actors. Recommendations advocate for dedicated digital platforms, social media utilization, and strategies to enhance regional collaboration, crucial steps toward achieving sustainable agriculture. To achieve the set objectives, this study employed a mixed-methods research methodology. Integrating both qualitative and quantitative approaches, the research design incorporated in-depth interviews with various respondents. Purposive sampling and snowballing techniques guided participants' selection, ensuring a diverse range of perspectives from respondents. Data collection instruments included semi-structured interviews, questionnaires, and focused group discussions, enabling a comprehensive exploration of respondents' viewpoints. Ethical considerations underscored voluntary participation, informed consent, and confidentiality, aligning with the ethical standards of Selinus University. Simultaneously, Twitter data analysis was conducted to unravel digital discourse trends. Thematic analysis of qualitative data and content analysis of Twitter data formed the bedrock of data interpretation while maintaining the study's robustness and validity. The seamless integration of ethical guidelines and methodological rigor contributed to a comprehensive understanding of the digital diplomacy landscape in African agricultural governance. Citizen engagement and accountability emerge as fundamental pillars, empowered by digital diplomacy. The study underscores the role of citizens, particularly farmers, in shaping agricultural policies through active participation in online discussions. Recommendations include the development of user-friendly mobile applications and virtual town hall meetings, ensuring citizens play a central role in decision-making processes. Bridging the digital divide becomes a critical imperative to ensure equitable participation in the digital diplomacy landscape. The study outlines strategies to expand internet connectivity, develop mobile-based services, and promote community-based digital initiatives, aiming to enable marginalized communities, small-scale farmers, and women to meaningfully participate in digital diplomacy initiatives.*

Keywords: Digital Technology, Diplomacy, Implications, Food Sovereignty, Continental Policy, Africa

1. Introduction

The paradigm shift instigated by the digital transformation has irrevocably altered the terrain of diplomatic practices, heralding an era distinguished by unparalleled connectivity and information exchange among states, non-state entities, and international organizations. As posited by Fisher (2018) and Castells (2015), the advent of digital technologies has not merely redefined traditional norms in diplomacy but has also endowed diplomats with innovative avenues for engaging in

real-time discussions, participating in virtual meetings, and accessing an abundance of information seamlessly.

Berridge (2020) delves deeply into the transformative dimensions of digital diplomacy, accentuating its capacity to dismantle longstanding barriers and instill transparency in diplomatic proceedings. This transformative prowess extends beyond conventional state-to-state interactions, transcending borders to establish direct channels of communication between diplomats and citizens. The integration of digital tools has consequently given rise to a

Volume 13 Issue 2, February 2024

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

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diplomatic landscape characterized by heightened accessibility and active citizen participation.

Furthermore, the profound impact of digital diplomacy on fostering international collaboration is underscored by the scholarly contributions of Smith (2019) and Jones (2021). Smith's research meticulously explores the facilitation of multilateral dialogues through digital platforms, illustrating the efficacy of virtual forums in addressing global challenges. Jones, on the other hand, sheds illuminating light on the pivotal role of social media in shaping diplomatic narratives and influencing public opinion on a global scale.

Statement of the problem

While the digital transformation has undeniably redefined diplomatic practices and international relations, a significant lacuna exists in comprehending the implications of this evolution for food sovereignty and continental policy, particularly within the African context. Despite the growing acknowledgment of the transformative potential of digital technologies in diplomacy (Fisher, 2018; Castells, 2015) and their demonstrated impact on food sovereignty and continental policy (Dafe, 2017; Smith et al., 2021), a research void persists in systematically exploring the intersection of these critical domains.

The problem statement centers on the imperative to address this gap in scholarly research. While extant studies provide insights into the transformative impact of digital technologies on diplomacy (Jones, 2021; Fisher, 2018) and their role in promoting sustainable agriculture (Smith et al., 2021), a systematic investigation that interconnects these dimensions is essential. The intersection of digital diplomacy, food sovereignty, and continental policy represents uncharted territory, necessitating scholarly attention to unravel its complexities and discern the challenges and opportunities it presents (Nye, 2021).

