# Chapter 3
# Navigating the Digital Divide:
## Preserving Indigenous Knowledge in the Information Age

**Methembe Melusi Mhlope**
https://orcid.org/0009-0003-2027-7322
*Gwanda State University, Zimbabwe*

## ABSTRACT

*The digital era has ushered in unprecedented opportunities for the preservation and dissemination of knowledge. However, it has also presented unique challenges, particularly in the context of safeguarding indigenous knowledge systems. This chapter outlines a comprehensive examination of the obstacles faced in the digital preservation of indigenous knowledge and proposes strategies to overcome these barriers to ensure that invaluable cultural heritage and sustainable knowledge is not lost to future generations. Qualitative data was gathered through a comprehensive literature review and case study analyses. The chapter concludes with valuable insights and recommendations for future initiatives in this vital area of research and practice.*

## INTRODUCTION

In the unfolding dynamic reality of the digital age, indigenous knowledge systems stand at a critical crossroads—rich with cultural, sustainable, and epistemological value, yet vulnerable to the far-reaching transformations of technological advancement. While information and communication technologies (ICTs) promise unprecedented avenues for knowledge creation and dissemination, they simultaneously threaten to

DOI: 10.4018/979-8-3373-0204-1.ch003

marginalise voices that have long been excluded from the conventional scholarly communication landscape. This chapter explores negotiating the paradox of the digital divide in today's information age: a space where innovation meets inequity, and where the preservation of indigenous knowledge demands intentional strategies, inclusive infrastructures, and respectful stewardship.

By centring the African experience and expanding the discussion beyond technological access to include cultural relevance, data sovereignty, and knowledge equity, this chapter interrogates how indigenous communities and academic institutions can engage digital tools to protect and evolve traditional knowledge without compromising its authenticity. The discussion showcases the role of policies and legal frameworks, academic libraries and information professionals, research data management frameworks, and open science practices in building bridges across divides and thus empowering indigenous custodians and researchers alike.

## BACKGROUND

The concept of indigenous knowledge is deeply rooted in the lived experiences, histories, and social structures of communities whose epistemologies precede colonial and scientific paradigms. Indigenous knowledge, encompassing the traditions, skills, and philosophies of indigenous communities (Oyelude, 2023), is a rich and invaluable resource that contributes to the global heritage. Indigenous knowledge systems are complex, holistic, and culturally embedded ways of understanding the world (Balogun, 2023; Nakata et al., 2014). They encompass a wide range of practices, languages, traditions, and ecological insights that have been passed down through generations (Balogun, 2023). In Africa, such knowledge systems serve as engines of sustainable development, environmental stewardship, and community resilience.

With the advent of digital technologies, there is unprecedented potential to preserve this knowledge more effectively than ever before. Digital platforms can serve as vehicles for recording, storing, and disseminating indigenous knowledge effectively (Dlamini, 2020). Many scholars emphasize that the integration of indigenous knowledge with digital technologies does not seek to replace traditional methods but rather to augment them.

Despite these optimistic perspectives, the landscape of indigenous knowledge management is fraught with challenges. In many regions, particularly Africa, the initial steps toward utilising digital technologies for indigenous knowledge management are hindered by significant barriers such as the financial inadequacies of cultural institutions, inadequate infrastructure, and a general neglect of indigenous record-keeping practices (Chowdhury et al., 2021). This creates a substantial gap between the cultural richness of indigenous communities and the modern techno-