

# The Problematic of Method in Media and Communication Research: Between Traditional Approaches and the Challenges of Artificial Intelligence\*

Ayed Hanane <sup>1</sup>,

1-(Affiliation): Faculty of Media and Communication, Laboratory of Media Legislation and professional Ethics in Algeria, University of Algiers 3, Algeria.

Email: ayad.hanane@univ-alger3.dz



How to cite this paper: Author 1, Author 2, & Author 3 (2026). Paper Title. \*\*\*\*, \*, \*\*- \*\*.

[https://upd.doi.org/10.4236/\\*\\*\\*.2020.\\*\\*\\*\\*](https://upd.doi.org/10.4236/***.2020.****)

Received: 07-07-2025

Accepted: 22-01-2026

Published: 10-06- 2026

Copyright © 2026 by author(s) and Mohamed Boudiaf University of M'Sila. This work is licensed under the Creative Commons Attribution-Noncommercial International License (CC BY-NC 4.0).  
<http://creativecommons.org/licenses/by-nc/4.0/>



## Abstract

This study addresses the methodological problematic in media and communication research in light of rapid digital transformations, particularly with the growing role of artificial intelligence technologies in the production and analysis of media content. The study aims to assess the extent to which traditional methodologies can accommodate emerging media phenomena and to propose a hybrid methodological approach that meets the requirements of the digital environment. It adopts a descriptive-analytical method by reviewing relevant literature and analyzing the challenges posed by algorithms and big data to media researchers. The findings reveal the limitations of traditional methodologies in addressing the increasing complexity of digital phenomena and underscore the need to develop new digital tools that integrate both humanistic and technical dimensions.

## Keywords

Algorithms, Artificial Intelligence, Digital Media, Media Phenomena, Media Research, Method.

المخلص:

<sup>1</sup>Corresponding author)

تتناول هذه الدراسة إشكالية المنهج في بحوث الإعلام والاتصال في ظل التحولات الرقمية المتسارعة، خاصة مع تصاعد دور تقنيات الذكاء الاصطناعي في إنتاج وتحليل المحتوى الإعلامي. تهدف الدراسة إلى تحليل مدى قدرة المناهج التقليدية على استيعاب الظواهر الإعلامية الجديدة، واقتراح مقاربة منهجية هجينة تستجيب لمتطلبات البيئة الرقمية. اعتمدت الدراسة المنهج الوصفي التحليلي من خلال مراجعة الأدبيات وتحليل التحديات التي تطرحها الخوارزميات والبيانات الضخمة على الباحث الإعلامي. أظهرت النتائج محدودية المناهج التقليدية في التعامل مع التعقيد المتزايد للظواهر الرقمية، وأبرزت الحاجة إلى تطوير أدوات رقمية جديدة تدمج بين البعدين الإنساني والتقني.

الكلمات المفتاحية:

الإعلام الرقمي، الظواهر الإعلامية الرقمية، الخوارزميات، الذكاء الاصطناعي، المنهج، بحوث الإعلام.

---

## 1. Introduction

Over the past decades, media and communication sciences have experienced profound epistemological and methodological shifts, driven by the rapid pace of technological change and the migration of societies into digital realms. Communicative phenomena have grown increasingly complex and intertwined, no longer conforming to traditional structures or the conventional roles of their participants. This evolution has compelled researchers to reconsider the methodological tools and approaches used to interpret these phenomena. Methodology constitutes the cornerstone of any scientific inquiry, as it determines the researcher's epistemic stance toward understanding and analyzing occurrences. In the field of media and communication, this facet assumes even greater significance given the swift technological transformations that have altered the very fabric of media messages, their production processes, and modes of audience engagement. The advent of artificial intelligence and big-data technologies within the media sphere has particularly intensified this complexity, thereby calling into question the adequacy of traditional research methods for studying such developments.

The present study was chosen in response to an urgent scholarly need : to develop research methodologies in media and communication that can keep pace with deep digital transformation and the intelligence-driven environment that transcends

established conceptual and investigative frameworks. This topic lies at the intersection of epistemological and methodological concerns and reflects a critical challenge that demands researchers reevaluate their theoretical foundations and practical instruments. Contemporary literature exemplified by the works of McQuail, Castells, and Couldry affirms that these digital shifts obligate scholars to revisit their methodological paradigms. Conventional techniques such as interviews and surveys are no longer sufficient to explain the intricate digital phenomena emergent in smart, algorithm-governed environments. Accordingly, there is a pressing need to move from purely descriptive traditional methods to hybrid analytical approaches that leverage artificial-intelligence capabilities while preserving the humanistic and cognitive dimensions of media discourse analysis.

