Chapter 14
Narrating Spatial Data With Responsibility:
Balancing Ethics and Decision Making

Munir Ahmad

https://orcid.org/0000-0003-4836-6151
Survey of Pakistan, Pakistan

Saadia Ureeb

https://orcid.org/0009-0001-4195-8720
Zarai Taraqiati Bank Ltd., Pakistan

ABSTRACT

This chapter discussed the responsible use of spatial data in decision-making and the need to balance ethics with decision-making. The role of spatial data in decision-making and storytelling is discussed. Ethical issues in spatial data storytelling such as privacy and confidentiality, bias and discrimination, accuracy and misinformation, accessibility and inclusivity, environmental and social impacts, data ownership and credit, and transparency are described, along with the strategies to overcome these issues. The different roles of storytelling in decision-making are elaborated on, along with the challenges and risks associated with using storytelling in decision-making. The chapter also discussed the challenges of striking a balance between ethics and decision-making, such as conflicting interests, cognitive biases, time constraints, political and legal constraints, and many more. Strategies to overcome these challenges, including developing clear ethical guidelines and engaging diverse stakeholders, are underpinned in this chapter as well.

INTRODUCTION

Over the past few years, the availability and ease of access to spatial data has been increased. This has generated a greater curiosity in utilizing spatial data to convey intricate information and shape decision-making procedures. Resultantly, the use of spatial data has multiplied in various tasks to support sustain-

able development (Ahmad, 2023d, 2023c). Moreover, spatial data possesses a special power to improve learning skills and can enhance the learning outcomes of higher education learners by providing dynamic and interactive learning experiences (Ahmad, 2023a). Spatial data can significantly impact decision-making, policy formation and evaluation, and public opinion assessment as noted by Ahmad (2023b).

The concept of data storytelling combines spatial data with narrative elements to create visually stimulating presentations, thus making data more accessible and comprehensible, and engaging stakeholders. Nonetheless, the practice of data storytelling comes with its own set of ethical concerns, which require careful evaluation to prevent unintentional negative effects and potential damage (Newman et al., 2021). This chapter aims to investigate the ethical implications of spatial data storytelling and analyze how storytelling affects decision-making processes. It also addresses the difficulties of balancing ethical concerns with decision-making while utilizing data storytelling techniques. The chapter will explore three primary questions related to this topic.

The first question that this chapter aims to answer is, "What ethical issues must be taken into account when utilizing spatial data storytelling?" Spatial data and the resulting insights have the potential to impact individuals and communities. Therefore, it is essential to consider the ethical implications of spatial data storytelling. These ethical considerations can encompass issues like data privacy, accuracy, bias, and ownership. This chapter also intends to provide guidelines to address these ethical concerns.

The second research question is, "How does storytelling influence decision-making processes?" Storytelling has the power to influence people's emotions and perspectives regarding a particular topic. In the context of data storytelling, it can improve decision-making by conveying information in an approachable and captivating manner. Nevertheless, the effects of storytelling on decision-making also present certain complexities that necessitate examination. Therefore, this chapter will explore how storytelling impacts decision-making and assess the potential drawbacks and challenges involved in using storytelling as a tool for decision-making.

The third research question is, "What challenges arise in balancing ethical considerations and decision-making when using data storytelling techniques?" Achieving a balance between ethical considerations and decision-making is a complex task that demands thorough consideration of the advantages and disadvantages of using storytelling techniques. Possible challenges that arise include data bias, a lack of transparency in the storytelling process, and the difficulty of measuring storytelling's impact on decision-making. This chapter will delve deeply into these challenges and suggest approaches to overcome them.

The chapter is structured into several sections. Section 2 presents an overview of spatial data, its use in storytelling, decision-making, and ethical decision-making strategies. In Section 3, the focus is on the ethics of spatial data storytelling and includes guidelines to handle ethical concerns in spatial data-based storytelling. Section 4 examines the role of storytelling in decision-making, as well as the potential risks and challenges associated with its use. Section 5 is dedicated to discussing the difficulties of balancing ethics and decision-making. Finally, the chapter's conclusion provides a summary of the key findings and suggests future research directions in this field.

SPATIAL DATA

Information pertaining to the location and characteristics of real things in space is referred to as geospatial data, also known as spatial data (Demšar et al., 2013). It is a valued resource for decision-making in various fields, such as urban planning, environmental management, and business. Spatial data can be

Related Content

Understanding of Leadership in Distance Education Management

Gülay Ekren, Serçin Karataand Uur Demiray (2017). *Medical Education and Ethics: Concepts, Methodologies, Tools, and Applications (pp. 1150-1166).*

www.irma-international.org/chapter/understanding-of-leadership-in-distance-education-management/167337

Corporate Social Responsibility and Financial Performance in the Banking Industry in Ghana

Christopher Boachie (2020). *International Journal of Sustainable Entrepreneurship and Corporate Social Responsibility (pp. 86-104).*

www.irma-international.org/article/corporate-social-responsibility-and-financial-performance-in-the-banking-industry-in-ghana/259410

Participation of Women in Logistics Through Innovation

María J. García, Gilberto J. Hernándezand José G. G. Hernández (2018). *International Journal of Sustainable Entrepreneurship and Corporate Social Responsibility (pp. 32-52).*

www.irma-international.org/article/participation-of-women-in-logistics-through-innovation/219267

Advanced Issues of Internationalization, International Entrepreneurship, and Entrepreneurial Marketing in SMEs

Kijpokin Kasemsap (2016). *International Journal of Sustainable Entrepreneurship and Corporate Social Responsibility (pp. 32-44).*

www.irma-international.org/article/advanced-issues-of-internationalization-international-entrepreneurship-and-entrepreneurial-marketing-in-smes/172166

Education Attainment and Feminization of Labor Markets in Arab Countries with Comparisons to Eastern and Central European Countries

Fatima-Zohra Filali Adiband Amale Achehboune (2015). *Human Rights and Ethics: Concepts, Methodologies, Tools, and Applications (pp. 163-181).*

www.irma-international.org/chapter/education-attainment-and-feminization-of-labor-markets-in-arab-countries-with-comparisons-to-eastern-and-central-european-countries/117026