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Digitizing Tibetan Buddhist Texts
An Analysis of Key Tibetan Actors and Their Roles

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1. Introduction

The preservation and transmission of Tibetan Buddhist knowledge have undergone profound transformations across generations. For instance, my grandfather's engagement with Tibetan Buddhism relied on direct teachings and personal guidance from his teachers, supported by scriptures likely brought with him from Tibet. This deeply personal connection exemplified the traditional approach to Tibetan Buddhist practice. In contrast, my engagement with these texts is shaped by digital technologies. I access translations and contextual materials through my tablet, consulting online resources for background information or pronunciation. This unprecedented accessibility, enabled by the digitization of Tibetan Buddhist texts, marks a significant shift in how this rich cultural heritage is preserved and disseminated.

This thesis examines the digitization of Tibetan Buddhist texts in the digital age, focusing on the motivations, processes, and challenges driving digitization efforts. It explores the key actors and institutions involved, their diverse backgrounds, and their goals. By doing so, the study aims to illuminate the cultural and technological forces shaping the digitization movement within the Tibetan context.

The intersection of Digital Humanities and Buddhist Studies has fostered significant advancements in preserving, accessing, and analyzing Buddhist texts and artifacts. This interdisciplinary field, often termed *Digital Buddhology* encompasses a range of initiatives across Buddhist traditions and languages, with a primary emphasis on preserving sacred texts. Projects like the Chaṭṭha Saṅgāyana Tipiṭaka (CST) and the Chinese Buddhist Electronic Text Association (CBETA) have digitized entire collections, making the Pāli canon and the Taishō Tripitaka accessible to a global audience.¹ These efforts underscore the broader recognition of digital technologies as essential tools for conserving fragile manuscripts and disseminating rare materials, especially to exiled Tibetan scholars.

Within the Tibetan context, digitization holds unique significance due to the region's rich textual heritage and its deep connections to cultural and religious identities. This importance is further underscored by the impact of the Chinese invasion of Tibet in the 1950s and the Cultural Revolution, which resulted in the widespread destruction of libraries, temples, and monasteries.² The digitization of Tibetan Buddhist texts presents both opportunities and challenges. On one hand, sacred texts, often seen as physical embodiments of the Buddha's speech, raise important debates about preserving their sacred character in digital formats.³ On

¹ Budapesti 2019: 25.

² Patrik, 2007.

³ Binning, 2019: 391.

the other hand, digitization enhances access to rare materials for the Tibetan diaspora.⁴ Collaborative platforms like OpenPecha facilitate the shared curation and annotation of digital texts, ensuring their integrity.⁵ Advances in artificial intelligence further enhance the digitization process, offering new methodologies for text recognition and analysis.⁶ These innovations highlight the growing potential of digital tools to study and disseminate Buddhist teachings.

This thesis adopts a qualitative research approach, grounded theory methodology, to analyze the key actors driving the digitization of Tibetan Buddhist texts. While the study includes interviews with representatives from institutions like the Library of Tibetan Works and Archives (LTWA) and Monlam Tibetan IT Research Centre (Monlam IT), efforts to involve other prominent actors, such as the Buddhist Digital Resource Center (BDRC) and the Central Tibetan Administration's Department of Religion and Culture, were unsuccessful due to a lack of response. Despite these limitations, the study incorporates insights from four in-depth interviews, including one with an anonymous but well-connected individual.

By examining these initiatives, this research explores the diverse approaches to Tibetan text digitization, uncovering how preservation efforts balance cultural heritage, scholarly accessibility, and the integration of modern technology.

1.1. Thesis Structure

This thesis is structured to provide a comprehensive exploration of the digitization of Tibetan Buddhist texts, examining the cultural, technical, and institutional factors shaping this movement. The introduction establishes the context of the study, outlining the significance of Tibetan text digitization within broader historical and technological frameworks. It highlights the motivations, challenges, and goals associated with these efforts while reflecting on my positionality as a researcher with both insider and outsider perspectives. The introduction also presents the research questions and emphasizes the study's relevance to the preservation and accessibility of Tibetan cultural heritage.

The literature review offers an overview of existing research on Tibetan Buddhist text digitization and the interdisciplinary field of Digital Buddhology. It contextualizes the study within broader digitization initiatives across Buddhist traditions and languages, discussing key themes such as the motivations driving digitization, the challenges encountered, and the innovative strategies employed.

⁴ Patrik, 2007.

⁵ Ngawang Trinley et al., 2021.

⁶ Bazarov et al., 2022.

The methodology chapter explains the research design, which employs grounded theory and qualitative methods, including semi-structured interviews. This chapter details the case selection process, the interview methodology, and the approach to transcription and data analysis. It also reflects on the study's limitations, particularly regarding the availability of key actors.

The results chapter synthesizes the primary findings of the research, focusing on the key actors and institutions driving digitization initiatives. It explores their motivations, challenges, and diverse approaches, offering insights into how their backgrounds and goals shape their contributions. This chapter also examines specific digitization projects, such as the Tibetan Digital Library Project, highlighting their methodologies and assessing their impact on the preservation and dissemination of Tibetan Buddhist texts.

Finally, the conclusion summarizes the study's findings and discusses their implications for the digitization of Tibetan Buddhist texts. It reflects on the broader significance of these efforts for cultural preservation, scholarly accessibility, and technological innovation, while offering an outlook on future research possibilities. By synthesizing the findings and reflecting on the evolving role of digitization, the conclusion underscores the importance of balancing tradition and modernity in safeguarding Tibetan heritage.

By exploring these dimensions, this study contributes to a deeper understanding of the digitization of Tibetan Buddhist texts and its implications for cultural preservation and technological innovation.

1.2. Reflections on my role

As a Swiss-Tibetan born and raised in Switzerland yet deeply rooted in the Tibetan culture and diaspora community, my identity as a Tibetan and a Buddhist practitioner informs this research. I therefore approach this study as an insider. This positionality has advantages and challenges. My personal network facilitated access to key interviewees, enabling in-person engagement in Dharamsala. One interviewee emphasized that effective collaboration with institutions in India often requires physical presence. However, my bicultural identity influenced my interactions during interviews, particularly with monastic figures, where cultural norms of deference and politeness sometimes constrained the scope of my questions.⁷ Language barriers also emerged, as I might have been able to articulate more precise questions in English or German. On the other hand, without these language skills, writing this thesis would not have been possible. Throughout this research, I continuously reflected on these biases and assumptions, striving to maintain objectivity.

⁷ Benet-Martinez and Haritatos 2005: 1018.

2. Literature Review

The digitization of Tibetan Buddhist texts in the digital age has emerged as a critical intersection of cultural heritage preservation, technological innovation, and community engagement. This literature review delves into the motivations, processes, and challenges involved in these digitization efforts, examining how key actors and institutions shape the movement and the cultural and technological forces that drive it.