This study's importance stems from its focus on a timely scientific issue : reframing research methodologies in media and communication to align with profound digital transformation. It poses fundamental questions regarding the future of media research in the age of artificial intelligence and opens the door to reconstructing media-analysis tools in a manner that accounts for the dynamic nature of the digital environment. The methodological dilemma in this knowledge domain now extends beyond the mere selection of research instruments or procedures. It touches the very structure of scientific reasoning itself, including data-collection techniques, classification schemes, and analytical strategies within a communicative ecosystem shaped by algorithms that redefine both individual and collective media behavior.

This article aims to deconstruct this dilemma by tracing the evolution of methodological approaches in media and communication studies and evaluating the suitability of traditional frameworks for understanding digital phenomena. It also seeks to highlight the challenges posed by artificial intelligence to research design and to propose new methodological horizons that integrate classical approaches with contemporary technologies, thereby ensuring a robust scientific comprehension of today's

communication landscape. Accordingly, the main research question of this study is: To what extent are traditional methodologies still adequate for analyzing complex communicative phenomena in an Environment shaped by artificial intelligence and big data?

### **Research Questions**

1. What are the limitations of classical methodologies in studying contemporary media phenomena?
2. How has artificial intelligence altered the nature of the media phenomena under investigation?
3. What challenges confront media researchers in an intelligent digital environment?
4. How can a new methodological approach be envisioned that bridges traditional and technological paradigms?

### **Literature Review**

Previous literature has unanimously emphasized the importance of methodology in understanding media phenomena, particularly in light of rapid technological transformations and the complexities of the digital environment. Wimmer and Dominick (2014) asserted that traditional methods, such as descriptive and survey approaches, have long formed the foundation of media research. However, they have become insufficient in addressing real-time interactions, continuous data flows, and the multiplicity of influence sources in the digital age. Similarly, McQuail (2010) noted that traditional communication models based on the linear sender-receiver dichotomy are no longer adequate in an interactive environment characterized by decentralization and personalized content. Boyd and Crawford (2012) argued that big data entails both conceptual and methodological shifts, necessitating the development of new analytical tools. In the same vein, Rogers (2013) called for the adoption of “digital methods,” in which digital media serve as both the object and tool of analysis. Marres (2017) highlighted a fundamental transformation in the relationship between research and

technology, stressing the need for analytical tools suited to the complexities of the digital space. Meanwhile, Couldry and Hepp (2017) introduced the concept of “deep mediatization” to explain the reshaping of social reality through digital media, although they did not explicitly address methodological concerns. Regarding artificial intelligence, Napoli (2014) underscored the role of algorithms in reshaping media practices. Jenkins, Ford, and Green (2013) demonstrated how concepts of audience and production have become increasingly intertwined in networked cultures, revealing the inadequacy of traditional tools. Kitchin (2014) supported the need to reconstruct methodological frameworks in line with the demands of smart data environments. Accordingly, these studies converge with the current research in advocating for a hybrid methodological approach that integrates both traditional and digital components. It is worth noting, however, that most of the reviewed works stopped at diagnosing the problem without offering practical models for methodological integration an issue this study seeks to address by proposing a framework that also accounts for the ethical and epistemological challenges associated with algorithmic transparency and the evolving roles of media actors in a digitally governed environment.

### **Research Objectives**

1. This study aims to analyze the methodological dilemma in media and communication research in light of rapid digital transformations, with a particular focus on the challenges posed by artificial intelligence applications, in order to propose a hybrid methodological approach that integrates traditional frameworks with modern digital tools.
2. To identify the limitations and constraints of classical methodologies in analyzing contemporary digital media phenomena.
3. To examine the impact of artificial intelligence on the nature of media phenomena and audience interaction patterns.

4. To explore the challenges facing researchers in the field of media and communication when dealing with big data and algorithmic systems.

5. To propose a methodological framework that balances the human and technological dimensions in a way that aligns with the specific nature of media and communication studies.

### **Method**

This study adopts a descriptive-analytical methodology. It begins with a review of the literature related to traditional research methods in media and communication sciences, highlighting their core characteristics and research applications. It then proceeds with a critical analysis of the limitations of these methods in addressing the accelerating digital transformations, particularly in light of the evolving nature of media and communication phenomena within the digital sphere.