The absence of a nuanced understanding of how digital tools influence diplomatic relations concerning food sovereignty, and how these dynamics interact with continental policy frameworks, impedes the formulation of effective strategies for leveraging technology in the pursuit of sustainable agriculture and food security. This research seeks to bridge this gap by unravelling the intricacies of the digital transformation of diplomacy and its ramifications for food sovereignty and continental policy in Africa. Through rigorous examination and empirical analysis, this study aims to provide a comprehensive understanding of the challenges posed and the potential benefits accrued at the intersection of these critical domains.

As such, the research problem encapsulates the pressing need for a thorough exploration of the digital transformation of diplomacy in the context of food sovereignty and continental policy, particularly in Africa, shedding light on the intricate interplay between technological advancements, diplomatic practices, and agricultural governance. Addressing this problem is crucial for advancing scholarly knowledge, informing policy decisions, and contributing to the sustainable development agenda in the African continent and beyond.

Research Objective

To examine the influence of digital technologies on diplomatic practices within the framework of food sovereignty and continental policy in Africa

2. Theoretical Framework

Technological Determinism

Technological Determinism framework suggests that technological advancements play a significant role in shaping social and political change. It asserts that changes in technology drive shifts in various aspects of society, including diplomatic practices, policy formulation, and decision - making processes. This framework is highly relevant to the study of the digital transformation of diplomacy and its implications for food sovereignty and continental policy. Technological Determinism is a theoretical framework that has been developed and discussed by various scholars over time. However, it does not have a singular proponent associated with its origin. Instead, it has evolved through the contributions of multiple researchers and thinkers in the fields of sociology, communication studies, and technology studies.

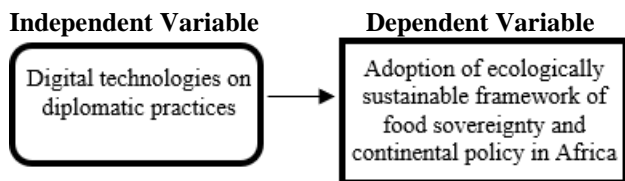
In the context of this research, Technological Determinism serves as a crucial lens through which to scrutinize the profound impact of specific digital technologies on diplomatic practices and policy formulation regarding food sovereignty and continental policy. The advent of transformative technologies such as blockchain, the Internet of Things (IoT), and data analytics introduces a dynamic paradigm shift in diplomatic approaches. Recognizing the disruptive potential inherent in these technologies, this theoretical framework acknowledges their capacity to reshape traditional diplomatic methodologies. Blockchain, with its decentralized and transparent nature, redefines trust and traceability in the agri - food supply chain. IoT brings real - time data from agricultural processes, enhancing decision - making in policy formulation. Data analytics, by processing vast datasets, informs nuanced policy strategies. Thus, Technological Determinism unveils the transformative potential of these technologies, ushering in new dimensions of engagement, collaboration, and decision - making within the diplomatic landscape.

Overall, the application of the Technological Determinism framework within this study serves as a pivotal tool in unravelling the intricate impacts of the digital transformation of diplomacy on initiatives related to food sovereignty and continental policy. By delving into the multifaceted relationship between technological advancements and diplomatic practices, this theoretical lens offers a nuanced comprehension of the transformative effects that unfold within this evolving landscape. The framework adeptly navigates the complexities inherent in the intersection of digital technologies, diplomatic processes, and the governance of agriculture. Through this lens, the study gains a comprehensive understanding of how emerging technologies reshape traditional diplomatic norms, providing insights into the potential disruptions and innovations that these advancements introduce. In essence, Technological Determinism emerges as a critical analytical tool, illuminating the dynamic and transformative dimensions that

characterize the interplay between the digital transformation of diplomacy, food sovereignty, and continental policy

3. Conceptual Framework

The study adopted the following conceptual framework:



Source: Author 2024

Digital Technologies in Promoting Food Sovereignty

In the ever - evolving landscape of agricultural practices and global governance, the infusion of digital technologies has emerged as a dynamic force shaping the discourse on food sovereignty. This section delves into the multifaceted role of digital technologies in the promotion of food sovereignty, an exploration that resonates at the intersection of technological innovation, agricultural sustainability, and socio - economic empowerment. As the world grapples with the complexities of ensuring equitable access to nutritious food while addressing the challenges posed by climate change and global economic dynamics, the lens of digital technologies offers a nuanced perspective.