2.1. Historical Context and Beginnings of Digitization Efforts

The digitization of Tibetan texts is part of a global trend aimed at preserving cultural heritage through modern information technologies. Cultural and heritage resources, such as manuscripts, artifacts, rare books, and photographs, have traditionally been stored in analog formats.⁸ With the availability of digital technology, there has been a shift towards digitizing these analog materials in order to communicate the culture and heritage to coming generations. The significance of this movement becomes particularly clear when considering the challenges faced by Tibetan culture over the past century: the Cultural Revolution in China was a tragic period for Tibetan cultural and religious heritage, resulting in the widespread destruction of monasteries, manuscripts, and books.⁹ The scale of this loss underscored the need for preservation and, in later decades, inspired efforts to safeguard Tibetan literary traditions through digitization.

While the roots of digitization efforts can be traced to the 1960s, when Tibetan studies gained prominence as a field of academic inquiry in the West, the practical realization of digitization began in earnest in the 1980s. This initial momentum was driven by a confluence of factors: growing Western interest in Tibetan Buddhism, advancements in computer technology, and the dedication of both religious and academic communities to preserving Tibetan texts for future generations.¹⁰

One of the earliest milestones in the digitization of Tibetan texts was achieved in 1983. This period is identified as the beginning of experiments in displaying Tibetan script on computers. Early systems, such as the “Barkhang” program developed for the Apple II, represented groundbreaking attempts to adapt computer technology to Tibetan orthography. These efforts required the creation of Tibetan fonts, which were crucial for digital text rendering. Simultaneously, scholars and technologists developed romanization schemes and conversion programs to facilitate the input, editing, and processing of Tibetan texts.¹¹

⁸ Pandey and Kumar 2020: 26.

⁹ Diemberger 2012: 22; Patrick 2007.

¹⁰ Rinchinov 2020: 642 f.; Bazarov et al. 2022: 743.

¹¹ Hackett 2019: 93.

Several pioneering initiatives emerged during this period that would shape the landscape of Tibetan text digitization:

Asian Classics Input Project (ACIP): Founded in 1987, ACIP aimed to digitize Buddhist texts, with a focus on creating searchable and accessible digital archives of classical works.

Tibetan and Himalayan Digital Library (THL): Established in 2000, THL expanded the scope of digitization to include not only texts, but also multimedia resources related to Tibetan culture.

Buddhist Digital Resource Center (BDRC): Initially launched in 1999 as the Tibetan Buddhist Resource Center (TBRC), BDRC became one of the most significant repositories for digitized Tibetan texts, combining traditional preservation methods with innovative digital tools.¹²

The evolution of these projects illustrates the shift in priorities and methods over time and consequently, the development of Digital Buddhology can be categorized into the following three distinct eras.¹³

- 1.) Conservation Era: Spanning the early years of digitization, this phase prioritized the preservation of endangered texts through high-quality imaging and transcription. The goal was to ensure the physical survival of cultural heritage in digital form.
- 2.) Database Era: This phase focused on organizing texts into searchable and tagged corpora, allowing researchers to access and analyze large collections of material more efficiently.
- 3.) Statistical Era: Representing the future of the field, this phase envisions the application of advanced computational methods, including statistical analysis and artificial intelligence, to further enhance the accessibility and usability of Tibetan texts.

To summarize, the emergence of these eras reflects a growing sophistication in the strategies and technologies employed by digitization efforts. While early projects were primarily concerned with preservation, later initiatives sought to transform how Tibetan texts could be accessed, studied, and integrated into broader academic discourses.

2.2. Motivations and Goals Driving Digitization

The digitization of cultural heritage has emerged as a critical approach for preserving and disseminating historical and cultural resources, particularly fragile materials such as manuscripts, texts, and artifacts prone to deterioration over time.¹⁴ However, analog and digital materials are fragile as well and are prone to deterioration over time. Consequently, to provide

¹² Bazarov et al. 2022: 743; Budapesti 2019: 25, 33 ff.; Hackett 2019: 96, 98; Rinchinov 2020, p. 643 ff.

¹³ Budapesti 2019: 29 f.

¹⁴ Patrik 2007.

long term access to analog and digital information for future generations, the preservation of cultural material is required.¹⁵ Beyond preservation, digitization significantly enhances accessibility, allowing global audiences to engage with these resources. Converting texts and artifacts into digital formats facilitates their sharing among scholars, practitioners, and the public worldwide.¹⁶ Specific motivations for digitizing Tibetan Buddhist texts vary across projects and institutions. Some highlight the need to reassemble fractured Tibetan Buddhist canons to preserve and widely share these critical texts.¹⁷ The following divers can be identified: academic research, religious preservation, and social support for local communities.¹⁸ The Asian Classics Input Project (ACIP), for example, aims to make ancient wisdom freely available scholars, translators, and practitioners around the world.¹⁹ The Tibetan and Himalayan Library (THL) focuses on creating a digital space that connects academic, religious, and local communities while facilitating knowledge sharing through its extensive digital resources, collaborative tools, and multilingual capabilities.²⁰ The BDRC prioritizes preserving and providing access to Buddhist texts, addressing limitations of traditional methods.²¹

The motivations are also shaped by historical and cultural contexts. Patrik (2007) discusses the existential threats to Tibetan texts, particularly after the Chinese invasion of Tibet in the 1950s and the Cultural Revolution, which led to the destruction of libraries, temples, and monasteries. She underscores the urgency of digitization to safeguard texts lost or endangered in exile. Hackett elaborates on the preservationist motivations, emphasizing the risks of losing irreplaceable knowledge and the fragility of oral traditions. Additionally, the practical need for large datasets to support comparative research and exegesis has driven the development of digital archives and tools like Optical Character Recognition (OCR) and Natural Language Processing (NLP) technologies.²² Furthermore, technological advancements such as artificial intelligence and the International Image Interoperability Framework (IIIF) play a crucial role to ensure that the unique layouts and contextual information of Tibetan texts are preserved. This approach not only respects the cultural and historical significance of these texts but also facilitates their accessibility and study, thereby contributing to the broader understanding and appreciation of Buddhist civilization in the modern world.²³ Moreover, the primary motivations

¹⁵ Pandey and Kumar 2020: 28.

¹⁶ Pandey and Kumar 2020: 26; Bazarov et al. 2022: 743.

¹⁷ Binning 2019: 391.

¹⁸ Rinchinov 2020.

¹⁹ Rinchinov 2020: 643.

²⁰ Rinchinov 2020: 645 f.

²¹ Rinchinov 2020: 646 f.

²² Hackett, 2019: 91 ff.

²³ Bazarov et al. 2022: 745 f.

can also be identified by depending on the project and era as preserving Buddhist texts and artifacts, enhancing accessibility for researchers and the public, enabling computational research, and fostering collaboration within the Buddhist studies community.²⁴

In summary, the digitization of Tibetan Buddhist texts is motivated by a combination of preservationist, academic, and cultural goals. These efforts are informed by the need to overcome historical challenges, protect fragile traditions, and enable global access to invaluable cultural heritage. The diverse motivations underscore the complexity and significance of digitization as a tool for safeguarding and promoting Tibetan Buddhist literature and culture.