In this context, the study explores emerging trends in digital methodologies by analyzing how artificial intelligence tools such as big data analytics, user behavior tracking on social media platforms, and machine learning techniques are employed as research instruments. The study aims to compare the outcomes of traditional methodologies with those of modern digital approaches in terms of data processing efficiency and understanding of communicative behavior in digital environments. Key references drawn upon in the study include Wimmer & Dominick (2014), McQuail (2010), Rogers (2013), and Boyd & Crawford (2012).

The study follows a qualitative approach in analyzing the literature relevant to the methodological challenges in media and communication research, particularly in light of the issues posed by the digital environment and artificial intelligence. The analytical tools employed include content analysis of key theoretical and scientific studies in the field, as well as a critical review of traditional approaches as presented in the works of Wimmer & Dominick, McQuail, and Boyd & Crawford.

Furthermore, the study examines recent research trends in the field of digital media and compares the outcomes and approaches of both traditional and contemporary digital methodologies in interpreting complex media phenomena. The choice of a qualitative approach is based on several epistemological and methodological considerations, primarily the complex nature of the subject and its close connection with developments in artificial intelligence. This necessitates a comprehensive analytical reading that goes beyond surface-level description to construct a critical and integrative perspective.

Moreover, this methodology is deemed the most suitable for studying the evolution of research methodologies themselves, not merely the interpretation of media phenomena. This aligns with the study's core objective: to assess the effectiveness of classical methodological tools in addressing the contemporary digital transformation.

## **2. The Method in Media and Communication Sciences: Foundations and Traditional Approaches**

### **2.1. Definition of Method and Its Role in Scientific Research**

Scientific methodology is the fundamental pillar of academic research, as it defines the path of reasoning, the steps for data collection and analysis, and helps the researcher achieve precise and interpretable scientific results. In this regard, methodology is defined as "a set of organized principles and procedures adopted by the researcher to study a specific phenomenon with the aim of interpreting or predicting it" (Wimmer & Dominick, 2014, p. 23). In media and communication sciences, methodology holds particular importance due to the complexity of communicative phenomena and their multiple psychological, social, cultural, and technological dimensions.

### **2.2. Methodological Characteristics Specific to Media and Communication Research**

Media and communication research possess unique methodological characteristics that distinguish them from other social sciences, most notably:

**-Methodological diversity:** The same phenomenon can be studied using different approaches (qualitative, quantitative, descriptive, experimental, and digital).

**-Interdisciplinary convergence:** The field intersects with sociology, linguistics, anthropology, political science, and data science, making it a fertile ground for diverse theoretical and methodological influences (Berger, 2019, p. 11). This diversity reflects the dynamic nature of media, which evolves rapidly and demands flexible, multi-method research tools.

### **2.3. Traditional Methodologies in Media and Communication Research: Between Foundation and Limitations**

Since its inception, the field of media and communication has witnessed the evolution of methodologies used to study media phenomena. Classical research relied on descriptive methods to understand media dynamics, content analysis to study discourse and messages, and the historical method to trace the evolution of media institutions. While these tools have proven effective in analyzing traditional media such as print journalism, radio, and television, they suffer from limitations when applied to the dynamic and interactive nature of digital phenomena. For example, content analysis relies on fixed analytical units, while digital content is dynamic and often generated automatically. Similarly, survey methods assume direct interaction with individuals, whereas artificial intelligence processes inferred user behavior through large datasets. As McQuail (2010, p. 35) indicates, traditional approaches were based on assumptions of media system stability and a linear relationship between message and receiver assumptions no longer valid in the interactive and personalized media environment. Traditional approaches have nonetheless formed the core of media research prior to the digital revolution. Researchers in the field have relied on several academic

methodologies to analyze media content and examine its influence on audiences. Key approaches include:

**1. Descriptive Method:** Focuses on describing media phenomena as they are, without interference. It is widely used to analyze media content and audience consumption patterns, providing a documented overview of the media phenomenon.

**2. Analytical Method:** Aims to interpret media messages and examine their potential effects on the audience. It is one of the most widely used approaches in media research.

**3. Survey Method:** Used primarily to collect data from large samples using tools such as questionnaires. It measures public attitudes toward specific media issues and is effective in understanding public opinion, especially in fields like politics and advertising (Katz, Blumler, & Gurevitch, 1973, p 20). It also plays a central role in audience and opinion research due to its ability to gather representative data (Berger, 2019, p 76).