Several scholars have highlighted the potential of digital platforms in enhancing market access for small - scale farmers. Brassard and Hommels (2018) discuss how digital platforms facilitate direct connections between producers and consumers, bypassing intermediaries and enabling fairer pricing mechanisms. Such platforms provide small - scale farmers with the opportunity to reach wider markets, thereby increasing their income and improving their economic resilience. The use of blockchain technology has also gained attention in promoting transparent and decentralized food systems. Huybrechts and Lambrecht (2018) explore how blockchain can enable traceability and trust in the food supply chain. By recording transactions and verifying product origins, blockchain technology enhances food sovereignty by empowering consumers to make informed choices and supporting local producers. Furthermore, mobile applications, Information, and Communication Technologies (ICTs) have played a crucial role in empowering farmers with knowledge and resources. For instance, Rambaldi et al. (2016) discuss the use of mobile applications to provide agricultural advice, weather updates, and market information to farmers in developing countries. These digital tools enable farmers to make informed decisions, adopt sustainable practices, and mitigate risks, ultimately contributing to food sovereignty.

The emergence of open data and open - source platforms has also facilitated knowledge - sharing and collaboration among diverse stakeholders in the food system. Projects like the Open Food Network (OFC) have leveraged digital technologies to create decentralized networks of producers, consumers, and distributors (Morgan et al., 2019). By promoting transparent supply chains and local food networks, the OFC supports food sovereignty objectives by fostering community engagement and empowerment. Moreover,

digital technologies have facilitated the growth of alternative food systems, such as Community - Supported Agriculture (CSA) and online farmers' markets. These platforms enable consumers to connect directly with local farmers, fostering relationships and promoting sustainable, locally sourced food (Pimbert, 2017). Through these initiatives, digital technologies contribute to food sovereignty by redefining relationships between producers and consumers and supporting localized food production.

4. Research Methodology

The research embraced a mixed - methods approach, synthesizing qualitative and quantitative techniques to undertake a thorough exploration of the intricate dimensions characterizing digital technology's diplomatic practices within the framework of food sovereignty and continental policy in Africa. Qualitative methodologies, encompassing in - depth interviews conducted with diplomatic practitioners, policymakers, and experts in the field of food sovereignty, served as a means to derive nuanced insights into the practical implications and challenges arising from this transformative phenomenon. Concurrently, the quantitative strand entailed the analysis of Twitter data, facilitating an examination of digital discourse to discern prevalent themes and trends pertaining to knowledge exchange, regional cooperation, citizen engagement, and the digital divide within the context of diplomatic activities. This comprehensive methodological integration aimed to offer a holistic understanding of the diverse facets surrounding the intersection of digital technologies and diplomatic practices. The quantitative aspect extended to an extensive online questionnaire, engaging a broader audience and enhancing the research's breadth and depth.

The instrument for data collection was a questionnaire administered to sampled respondents. The structure of the instrument included both closed - ended and open - ended questions. Data processing and analysis were done based on qualitative and quantitative methods. The qualitative data gathered by the use of questionnaires and interviews were analyzed by means of comparison with documented information about the use of newspapers. Quantitative data were analyzed using the Statistical Package for Social Science (SPSS version 21). Multiple regression analysis was conducted to establish the relationship between the newspaper information dissemination platform and the adoption of ecologically sustainable agricultural farming methods. The qualitative research paradigm employed in this study encompassed semi - structured interviews, involving the administration of questionnaires, as well as FGDs, the latter of which were facilitated through questionnaire - based interactions. The administration of questionnaires and FGDs allowed for a comprehensive exploration of participants' perspectives. Additionally, the researcher adopted a snowball sampling technique, leveraging its recursive nature to elicit insights from a diverse array of subject matter experts, thereby augmenting the depth and breadth of the research findings.