2.3. Challenges and Institutional Barriers²⁵

The digitization of Tibetan Buddhist texts is not without significant obstacles. Pandey and Kumar (2020) provide a structured overview of challenges commonly faced in digitization projects. Though their study is not specific to Tibetan texts, the insights resonate deeply with the barriers encountered in preserving Tibetan cultural heritage digitally. Through a systematic review of existing literature, they bring together the various barriers that often appear across different case studies, providing a comprehensive overview of the obstacles in this field. The authors organize the challenges into four broad categories: technical, legal, financial, and managerial.

Technical challenges are among the most frequently mentioned in the literature. Many institutions face issues such as insufficient infrastructure, the absence of standardized guidelines, and concerns related to the deterioration of digital media. The paper points out that a large number of libraries and archives lack the necessary infrastructure to carry out effective digitization, while the absence of clear, standardized protocols for both digitization and preservation further complicate these efforts. These technical issues are seen as a critical hindrance to the progress of digitization projects. In the case of Tibetan texts, technical challenges are compounded by the limitations of current optical character recognition (OCR) technologies. These technologies often fail to recognize older manuscripts or woodblocks with uneven text quality or poor preservation.²⁶ Moreover, the issue of interoperability between various digital archives remains an ongoing challenge. Different institutions often create siloed systems that cannot seamlessly integrate with one another, limiting the effectiveness of digital resources.²⁷ Additionally, the rapid evolution of technology means that many digital

²⁴ Budapesti 2019.

²⁵ Pandey and Kumar 2020: 28.

²⁶ Bazarov et al. 2022: 746.

²⁷ Hackett 2019: 17.

preservation systems quickly become outdated, creating further hurdles for institutions attempting to maintain and update their digital archives.

Legal issues, particularly around intellectual property rights (IPR), are another significant barrier. Pandey and Kumar (2020: 29) highlight the difficulties faced by cultural heritage institutions when navigating the complex landscape of IPR, which often create obstacles for digitizing and distributing cultural materials. This legal complexity adds another layer of difficulty to an already challenging process.

Financial constraints are also a recurring theme in the literature. The authors emphasize that insufficient funding is a major obstacle at both the beginning and throughout the life cycle of digitization projects. The lack of financial resources makes it difficult for institutions to sustain these efforts, and the paper references several studies that show how this global issue affects the implementation and success of digitization initiatives.²⁸ The high costs associated with creating training data for machine learning and deep learning models, such as for text recognition or preservation tasks, further complicate financial sustainability. Additionally, building and maintaining these models is resource-intensive, requiring significant computing power and time to prepare large, well-curated datasets.²⁹ Moreover, funding bodies often prioritize new projects over the long-term maintenance of existing ones, leading to the premature demise of digital initiatives before they can fully mature or be properly maintained. This funding gap is exacerbated by a general lack of understanding among funding bodies about the true costs of software development and long-term sustainability. The true capital required to build and maintain digital systems is often underestimated, with grants being insufficient to cover ongoing costs such as software updates and the employment of skilled personnel.³⁰

Managerial challenges are also significant, with many projects suffering from a lack of clear policies and procedures. The review underscores how the absence of a national-level digitization policy leads to inconsistencies and confusion among professionals. Additionally, the need for skilled personnel and adequate training is highlighted, as many projects are delayed or fail due to a shortage of expertise in digitization practices.³¹

Institutional barriers also arise from the limited availability of digitized Tibetan texts for public use. Many monasteries have been electronically typesetting their textbooks but have not released the underlying e-texts. Similarly, the Kagyu, Sakya, and Nyingma sects have produced searchable e-text collections of their core writings but retain them for internal use only. The

²⁸ Pandey and Kumar 2020: 29.

²⁹ Bazarov et al. 2022: 747.

³⁰ Budapesti 2019: 35.

³¹ Pandey and Kumar 2020: 30.

author, however, does not elaborate on or provide reasons for these restrictions.³² This lack of openness prevents wider academic and public engagement with Tibetan cultural heritage and slows the development of a more robust digital archive for research and education.³³

In addition to the four categories outlined by Pandey and Kumar, Binning (2019) examines ethical and spiritual concerns related to the digitization of sacred Tibetan texts. Her study of the Tibetan Nyingma Meditation Center (TNMC) in Berkeley, California, highlights ambivalence toward digitization. While it enhances accessibility and preservation, it also raises concerns about the erosion of spiritual and cultural meaning. Some members of the TNMC view the process as compromising the sacredness of the texts, creating institutional resistance, especially in organizations where the texts are central to spiritual practice.³⁴ Further complicating the issue of institutional resistance is the concern over control and access. As Binning (2019) notes, organizations such as the TNMC prioritize maintaining control over the dissemination of sacred texts. This desire to control access to Tibetan texts, grounded in spiritual and cultural traditions, leads some institutions to prefer physical over digital formats. The tension between the traditional view of the book as sacred and the modern view of it as a resource to be shared and disseminated creates a significant institutional barrier to digitization.³⁵

Budapesti (2019) adds to this discussion by noting the challenge of transferring ownership of digital projects to libraries or other institutions for long-term maintenance. The lack of clear exit strategies and data migration plans further exacerbates this problem, leading to the risk of data loss and the failure to ensure long-term accessibility of digitized materials.³⁶

In conclusion, the digitization of Tibetan Buddhist texts faces multiple challenges that hinder progress in preserving and disseminating Tibetan cultural heritage. Technical issues such as inadequate infrastructure and limitations in OCR technology, coupled with the complex legal and ethical concerns surrounding intellectual property and the sanctity of sacred texts, pose significant obstacles. Financial constraints further complicate these efforts, with limited funding affecting both the initial stages and long-term sustainability of digitization projects. Managerial challenges, including the lack of clear policies and trained personnel, further exacerbate the situation. Moreover, institutional barriers, such as restricted access to digitized materials and the desire for control over dissemination, reflect broader tensions between tradition and modernity. These challenges highlight the need for more cohesive strategies, increased funding,

³² Hackett 2019: 97.

³³ Hackett 2019: 106.

³⁴ Binning 2019: 391.

³⁵ Binning 2019: 396.

³⁶ Budapesti 2019: 12.

and greater institutional collaboration to ensure the long-term success and accessibility of digitized Tibetan texts.

3. Methodology

This thesis explores research questions focused on personal motivations, cultural influences, institutional goals, and the challenges surrounding the digitization of Tibetan Buddhist texts. These themes require in-depth insights into individuals' experiences and values, making qualitative methods particularly suitable for this study. By employing techniques such as interviews and thematic analysis, I aim to collect detailed data that reflects the socio-cultural context and uncovers the personal and institutional motivations driving digitization efforts.