**4. Experimental Method:** Relies on experiments to measure media effects on audience behavior. This includes field testing and controlled trials to understand behavioral changes resulting from media exposure. **5. Historical Method:** Used to study the evolution of media phenomena over time by analyzing historical documents and events related to the development of media institutions (Carey, 1989, p41).

**6. Case Study Method:** Involves in-depth examination of a single case or a small group to explore specific aspects of a media phenomenon. This is especially useful for unique or complex cases (Yin, 2003, p22).

Despite their importance in establishing the scientific foundations of media research, these methodologies face increasing limitations in the context of today's digital environment. Several studies have shown that traditional methods often fail to keep pace with the rapid transformations brought about by artificial intelligence, which has created a new communicative environment based on real-time interactivity, algorithmic logic, and big data flows (Couldry & Hepp, 2017, p18).

### **3. Critique of the Limitations of Traditional Methodologies in Addressing Complex Digital Phenomena**

#### **3.1. The Limitations of Traditional Tools in Capturing the Dynamics of Digital Environments**

Despite their significant contribution to the development of research in media and communication studies, traditional methodologies are increasingly struggling to keep pace with contemporary digital environments. The reliance on conventional tools such as surveys or interviews is no longer sufficient to grasp user behavior within algorithmically-structured environments, where messages are directed by complex recommendation systems (Cloudry & Hepp, 2017, p25). Moreover, classical quantitative methods, such as surveys, fall short in capturing real-time interactions and the massive datasets generated by the use of social media. This highlights the urgent need to develop hybrid methodologies that are compatible with the nature of artificial intelligence and big data (Marres, 2017, p3).

#### **3.2. Manifestations of Artificial Intelligence in the Media Sphere**

The media landscape has undergone radical transformations due to the evolution of artificial intelligence, leading to the emergence of new forms of production such as automated journalism, which relies on algorithms to generate news content without human intervention. This raises concerns about accuracy and objectivity (Carlson, 2015, p 417). Technologies like Deepfake and GANs are also being used to produce visual content that often lacks credibility. AI tools have accelerated media reporting and enabled big data analysis to guide and personalize content, especially on social media platforms and search engines (Bucher, 2018, p. 42). This shift has led to the emergence of an interactive audience participating in content production, thus altering traditional communication dynamics (Lobinger, 2021, p167). Nevertheless, this transformation poses methodological challenges, including difficulties in understanding the opaque logic of algorithms (Pasqual, 2015, p9), and the real-time data flow that

traditional tools struggle to analyze. Tools like surveys or interviews are no longer sufficient to interpret complex interaction patterns in dynamic digital environments, necessitating the adoption of new digital methodologies such as machine learning and network analysis (Marres, 2017, p5).

AI has reshaped media practices, making it imperative to adopt explanatory and predictive models that reflect large-scale and instantaneous interactions (Couldry & Turow, 2014, p 175). This has fostered a shift toward hybrid methodologies that combine technical skills with critical analysis, alongside the need for specialized training for media researchers (Weller et al., 2014, p91).

Finally, ethical and legal challenges have emerged such as privacy violations and the spread of fake content requiring a revision of the ethical and legal frameworks in light of this technological boom.

### **3.3. The Need for Methodological Renewal: New and Integrated Approaches**

#### **3.3.1. The Shift toward Digital Methods**

In response to the changes brought by the digital environment and AI applications, a new approach has emerged known as Digital Methods research approaches that rely on advanced digital tools and techniques to collect and analyze data from the online sphere. This direction was developed by researcher Richard Rogers, who advocated for treating digital media not only as objects of study but also as research instruments (Rogers, 2013, p19). Digital methods allow for the tracking and analysis of links, hashtags, and interactions on social media platforms using specialized software such as Netvizz, NodeXL, and Gephi. These approaches go beyond traditional methods, enabling researchers to study communication phenomena as they evolve in real time on the internet.

**-Big Data Analytics:** Big data analytics has become a central pillar in contemporary media research, used to extract patterns and trends from the vast amount of data generated daily across digital media. This includes analyzing tweets, comments, posts, and

links using statistical algorithms or machine learning models. This type of analysis is not limited to quantitative aspects ; it can also be integrated with qualitative analysis by extracting contextual meanings from large textual datasets an approach known as hybrid analysis (Kitchin, 2014, p2).