The qualitative data underwent a meticulous thematic analysis, aligning with Braun and Clarke's (2006) methodological framework. This analytical approach

facilitated the systematic identification of recurring patterns, emergent themes, and nuanced insights gleaned from diverse data collection methodologies employed. Concurrently, the quantitative facet involved the application of content analysis to the dataset sourced from Twitter. This analytical process encompassed the utilization of coding schemes to categorize and interpret prevailing themes within the realm of digital discourse on topics related to food sovereignty, continental policy, and digital diplomacy. The strategic triangulation of findings derived from both qualitative and quantitative analyses served to fortify the study's conclusions, enhancing the overall robustness and validity of the research outcomes.

5. Results and Discussions of the Findings

The collected data underwent a rigorous thematic analysis, a methodological framework designed to discern recurring themes, patterns, and conceptual underpinnings embedded within the dataset. Employing a systematic coding process, segments of the data were assigned descriptive codes, capturing the intrinsic essence of the information. These codes were then adeptly organized into overarching themes and nuanced sub - themes, laying the foundation for the study's insightful findings and consequential conclusions.

Digital technologies, including popular social media platforms such as Twitter, Facebook, and others, are perceived as highly promising tools for empowering local communities and small - scale farmers in the context of ensuring food sovereignty, according to respondents. Twitter, with its real - time and concise communication features, is recognized for fostering quick information dissemination, connecting farmers, and enabling dialogue among diverse stakeholders. Similarly, Facebook is acknowledged for its broader reach, allowing for the creation of communities, sharing of agricultural knowledge, and facilitating discussions on sustainable farming practices. WhatsApp, noted by some respondents, serves as a valuable tool for direct communication, sharing multimedia content, and organizing local farmer groups. However, experts emphasize the need for tailored strategies considering regional preferences and demographics to maximize the impact of these platforms. This recognition of diverse digital tools signifies their potential to contribute to the empowerment of farming communities and advancing food sovereignty goals.

Enhancing Knowledge Exchange and Agricultural Productivity

Within this segment, analysis was conducted on data extracted from Twitter, specifically centred on knowledge

exchange and agricultural productivity. The focal points of examination encompassed the AU, ABN, EU Council, and UN Biodiversity. The overarching objective of this analysis was to discern the prevailing topics within the discourse and gauge the level of engagement among Twitter users dedicated to fostering knowledge exchange and augmenting agricultural productivity. Through a methodical examination of user interactions and content themes, the study sought to illuminate the contours of discussions shaping these crucial facets, providing a nuanced understanding of the digital discourse surrounding knowledge exchange and its implications for advancing agricultural productivity.

Top Words Overall

By analyzing the most frequently used words in tweets related to knowledge exchange and agricultural productivity, we gain insights into the key themes and topics of discussion. Words such as "food sovereignty," "agricultural innovation," "technology transfer," "capacity building," "protect nature climate," and "sustainable agriculture" may emerge prominently, reflecting the importance of these concepts in the digital discourse.

Top Organizations Mentioned

Identifying the organizations that are frequently mentioned in tweets related to knowledge exchange and agricultural productivity will help in understanding the key actors involved in promoting these initiatives. The analysis may highlight organizations such as research institutions, international organizations, agricultural associations, and government agencies. By identifying these organizations, we can assess the level of collaboration and partnerships in promoting agricultural knowledge exchange.

Engagement Rates

The systematic evaluation of engagement rates in tweets pertaining to knowledge exchange and agricultural productivity allowed the research to gauge the levels of interest and interaction among Twitter users. By examining various metrics, including likes, retweets, and comments received, the study identified the topics and messages that resonated with the digital audience. This analytical approach unveiled the priorities and concerns of Twitter users concerning knowledge exchange and agricultural productivity, providing valuable insights into the prevailing dynamics of interest and interaction within the historical digital discourse.