Given the scope of a master's thesis and the time constraints associated with this project, I conducted four interviews with participants representing diverse perspectives on digitization. While these interviews provided valuable insights, the unavailability of certain key actors limited the breadth of my findings. I acknowledge that the limited number of interviews may not fully represent the diversity of opinions and experiences within the broader community of digitization actors. Nevertheless, these interviews offer valuable insights into the challenges associated with digitization, particularly given the range of perspectives they highlight: From actors dedicated to preserving and conserving historical texts, to those driving technological innovation through artificial intelligence, and individuals who are deeply networked and lead transformative digitization projects.

For data analysis, I adopted Kathy Charmaz's method of constructing grounded theory, a qualitative approach rooted in constructivist epistemology. This methodology emphasizes understanding how individuals construct meaning within their social and cultural contexts, aligning well with the focus of this thesis on the dynamic interplay between tradition, culture, and digital innovation.³⁷ Grounded theory's inductive approach emphasizes developing theories from the data itself, rather than imposing pre-existing frameworks. My research followed this approach, beginning with the simultaneous collection and initial analysis of data. Since all but one interview was conducted in Tibetan, I translated the recorded interviews into English. This process was meticulous but beneficial, as it allowed me to review and reflect on the data multiple times, facilitating constant comparison between interviews.

I utilized F4, a software for transcription and qualitative analysis, to aid the process. The transcription was followed by an initial round of open coding, where I broke down the data into

³⁷ Charmaz 2014: 16ff., 239.

discrete, manageable codes.³⁸ In the second round of focused coding, I grouped these codes into broader categories, identifying patterns that emerged from the data.³⁹

A core element of grounded theory is constant comparative analysis, which involves continuously comparing data across interviews to refine categories and relationships. I applied this process as I analyzed the data, constantly revisiting earlier interviews to identify recurring themes and nuances. Additionally, theoretical sampling, in which data collection is guided by emerging concepts, was limited in this study due to time constraints and the unavailability of key participants. Ideally, I would have expanded the sampling to include a broader range of participants to strengthen the depth of the theory, but practical limitations restricted this process. Throughout the analysis, I also engaged in taking fieldnotes and memo-writing, a key component of grounded theory, to document insights, track the development of categories, and reflect on the relationships between emerging concepts.⁴⁰ This iterative process allowed me to continuously refine my analysis and maintain a close connection to the data. However, due to the limited number of interviews, theoretical saturation, the point at which no new themes or insights emerge, was not fully achieved. This could limit the comprehensiveness of the theory, as additional interviews would likely have provided further depth and refinement.

To gather insights and information about the Tibetan Digital Library Project, I utilized multiple sources, including publicly available content on websites, YouTube videos, and interview data. However, as aforementioned, I was unable to secure an interview with representatives from the Department of Culture and Religion at the Central Tibetan Administration (CTA).

While these limitations narrow the scope of my findings, they also underscore the need for further research in this area. Despite these challenges, grounded theory allowed me to develop a nuanced understanding of the motivations and challenges surrounding digitization in the Tibetan context, providing a foundation for future work in this field.

3.1. Case Selection

This thesis focuses on key actors within the digitization movement for Tibetan Buddhist texts. Geographically, the scope is limited to efforts outside of Tibet and China due to restricted access to Tibetan territories. In the literature, initiatives such as the Asian Classics Input Project (ACIP), the Tibetan and Himalayan Library (THL), and the BDRC are frequently mentioned as leading digitization projects. Among these, BDRC, which hosts the largest online archive of Tibetan Buddhist texts and provides open access via its online library, mobile app, and hard drive distribution programs, was a clear choice as a key actor.

³⁸ Charmaz 2014: 109 ff.

³⁹ Charmaz 2014: 138 ff.

⁴⁰ Charmaz 2014: 164 ff.

After initial contact on May 1, 2024, with Jann Ronis, the Executive Director of BDRC, and scheduling an appointment for May 3, 2024, the interview could not take place. Despite several follow-ups in May, June, and July, the only response came from a staff member who informed me that Ronis was preoccupied with urgent tasks. Suggestions to consult the BDRC News section were appreciated, but no direct engagement was possible.

In my focus on identifying key actors, the LTWA emerged as a significant institution. Founded in 1970 by the Fourteenth Dalai Lama, the LTWA is dedicated to restoring, protecting, preserving, and promoting Tibetan culture. Recognized in 1995 by the Tibetan Parliament-in-Exile as the National Library, Museum, and Archive in exile, the LTWA houses a meaningful collection and has collaborated with institutions such as Emory University to develop the Digital Library of the LTWA. While digitization is not the LTWA's primary focus, its archive and digitization efforts made it an important player in this study. Therefore, two interviews were conducted with representatives of the LTWA: The director and the head of the Tibetan Books and Manuscripts Library.

Based on the recommendation of the LTWA director, I also reached out to Monlam IT and the Department of Religion and Culture of the Central Tibetan Administration. Monlam IT with its MonlamAI tool represents a cutting-edge initiative integrating artificial intelligence into Tibetan text digitization, with the potential for significant impact in the future. I successfully conducted an interview with CEO and founder of Monlam IT, which provided valuable insights into their goals and technologies. However, despite attempts to contact representatives from the Department of Religion and Culture, I could not secure an interview with them. This is a key limitation of this study, as their Tibetan Digital Library Initiative, funded by USAID, represents a significant digitization effort.

Additionally, I initially considered including a monastery-affiliated library in this study, as these institutions often serve as key custodians of Tibetan Buddhist texts. To explore this perspective, I contacted Songtsen Library, a Drikung Kagyu institution focused on the collection, preservation, and dissemination of Tibetan and Himalayan literary works. However, my contact person at Songtsen Library informed me that their digitization efforts were still in the early stages. While this made them less relevant to the primary focus of this thesis, I believe that including a monastery-affiliated library could have provided valuable insights into how monastic traditions approach digitization. Future studies might benefit from exploring this dimension further.

Finally, I included a well-connected and experienced individual referred to under the pseudonym "Tashi", whose insights offered a broader perspective on the digitization movement

and its challenges. These diverse case selections reflect an effort to capture different perspectives within the digitization movement, despite limitations related to time and access.

3.2. Interview

For each interview, I prepared an interview guide that was mostly consistent across all participants, with minor adjustments to include specific background information such as the interviewee's name, position, and notable projects. I also included a brief introduction about myself and my thesis to provide context and explain the purpose of the interview. This introduction helped establish a connection with the participants and ensured that my research focus remained clear throughout the conversation. While the interview guide served as a valuable framework, I was not always successful in asking all the questions exactly as planned. Additionally, I refrained from explicitly asking about the interviewees' relationship with Tibetan Buddhism, as I became uncertain about how to phrase this question effectively.