**-Social Network Analysis:** Social network analysis is one of the most prominent modern methodological tools used to understand digital relationships among users and media entities. It enables the identification of influence structures, key actors in information flow, and forms of digital clustering (Hansen et al., 2011, p18). This is achieved through tools such as Gephi and UCINET for network mapping and inter-relational data analysis. Today, it is possible to employ AI techniques particularly machine learning and natural language processing (NLP) to automatically analyze media content and digital comments. These tools can classify opinions, track trends, and detect dominant sentiments (Broussard, 2018, p 29). They are used in a variety of applications, including:

- Analyzing images and videos published online
- Monitoring targeted digital campaigns
- Detecting bot (automated) accounts

#### **4. Advantages and Limitations of These New Approaches**

##### **4.1. A Critical Assessment of Digital Methodologies: Potentials and Constraints**

While these methodologies offer unprecedented analytical capabilities, they also present several challenges, most notably:

- The need for advanced technical skills in programming and statistics
- The issue of restricted access to data due to platform owners' control
- The risk of algorithmic bias, which may influence analytical outcomes
- The necessity to integrate humanistic and technical dimensions to preserve interpretive depth (boyd & Crawford, 2012, p667)

#### **4.2. Methodological Challenges in Media and Communication Sciences in the Age of AI**

- Difficulty verifying information in automated environments
- Lack of ethical standards for smart research tools
- The growing need for new analytical tools (e.g., data mining, social network analysis, machine learning...).

#### **5. Discussion**

The findings of this study intersect with those of previous research, most notably Marres (2017), who emphasized the necessity of moving beyond traditional methodologies when dealing with digital data, as conventional tools are no longer adequate to interpret the complex communicative phenomena generated by the digital environment. Similarly, Boyd and Crawford (2012) argued that big data is not merely quantitative but demands a fundamental reformulation of research questions and methodological frameworks in response to the complexities of emerging digital structures.

In this context, the need arises to transcend classical interpretive tools when confronted with so-called "black-box algorithms", which lack transparency and produce outputs whose mechanisms are difficult to trace or verify. These challenges are compounded by a set of philosophical and ethical concerns, including the opacity of algorithmic operations, the potential for bias in AI models, and the difficulty of verifying the reliability of machine-generated information in an environment characterized by automation and instant personalization.

Taken together, these challenges call for a deep methodological shift starting from the reformulation of research questions and extending to the creation of data collection and analysis tools capable of addressing the complexities of today's digital communication landscape.

#### **5.1 Toward a New Methodological Approach**

In light of these challenges, there is a growing trend toward the development of hybrid methodologies that combine humanistic and digital approaches. For instance, traditional discourse analysis can be integrated with AI-based sentiment analysis, or social network analysis (SNA) techniques can be used to measure audience interaction with news and content in digital environments (Weller et al., 2014, p 91).

Researchers such as Weller et al. (2014) suggest that today's media researcher must be capable of understanding algorithms and interpreting machine learning results while maintaining critical awareness and the ability to conduct contextual analysis. This requires a new kind of training in media research one that goes beyond traditional fields to include data science and computational statistics, without abandoning the philosophical and sociological dimensions of media phenomena.

The proposed approach does not advocate abandoning methodological heritage, but rather updating and expanding it to incorporate tools compatible with the new digital reality. It is essential to consider hybrid approaches that combine human and machine capacities such as SNA assisted by AI, or the use of machine learning techniques to extract communication patterns from digital data (Weller et al., 2014, p 91). This also calls for the formation of a new generation of media researchers, equipped with both critical thinking and technical knowledge.

As AI increasingly shapes research and analysis processes, rethinking traditional methodological paradigms becomes imperative. New approaches must account for the rapid evolution of digital technologies and the need for researchers to engage actively with AI tools. The new methodology should be flexible not limited to interpretive techniques but extended to include predictive tools that offer deeper insights into social and media phenomena.

Among these approaches is the development of research tools that integrate quantitative and qualitative analysis using AI. The new methodology should include big data analytics, innovative applications of AI in data processing, and ensure that such tools

remain as transparent and unbiased as possible. Moreover, future studies should strive to incorporate critical analyses of algorithms, while emphasizing transparency and accountability in their use.

## **6. Conclusion**

Amid the major transformations reshaping the media field in light of AI advancements, it is essential to reconsider the methodological foundations upon which media and communication research is built. As the use of big data and algorithms grows in analyzing digital interactions, researchers are faced with new challenges related to transparency, subjectivity, and representation. Simultaneously, these technologies are prompting a shift in traditional theories and research concepts, necessitating the adoption of new models capable of engaging with these changes in line with the demands of the digital age.