Graphs and Tables

To enhance the presentation of the findings, various figures and tables will be used as shown below.

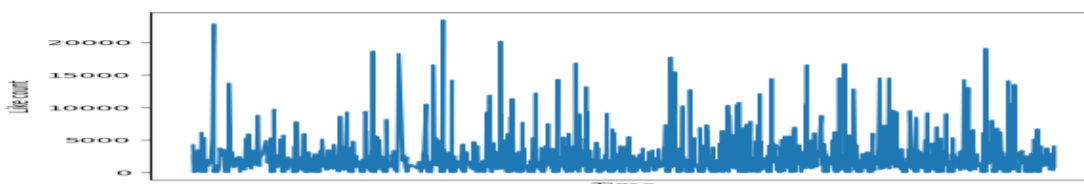


Figure 1: Like Count over Time for Tweets on Knowledge Exchange and Agricultural Productivity.



Figure 2: Retweet Count over Time for Tweets on Knowledge Exchange and Agricultural Productivity.

6. Summary

The findings suggest that digital diplomacy can play a crucial role in facilitating knowledge exchange and collaboration among stakeholders. By leveraging digital platforms, policymakers and practitioners can create spaces for knowledge sharing, build partnerships, and promote technology transfer in the agricultural sector. This can lead to enhanced agricultural productivity, improved farming practices, and ultimately contribute to achieving food sovereignty in Africa.

7. Conclusions

The study concludes that bridging the digital divide emerges as a critical imperative for equitable participation in the digital diplomacy landscape. Acknowledging the presence of a digital divide, signified by limited online presence in certain regions and communities, the study advocates for targeted efforts. Recommendations include expanding internet connectivity, developing mobile - based services, investing in digital infrastructure, and promoting community - based digital initiatives. These strategies seek to ensure that marginalized communities, small - scale farmers, and women have equal opportunities to participate meaningfully in digital diplomacy initiatives.

In summation, this study contributes nuanced insights into the transformative role of digital diplomacy in shaping sustainable agricultural practices. By tackling challenges and embracing the outlined recommendations, stakeholders, comprising policymakers, practitioners, and citizens, can collectively chart a digital course toward a more resilient, inclusive, and sustainable agricultural sector. Through knowledge exchange, regional cooperation, citizen engagement, and bridging the digital divide, digital diplomacy evolves beyond being a mere tool, becoming a catalyst for positive change, innovation, and the advancement of food sovereignty in Africa.

8. Recommendations

To fully harness the potential of digital diplomacy for knowledge exchange and agricultural productivity, it is imperative to invest in digital literacy programs and capacity - building initiatives. Empowering farmers and other stakeholders with the necessary skills to effectively utilize digital tools is crucial. By doing so, they can leverage available resources and technologies to enhance agricultural productivity and contribute to sustainable farming practices. Additionally, policymakers should explore the use of online platforms, webinars, and virtual conferences to facilitate knowledge exchange and collaboration among experts, researchers, and practitioners in the agricultural field.

9. Specific recommendations

- 1) Develop digital literacy programs: Policymakers should invest in digital literacy programs and capacity - building initiatives to empower farmers and other stakeholders with the necessary skills to effectively utilize digital tools. These programs should focus on enhancing digital literacy and providing training on utilizing digital platforms for knowledge exchange and collaboration.
- 2) Develop user - friendly mobile applications: Policymakers should prioritize the development of user - friendly mobile applications that enable citizens to access information, receive updates, and engage in participatory decision - making processes. These applications should be accessible across different devices and available in local languages to ensure inclusivity.
- 3) Provide training on digital platforms: Policymakers should provide training and capacity - building programs to citizens, particularly farmers and rural communities, on effectively using digital platforms for engagement and decision - making. These programs should focus on building digital skills, fostering digital literacy, and promoting the responsible use of digital technologies.

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