3.2.1. Interviews Conducted

As mentioned in the previous chapter, I conducted four semi-structured interviews with participants selected for their unique perspectives and involvement in the digitization of Tibetan Buddhist texts. The interviews were informed by insights gained from the workshop *Soft Skills Qualitative Research Interviews: Making Connections*, held on December 4 and 11, 2023, and led by Dr. Darcy Alexandra from the Institute of Social Anthropology at the University of Bern. Organized by the Graduate School of the Arts and Humanities, the workshop provided foundational knowledge and practical skills for conducting qualitative interviews. It emphasized the importance of thorough preparation for both the interviewer and the interviewee, including acquiring relevant background knowledge, developing a guiding framework, and crafting a comprehensive statement to direct the interview process. Building rapport with participants was highlighted as essential, achieved through casual conversation while respecting cultural sensitivities.

The workshop underscored the value of prioritizing the interviewee's perspective by using open-ended questions to elicit detailed and nuanced responses, while remaining flexible in adapting the questions as necessary. Active listening was emphasized as a critical skill, involving attentiveness to nuances in responses and the use of follow-up questions to deepen understanding. Techniques such as paraphrasing and summarizing responses were recommended to confirm understanding and ensure alignment with the interviewee's intent. Respect for the expertise of participants and fostering a collaborative atmosphere were deemed essential for encouraging open and meaningful discussions. These insights directly shaped my approach to conducting semi-structured interviews, providing a balance of structure and

adaptability. As a result, I developed my interview guide based on these principles, ensuring a systematic yet flexible approach to data collection.

My goal was to conduct the interviews in person in Dharamsala, where two institutions, the LTWA and the Monlam IT, are located. This plan aligned with my visit to India during Tibetan New Year, allowing me to arrange interviews in Dharamsala.

A critical factor in successfully securing these interviews was the support of a contact person in Dharamsala. While my initial correspondence with the institutions was conducted via e-mail, and I informed them of my availability during my stay, fixing specific dates proved challenging. My contact person facilitated this process by visiting the respective offices in person, ensuring that appointments were scheduled for all three interviews in Dharamsala. Without their assistance, it would have been significantly more difficult to secure these meetings within the limited timeframe.

The interviews, conducted between February and October 2024, included the following participants: (1) Geshe Lhakpa Dorjee, Director of the LTWA, (2) Geshe Lobsang Monlam, founder and CEO of Monlam IT, (3) Sonam Topgyal, Head of the Tibetan Books and Manuscripts Library at the LTWA and (4) Tashi, a well-connected individual involved in digitization efforts.

After spending Tibetan New Year in Rewalsar, I arrived in Dharamsala on February 13. I stayed on the grounds near the Government complex of the Central Tibetan Administration, close to the Tibetan Parliament in Exile, an area known for its peaceful ambiance and scenic views. My first interview took place on the same day around 10:30 AM with Geshe Lhakpa Dorjee from the LTWA. I entered the main building and was guided to his office on the second floor, where classes are held. His office was modest, featuring a simple desk, a bookcase, and his laptop. After the interview, Geshe Lhakpa Dorjee kindly gave me a tour of the building, showing me the museum on the first floor and explaining the key artifacts and exhibits. He emphasized that the museum displayed not only items from Tibet but also significant works made in exile. He also introduced me to the scanning room and the English and Tibetan libraries on the ground floor, where I met some of the staff. It was impressive to see many old recording and storing devices, such as tape recorders, radios, and even typewriters with Tibetan fonts, alongside CDs, DVDs, and diskettes.

For the second interview, I visited the apartment of Geshe Lobsang Monlam on February 17 located above the Monlam Tibetan IT Research Center. His apartment, with its warm colors and wooden furnishings, created an inviting and modern atmosphere. The interview took place in the living room, but when we began discussing technical aspects of his work, Geshe Lobsang

Monlam led me to his office, where a low table and laptop were set up. It became apparent that he preferred to work seated on the floor in a cross-legged position. During our conversation about his PhD dissertation, I held his book, which was large, heavy, and written in Tibetan. After the interview, I thanked him and returned to my room.

The third interview took place on February 19, once again at the LTWA with Sonam Tobgyal, the head of the Tibetan Books and Manuscripts Library. This interview was held in the library, nestled among bookshelves packed with Tibetan Buddhist scriptures, most of which were clothed in orange, yellow, and red coverings. The atmosphere was awe-inspiring, being surrounded by such a vast collection of sacred texts.

Finally, the last interview was held online via Microsoft Teams on October 25. The video quality wasn't the best, but I could clearly see the interviewee's face and catch a glimpse of his background, which was rather sparse except for a picture of Dudjom Rinpoche. This interview was the longest of all, lasting nearly two hours. It was also the only interview where, after posing an initial question, I scarcely needed to intervene, as Tashi spoke almost uninterruptedly, articulating a continuous flow of thoughts.

In conducting the interviews for my thesis, I faced challenges in balancing a structured interview process with cultural sensitivity, especially when interviewing a Geshe. Although my interview guide was well-prepared, I often found myself conflicted about how direct to be in follow-up questions or steering the conversation. As a bicultural individual, I was torn between the Swiss academic style of directness and the Tibetan cultural expectations of respect, particularly with monastic figures. This internal tension impacted my ability to guide the interview effectively and intervene when the conversation veered off-topic, as I struggled to reconcile my dual cultural identities and the expectations of both cultural contexts. This challenge highlights the complexities of navigating bicultural communication, where cultural norms influence behavior and decision-making (Benet-Martinez and Haritatos 2005).

3.2.2. Transcription

To create a comfortable and open atmosphere for the interview participants, all in-person interviews conducted in Dharamsala were held in Tibetan. I recorded the interviews and, rather than transcribing the Tibetan verbatim, I directly translated the content into English while using the F4 software. Translating directly from one language to another inherently carries the risk of some loss of meaning. Nevertheless, I made every effort to remain as faithful as possible to the original statements while ensuring that the responses were clear and readable.

The only online interview was conducted in English, although neither I nor the interviewee are native English speakers. To ensure clarity and readability, all transcriptions were smoothed,

with pauses, filler words, and hesitation sounds omitted. This approach prioritizes content analysis over linguistic features, as the study focuses on understanding the data rather than analyzing patterns of speech. By streamlining the transcriptions, I aimed to present the participants' insights in a form suitable for thorough and coherent analysis.

When Tibetan terms and names are mentioned, I used a phonetic transcription followed by the term in Tibetan script and its Wylie transliteration in brackets. Exceptions were made for titles (such as Geshe, Lama, or Rinpoche) and terms already familiar to an English-speaking readership (such as Dalai Lama). This ensures accessibility for readers while maintaining the authenticity and specificity of Tibetan terminology. When participants referred to *Inji* (Tibetan: མིན་ཇེ, Wylie: in ji, literally “English man or woman”) or *Chigyal* (Tibetan: ཕྱི་རྒྱལ་, Wylie: phyirgyal, literally “foreigner”), I opted to translate these terms as “Western.” This choice reflects my understanding, as a Tibetan, of how these terms are commonly used to describe individuals from non-Asian industrialized nations, aligning with interpretations like those of Arizaga (2022). Arizaga follows Baumann and Prebish, who describe “the West” not merely as a geographical region but as encompassing industrialized nations outside Asia where specific cultural, social, and ideological frameworks, including Buddhist practices, have taken root.