Despite the immense opportunities that AI offers for enhancing media content production and analysis, it also raises numerous ethical and philosophical concerns that require ongoing critical reflection. In conclusion, AI represents a powerful tool that can radically reshape media practices. However, this potential can only be fully realized through a transformation in research methods and approaches, ensuring that the benefits of AI are maximized while maintaining ethical and professional values.

## **Recommendations**

- Develop new research methodologies that incorporate digital analysis tools and predictive models for analyzing big data and smart media.
- Enhance transparency in the use of algorithms to understand how automated decisions are made and their impact on media content.
- Integrate the ethical dimension into media research to avoid bias, protect privacy, and ensure the responsible use of technology.

-Invest in specialized training and capacity building in artificial intelligence for researchers and practitioners in the media field.

-Promote interdisciplinary collaboration, particularly between media studies, artificial intelligence, data science, and the social sciences, to gain a more comprehensive understanding of digital phenomena.

### References

1. Benevenuto, F., Rodrigues, T., Cha, M., & Almeida, V. (2009). Characterizing user behavior in online social networks. In Proceedings of the 9th ACM SIGCOMM conference on Internet measurement (pp. 49–62). ACM.
2. Berger, A. A. (2019). *Media and communication research methods : An introduction to qualitative and quantitative approaches* (5th ed.). SAGE Publications.
3. Boyd, D., & Crawford, K. (2012). *Critical questions for big data: Provocations for a cultural, technological, and scholarly phenomenon*. *Information, Communication & Society*, 15(5), 662–679. <https://doi.org/10.1080/1369118X.2012.678878>
4. Broussard, M. (2018). *Artificial unintelligence : How computers misunderstand the world*. MIT Press.
5. Bucher, T. (2018). *If...Then: Algorithmic power and politics*. Oxford University Press.
6. Carey, J. W. (1989). *Communication as culture: Essays on media and society*. Unwin Hyman.
7. Carlson, M. (2015). *The robotic reporter: Automated journalism and the re-definition of labor, compositional forms, and journalistic authority*. *Digital Journalism*, 3(3), 416–431.
8. Couldry, N., & Hepp, A. (2017). *The mediated construction of reality*. Polity Press.
9. Couldry, N., & Turow, J. (2014). *Advertising, big data and the clearance of the public realm: Marketers' new approaches to the content subsidy*. *International Journal of Communication*, 8, 1710–1726.

10. Entman, R. M. (1993). *Framing: Toward clarification of a fractured paradigm*. *Journal of Communication*, 43(4), 51–58.
11. Hansen, D. L., Shneiderman, B., & Smith, M. A. (2011). *Analyzing social media networks with NodeXL : Insights from a connected world*. Morgan Kaufmann.
12. Katz, E., Blumler, J. G., & Gurevitch, M. (1973). *Uses and gratifications research*. *Public Opinion Quarterly*, 37(4), 509–523. <https://doi.org/10.1086/268109>
13. Kitchin, R. (2014). *The data revolution: Big data, open data, data infrastructures and their consequences*. SAGE Publications.
14. Kitchin, R. (2014). *Big data, new epistemologies and paradigm shifts*. *Big Data & Society*, 1(1), 1–12. <https://doi.org/10.1177/2053951714528481>
15. Lobinger, K. (2021). *Researching visual communication in the age of digitalization: Theoretical and methodological challenges*. *Communication and the Public*, 6(1), 165–182.
16. Marres, N. (2017). *Digital sociology: The reinvention of social research*. Polity Press.
17. Napoli, P. M. (2014). *Automated media: An institutional theory perspective on algorithmic media production*. *Communication Theory*, 24(3), 340–360. <https://doi.org/10.1111/comt.12039>
18. Pasquale, F. (2015). *The black box society: The secret algorithms that control money and information*. Harvard University Press.
19. Rogers, R. (2013). *Digital methods*. MIT Press.
20. Weller, K., Bruns, A., Burgess, J., Mahrt, M., & Puschmann, C. (2014). *Twitter and society*. Peter Lang.
21. Wimmer, R. D., & Dominick, J. R. (2014). *Mass media research: An introduction* (10th ed.). Cengage Learning.
22. Yin, R. K. (2003). *Case study research : Design and methods* (3rd ed.). SAGE Publications. ]