


Chapter 9

Data Privacy and Ethical Dilemmas in Contemporary Research

Jonai Wabwire

 <https://orcid.org/0000-0003-4957-9765>

Kisii University, Kenya

ABSTRACT

In an era where data-driven research is transforming scientific inquiry, the ethical challenges surrounding data privacy have become paramount. This chapter explores the relationship between data privacy, regulatory frameworks, and ethical considerations in research. As researchers increasingly rely on vast amounts of personal data, safeguarding individuals' privacy while maintaining research integrity presents unique challenges. This chapter examines the impact of ethical responsibilities researchers bear in handling sensitive information, and the dilemmas that arise when balancing transparency with confidentiality. It also discusses issues in artificial intelligence, where large datasets are needed to train models, potentially conflicting with privacy protections. By analyzing research works, the chapter simplifies ethical obligations researchers face, the potential risks to participants, and the implications for public trust in research. The chapter highlights the need for a refined ethical framework that respects individual privacy and aligns with evolving legal standards.

9.1 INTRODUCTION

The issue of data privacy and the rise of ethical challenges continue to undergo rigorous analysis as part of the digital revolution. Protection of data privacy is a fundamental right, which is often overlooked amid the exchange of data transfer for commercial and scientific purposes (Quach, S.; Thaichon, P.; Martin, K.D.; Weaven, S.; Palmatier, R. W., 2022). Data privacy has emerged as a critical issue in academic research, intersecting with ethical principles and posing new challenges for researchers across disciplines. As digital technology advances, researchers are now able to collect, store, and analyze vast amounts of data, much of it personal and sensitive. The use of such data is invaluable for gaining insights in fields ranging from social sciences and medicine to artificial intelligence and behavioral studies. However, as data handling capabilities grow, so do concerns about privacy, informed consent, and ethical responsi-

DOI: 10.4018/979-8-3373-0897-5.ch009

Copyright © 2026, IGI Global Scientific Publishing. Copying or distributing in print or electronic forms without written permission of IGI Global Scientific Publishing is prohibited. Use of this chapter to train generative artificial intelligence (AI) technologies is expressly prohibited. The publisher reserves all rights to license its use for generative AI training and machine learning model development.

bility. These issues are now central to any rigorous discussion on research methodology and practice in modern academic environments.

The establishment of stringent data protection laws, such as the General Data Protection Regulation (GDPR) in Europe, underscores the importance of protecting individuals' rights to privacy (IT Governance Privacy Team, 2020). Such kind of regulations establish principles and protocols aiming at safeguarding personal information, placing a legal obligation on researchers to ensure data security. This regulatory landscape requires researchers to strike a careful balance: collecting enough data to fuel meaningful, innovative research while also adhering to strict privacy standards that protect research participants. Besides the letter of the law, there, lie numerous ethical dilemmas that regulations alone cannot address.

The most pressing ethical challenges is the issue of informed consent in the digital age. Traditional consent processes may not fully encompass the ways in which data can be used, especially when data is combined, anonymized, and analyzed in ways that participants might not anticipate. In many cases, participants might not fully understand the extent to which their information could be shared, repurposed, or used in contexts far removed from the original research intent. As a result, questions about truly informed consent, as well as participants' understanding of their rights and the researchers' responsibilities, have become more relevant than ever.

Additionally, the rise of artificial intelligence (AI) and machine learning (ML) poses new ethical and privacy challenges. These technologies often require large datasets to train models effectively, sometimes necessitating the use of personal data on a scale that may conflict with traditional privacy standards. With AI models also capable of uncovering hidden patterns or correlations within data, ethical concerns about unforeseen uses and potential biases become pertinent. Researchers must therefore ask whether their methods, though powerful, might inadvertently breach privacy or harm specific groups, and if so, how such risks can be mitigated.

This chapter seeks to explore these multifaceted challenges, examining the intersection of data privacy laws, ethical considerations, and the evolving responsibilities of researchers. It will outline the current regulatory landscape, highlight case studies that illustrate the practical implications of these issues, and discuss proposed solutions for navigating the ethical complexities of data-intensive research. By offering insights into both the theoretical and practical dimensions of data privacy and ethics, this chapter aims to equip researchers with a nuanced understanding of their obligations and help establish a foundation for ethical data management practices in academia.

9.1.1 An Overview on Data Privacy

Whereas we once relied on memories and paper to capture small details, these days' information is stored permanently in computer systems. Banking, loyalty and other cards, the Internet, and digital devices such as smart phones and tablets are a few of the many means used to track where we are, what we do, what we like, and a myriad of other personal information. All these details can be used to compile what Solove (2004) in his work refers to as a "digital dossier" on each of us. In our society we simultaneously seek privacy while having to disclose personal information in order to receive services and establish friendships. Online communication and the Social Web have led us into the habit of sharing large amounts of information with a great number of people, yet many do not feel threatened when doing so (Trepte & Reinecke, 2011). The problem is that the same technology that makes it easy to share personal details has also led to what Moor (1997) refers to as greased information – data that moves like lightning and is difficult to hold on to. Moor (1997, p. 28) states that "once information is captured electronically for

18 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/data-privacy-and-ethical-dilemmas-in-contemporary-research/405277

Related Content

Digital Forensic Investigation of Social Media, Acquisition and Analysis of Digital Evidence

Reza Montasari, Richard Hill, Victoria Carpenter and Farshad Montaseri (2019). *International Journal of Strategic Engineering* (pp. 52-60).

www.irma-international.org/article/digital-forensic-investigation-of-social-media-acquisition-and-analysis-of-digital-evidence/219324

Countering Epistemological Exclusion Through Critical-Ethical Research to Support Social Justice: Methodological Comparisons Between Australia and the United Kingdom

Kaz Stuart and Marnee Shay (2019). *Educational Research in the Age of Anthropocene* (pp. 188-210).

www.irma-international.org/chapter/countering-epistemological-exclusion-through-critical-ethical-research-to-support-social-justice/212477

Exploring "Mass Surveillance" Through Computational Linguistic Analysis of Five Text Corpora: Academic, Mainstream Journalism, Microblogging Hashtag Conversation, Wikipedia Articles, and Leaked Government Data

(2018). *Techniques for Coding Imagery and Multimedia: Emerging Research and Opportunities* (pp. 212-286).

www.irma-international.org/chapter/exploring-mass-surveillance-through-computational-linguistic-analysis-of-five-text-corpora/187373

Demonic Fuzzy Relational Calculus

Fairouz Tchier and Huda Alrashidi (2015). *Research Methods: Concepts, Methodologies, Tools, and Applications* (pp. 390-419).

www.irma-international.org/chapter/demonic-fuzzy-relational-calculus/124509

Application of Statistical Analysis Tools and Concepts to Big Data and Predictive Analytics to New Product Development

Brian J. Galli (2020). *International Journal of Strategic Engineering* (pp. 17-35).

www.irma-international.org/article/application-of-statistical-analysis-tools-and-concepts-to-big-data-and-predictive-analytics-to-new-product-development/243666