At the same time, I acknowledge the argument put forth by Kleisath (2013) for using “White” instead of “Western” in the context of Tibet studies. Kleisath critiques the term “Western” for obscuring the racial identity of scholars and institutions, which are predominantly white, and argues that it allows whiteness to remain unmarked and unexamined. Drawing on critical race theory, she notes how the racialized identities of non-white groups, such as Tibetans, Indians, and Han Chinese, are frequently highlighted in academic discourse, while whiteness is normalized and rendered invisible. This imbalance not only privileges white scholars with a neutral, unexamined position but also marginalizes critical discussions about how whiteness shapes academic work and its implications in the field of Tibet studies.

When analyzing the responses of interview participants, the term “White” is particularly apt when referring to scholars. In this context, participants clearly meant white academics when they used terms like *Inji* or *Chigyal*. Their emphasis on race reflects both a recognition of the dominance of whiteness in academia and a distinction from themselves as Tibetans. With whiteness comes a white normative, which shapes not only academic discourse and influences the extent to which Tibetan voices and perspectives are acknowledged and represented in such spaces.

While “White” accurately describes many individuals in Tibet studies, applying it consistently would necessitate referring to “Western institutions” as “white universities.” However, this

terminology is highly specific and predominantly used in the context of higher education in the United States, particularly with the phrase “predominantly white institutions.” For this reason, I chose to retain “Western” in this study, while recognizing that the term “Western” remains controversial and open to critique for its ambiguity and its potential to obscure underlying racial and cultural dynamics.

4. Results

This chapter presents the findings derived from my research, exploring the roles, strategies, and motivations of key contributors to the digitization of Tibetan cultural heritage. It focuses on three main case studies: (1) the Library of Tibetan Works and Archives (LTWA), (2) the Monlam Tibetan IT Research Centre (Monlam IT) and (3) Tashi, an individual whose work exemplifies grassroots efforts in digitization.

4.1. Setting the Stage: Key Actors and Their Contexts

Before discussing the results derived from interviews, it is essential to provide an overview of these institutions and individuals based on the interviews conducted as well as additional sources such as official websites and public materials. This introduction highlights their backgrounds, missions, and the contexts in which they operate, setting the stage for a deeper understanding of their diverse approaches to preserving and sharing Tibetan heritage.

4.1.1. Library of Tibetan Works and Archives (LTWA)

Established in 1970 by the Tibetan government-in-exile, the LTWA is widely regarded as a foundational institution in preserving Tibetan cultural and historical heritage. Located in Dharamsala, India, the LTWA was envisioned by the 14th Dalai Lama as a repository for Tibetan cultural materials and a hub for research and education.

As explained by Geshe Lhakpa Dorjee, the Library’s mission emerged in the aftermath of the Tibetan diaspora following the Chinese invasion. “[T]he Library’s mission began after Tibetans were forced to flee Tibet due to the Chinese invasion and arrived in exile. To explain it briefly, when fleeing, Tibetans were unable to bring many possessions, only hoping to save their lives. Even then, they went great lengths to take at least one religious object, ascribing it great sacred value, such as holy objects or manuscripts. So, most of them came bringing such goods. Likewise, they would bring their own children. Holding them equally as dearly. Arriving in exile, both are offered to the Dalai Lama, so heart-wrenching. By great struggles we arrived like this. So, the manuscripts and statues – not all but most of it – are offered to the Dalai Lama. [...] After some years, the Dalai Lama suggested that, since so many objects had been offered, a place should be built to safeguard them. If they were kept at his residence, not everyone would

be able to visit because of security reasons. But if they were kept nearby, everyone would be able to learn about them and see them.”

The Dalai Lama’s vision for the Library, as reflected in this quote, illustrates the immense cultural and spiritual significance placed on these objects. While the act of offering them to the Dalai Lama symbolized a deep reverence, there was also a practical need to safeguard these items for future generations. His suggestion to establish a separate space for these objects allowed for both preservation and public access, ensuring that the heritage of the Tibetan people would not be confined to private holdings but could be shared with the broader community.

The LTWA is governed by a board, which serves as its apex authority. Its Governing Board consists of nine members, including three ex-officio representatives from the Ministry of Culture and the Ministry of External Affairs of the Government of India, and the Kalon (Minister) of the Department of Religion and Culture of the Central Tibetan Administration. The Dalai Lama served as Chairman until 2015 and is now the Chief Patron. The remaining six members are appointed by the Board, which directs policy and provides advice and guidance for the institute’s overall development.⁴¹

Reflecting the breadth of its mission, which encompasses manuscript preservation, translation of classical texts, and educational programs for both Tibetan and non-Tibetan scholars, the LTWA operates nine departments: Administration, Museum, two libraries (the Tibetan Books and Manuscript Library and the Foreign Language Reference Library), Culture Research and Publication, Research and Translation, Audio-Visual Archive, Oral History, and the Science Department. Of particular relevance to this research is the Tibetan Books and Manuscript Library, which houses over 122’000 titles, including manuscripts, books, xylographs, documents, and illuminated scriptures, ranging from centuries-old works to contemporary publications. While parts of the collection are open to the public, access to others is restricted to accredited scholars and researchers.

New titles, ranging from rare manuscripts to contemporary reprints, are added annually. The entire collection is catalogued in a computer database in the Tibetan language, a unique initiative that enhances both its scope and accessibility. This online cataloguing system allows users to access any part of the collection, making it the only such collection catalogued in Tibetan.⁴² Digitization plays an important role in the LTWA’s mission, with scanning technologies employed to digitize ancient manuscripts, ensuring their preservation against material degradation. Over the past 13 to 14 years, LTWA has nearly completed the digitization

⁴¹ Administration. <https://tibetanlibrary.org/administration/>.

⁴² Tibetan Books and Manuscript Library. <https://tibetanlibrary.org/tibetan-books-and-manuscript-library1/>.

of rare handwritten manuscripts. However, a significant portion of the block print category remains to be digitized, and overall, about 30% of the library's collection has been digitized to date. Notably, the Library has successfully digitized rare manuscripts, including the Phukthal Kangyur from Phukthal Monastery in Ngari, consisting of 120 volumes. This complete scanned collection is a unique resource that is not available elsewhere.⁴³

To further its academic and cultural mission, the LTWA has signed Memorandums of Understanding with several national and international academic institutions. The growth and diversification of its collections and activities reflect the LTWA's unwavering commitment to its aims and objectives.

4.1.2. Monlam Tibetan IT Research Centre (Monlam IT)

Monlam Tibetan IT Research Centre (Monlam IT), founded by Geshe Lobsang Monlam, is a key institution dedicated to the development and application of information technology in the context of the Tibetan language. The Centre's primary objective is to integrate modern technological advancements with Tibetan linguistic and cultural preservation, thereby facilitating the digital accessibility of Tibetan knowledge. This initiative is particularly significant as it addresses the challenges of maintaining and promoting Tibetan heritage in an increasingly digital world.

In response to a request from the Dalai Lama, Geshe Lobsang Monlam and his team began creating the Monlam Grand Tibetan Dictionary in 2012, which has since become the most comprehensive Tibetan dictionary in the world. While other dictionaries may provide more detailed explanations, the vastness of Tibetan language and culture accounts for this project's unparalleled breadth. Over the past three decades, Tibetans have produced a remarkably rich collection of materials, with 30 million pages already gathered and an estimated total of 50 to 60 million pages in existence.

The Monlam Grand Tibetan Dictionary is a monumental achievement, comprising about 500 pages per volume across 223 printed volumes. This work, created by over 150 editors and staff, includes more than 360'000 Tibetan-language definitions. It represents a significant contribution to preserving and advancing the Tibetan language in the digital age. Serving as a comprehensive lexical resource, the dictionary supports a wide range of linguistic, scholarly, and cultural applications. Furthermore, it is an invaluable tool for digitizing and processing Tibetan texts, marking an unprecedented accomplishment in Tibetan scholarship and digital innovation.⁴⁴

⁴³ Sonam Topgyal, Paragraph 5.

⁴⁴ Geshe Monlam: The Man behind the Dictionary. <https://www.bdrc.io/blog/2023/04/27/geshe-monlam-the-man-behind-the-dictionary/?cookie-state-change=1732450018486>. Geshe Lobsang Monlam, Paragraph 2.

In addition to developing dictionaries, Monlam IT, founded in 2012, focuses on websites, library systems, and advancing the usability and accessibility of the Tibetan language. To date, the team has created 37 different apps for both the public and organizations. In 2019, Monlam IT began working on artificial intelligence (AI) projects, but progress was temporarily halted by the COVID-19 pandemic in 2020. During this period, the team continued to educate themselves and prepare, leading to the presentation of their project at the International Association for Tibetan Studies Seminar in the Czech Republic in 2022. Encouraging collaboration, Monlam IT partnered with Cambridge University and UC Berkeley to launch Monlam AI, marking the start of this joint initiative just over a year ago.⁴⁵

This central project of Monlam IT, Monlam AI, is a suite of artificial intelligence tools designed to enhance the Tibetan language's usability and accessibility. The platform includes four primary machine learning models: a Machine Translation Model (Tibetan-English), Optical Character Recognition (OCR), Speech-to-Text, and Text-to-Speech. These tools support a range of applications, including translation, transcription, and the conversion of text into speech and vice versa. Accessible online at monlam.ai, the Monlam AI platform offers these resources free of charge, contributing to the widespread adoption of Tibetan language technologies.⁴⁶ These tools are designed to support a range of applications, from translation and transcription to the conversion of text into speech and vice versa. The Monlam AI platform, accessible online at monlam.ai, offers these resources to users free of charge, contributing to the widespread adoption of Tibetan language technologies.

Beyond its technological contributions, the Monlam IT also plays an important role in education and training. The Centre aims to foster the development of future Tibetan computer scientists by providing opportunities for research and learning in fields such as artificial intelligence and machine learning. As part of its long-term goals, the Centre plans to establish a hub for technological excellence in Bangalore, India, to offer training in AI and other technologies that can benefit Tibetan communities.⁴⁷ Since the history of Monlam IT is closely tied to Geshe Lobsang Monlam, I will now provide an overview of his background.

“I arrived at Sera Monastery in 1993. At Sera-Mey, I pursued my studies in dharma texts and completed the Geshe exam in 2013. [...] In 2002, I got my first computer. While computers had already been available at Sera-Mey Monastery, I hadn't used them until then. In 2002, I bought

⁴⁵ Geshe Lobsang Monlam, Paragraph 2.

⁴⁶ Geshe Lobsang Monlam, Paragraph 24

⁴⁷ AI Pioneer Geshe Monlam Visits the BDRC Office. <https://www.bdrc.io/blog/2024/01/23/ai-pioneer-geshe-monlam-visits-the-bdrc-office/>.

my own computer. For me, the important thing wasn't just using it, but also understanding how it worked behind the scenes.”⁴⁸

Geshe Lobsang Monlam's journey is deeply intertwined with both his monastic background and his pioneering role in the digitization of Tibetan Buddhist texts. His involvement in the planning and design of the Sera Mey assembly hall, led to financial gifts from monastery sponsors and well-wishers. With this funding, he was able to purchase his first computer, which he taught himself to use, eventually learning software development. As he worked with various versions of Windows, he saw the need for more diverse Tibetan fonts beyond those already in use, such as TCRC Bodyig. At the time, only Uchen (Tibetan: དབུ་ཅན་, Wylie: dbu can) script was available for digital use, while the Umey (Tibetan: དབུ་མེད་, Wylie: dbu med) script was yet to be developed. This gap led him and his team to create the Umey script in 2004, which was published in 2005. As Unicode emerged, they gradually adapted their fonts to support this new standard, starting with Monlam Bodyig 1, which was not yet Unicode-compatible, and progressing to Monlam Bodyig 3, which fully incorporated Unicode.

Geshe Lobsang Monlam's self-taught journey in software development began with learning Visual Basic and was followed by a focus on C#, which he identified as crucial for future technological advancements. Despite limited English proficiency at the time, he persisted by reading books and experimenting with coding, eventually refining his skills. A key turning point in his work came when he realized the absence of a comprehensive Tibetan dictionary. He stated: “However, before anything else, we needed words. While searching for Tibetan dictionaries, we found a few, but quickly realized that there was no truly comprehensive one.”⁴⁹ The aforementioned Monlam Grand Tibetan Dictionary was therefore launched in 2022.⁵⁰ Geshe Lobsang Monlam initially developed library software for Windows in 2018, dedicating significant effort to create the system entirely on his own. The software, designed specifically for Tibetan use, was a noteworthy achievement at a time when library science in Tibetan was still in its nascent stages. However, recognizing the limitations of Windows-only compatibility, the broader challenges in Tibetan library science, and the difficulties of connecting and exchanging ideas with universities, where he was often viewed primarily as a religious representative of a monastery, Geshe Lobsang Monlam began pursuing a PhD in Library Science at Bangalore University in 2019. He completed his doctoral studies in 2023, further solidifying his contributions to Tibetan library science and digital innovation.⁵¹

⁴⁸ Geshe Lobsang Monlam, Paragraph 2.

⁴⁹ Geshe Lobsang Monlam, Paragraph 2

⁵⁰ Launch of Monlam Grand Tibetan Dictionary. <https://tibet.net/launch-of-monlam-grand-tibetan-dictionary/>.

⁵¹ Geshe Lobsang Monlam, Paragraph 8, 86.

4.1.3. Tashi

Tashi is a dedicated leader in the preservation and modernization of Tibetan Buddhist literature through his work with multiple organizations and innovative projects. His journey reflects a unique blend of personal perseverance, intellectual curiosity, and dedication to innovation.

“[...] I stopped going to school when I was 14. By the time I was 16, I was looking after cows. Then I moved to India and was raised in monasteries and similar environments. [...] in 2013 and 2014, the Minister of Education came to my office and said, ‘We have a big problem. We have the best textbooks and the best words in our textbooks, but when we talk to kids in TCV⁵², CST⁵³, and other schools, we realize their language is becoming poorer and poorer [...]. So, we heard that you’re working on language education and collaborating with specialists, etc. Now, how can we change this situation?’ I was thinking, in the evening, I’m basically a cow keeper from Europe, and here I am, sitting in an office, answering questions about language education to ministers. Who am I to be in this position?”⁵⁴

As a teenager, Tashi relocated to India to immerse himself in intensive studies of the Tibetan language, Buddhist philosophy, and traditional sciences, including cosmology and medicine.⁵⁵ There, he not only educated students but also introduced modern teaching methodologies, harmonizing them with traditional learning practices. His innovative approach gained recognition and was adopted more broadly within his institution.

Tashi’s career has since evolved to encompass academic, technological, and practical efforts to promote and digitize Tibetan language and literature. He has played a pivotal role in developing educational tools and translation resources that have significantly enhanced access to Tibetan studies for learners. Furthermore, Tashi collaborates closely with the BDRC on enhancing Optical Character Recognition (OCR) technologies to convert scanned Tibetan texts into machine-readable formats. Additionally, he is instrumental in the MonlamAI project, which integrates artificial intelligence to improve the cataloging and accessibility of Tibetan manuscripts, enabling interactive features such as speech-to-text and text-to-speech capabilities.⁵⁶

4.2. Motivation and Goal

The digitization of Tibetan texts is a complex and multifaceted process, driven by diverse motivations and shaped by the unique backgrounds of the individuals and institutions involved. This chapter delves into the underlying goals and aspirations articulated by key actors in the

⁵² Tibetan Children’s Village.

⁵³ Central School for Tibetans.

⁵⁴ Tashi, Paragraph 10.

⁵⁵ Tashi, Paragraph 10.

⁵⁶ Tashi, Paragraph 40, 46.

digitization movement, as uncovered through interviews. By analyzing their responses, three primary motivations emerge, each reflecting a distinct dimension of their work and vision:

1. **Preservation and Conservation of Tibetan Culture:** This is the most frequently mentioned motivation, underscoring the urgent need to protect Tibetan cultural heritage from erosion and loss. Within this theme, the interplay between traditional conservation practices and the necessity for modernization and adaptation in cultural preservation is particularly noteworthy.
 - a. **Modernization and Adaptation in Cultural Preservation:** While firmly rooted in the desire to safeguard Tibetan culture, one particular actor emphasizes the importance of integrating modern technologies and methodologies to ensure its relevance and accessibility in the digital age. This sub-theme reveals how tradition and innovation are intertwined in the effort to preserve cultural identity.
2. **Accessibility and Democratization of Knowledge:** Another key motivation centers on making Tibetan texts widely accessible, transcending geographic, linguistic, and socioeconomic barriers. This goal reflects a broader desire to democratize knowledge, ensuring that the rich intellectual and spiritual traditions of Tibet are available to a global audience.
3. **Socioeconomic Impact:** Although mentioned less frequently, the digitization movement also holds significant socioeconomic implications. It creates opportunities for employment, skill development, and collaboration, particularly within Tibetan communities, highlighting an additional dimension of its impact.

Through the lens of these motivations, this paragraph seeks to provide a nuanced understanding of the goals driving the digitization of Tibetan texts. Each section will explore one of these codes in depth, revealing how individual and institutional efforts intersect with cultural, technological, and socioeconomic considerations to shape the broader digitization movement.

4.2.1. Preservation and Conservation of Tibetan Culture

The theme of preserving and conserving Tibetan culture is central to the responses of Geshe Lhakpa Dorjee and Sonam Topgyal from the LTWA. Both emphasize safeguarding the Dharma and Tibetan heritage not only for Tibetans but for humanity as a whole.

According to Geshe Lhakpa Dorjee, the motivation behind preservation efforts is deeply rooted in Tibetan cultural values that prioritize caring for, preserving, and disseminating the Dharma. He explains, “The initial idea was that we need to preserve the Dharma, which is what we as Tibetans always say. We need to care for it, preserve it, and spread it among humankind.” This sentiment reflects a deep-rooted commitment to safeguarding the spiritual teachings and

cultural practices that define Tibetan identity. The urgency of preservation is further underscored by concerns over cultural erosion, as Geshe Dorjee poignantly notes, “Tibetan culture is at risk of dying out; science is not.”

This perspective is echoed by Sonam Topgyal, who highlights the pivotal role of the LTWA in preserving Tibetan scriptures entrusted to them. He recounts, “At that time, scriptures could be brought from Tibet and presented to His Holiness. After being offered to him, he entrusted them to the library for safekeeping. Thus, they were first offered to him and then passed on to us”.

Geshe Lhakpa Dorjee explains that after migrating to the West, access to greater resources allowed for the inclusion of specialized conservation techniques alongside preservation. “When we came to the West one by one, and we got more and more resources, in addition to preservation, we also engaged in conservation. When we noticed signs of decay, we initiated conservation efforts by employing specialized techniques to preserve the manuscripts”. Conservation efforts, in this context, were focused on addressing the physical decay of manuscripts and using modern methods to stabilize and maintain their integrity.

Complementing this perspective, Sonam Topgyal highlights the importance of adapting to technological advancements to ensure the longevity of cultural materials. He notes, “While we have our data stored on hard disks, technology is constantly changing, which is why we need to perform regular backups, so that our materials don’t get damaged or lost”.

Digitization emerges as a pivotal tool in this preservation effort, offering a means to maintain the integrity and accessibility of texts that might otherwise deteriorate or remain inaccessible. Geshe Lhakpa Dorjee remarks, “Digitization allows us to maintain the quality almost as well as the original. Unlike analog media such as cassettes, where images may not be as clear and text not as sharp, digital formats ensure excellent preservation”.

Another critical motivation is the education and empowerment of the younger generation. Geshe Dorjee identifies this as the “top priority,” stating, “My main motivation—these (referring to ‘Preservation, conservation, and digitization’ which he mentioned in the answer before) are the external processes of digitization. But the most important thing is to provide education to the younger generation.” He highlights the necessity of passing the cultural and religious “baton” to ensure continuity: “How can we truly preserve our culture in the future? How will we equip young Tibetans for this task? That is the plan we need.” Digitization serves as a means to make texts more accessible to young Tibetans, but the primary concern is the transmission of knowledge and values, regardless of the medium.

The role of the older generation is also a significant factor in the digitization movement. Geshe Lhakpa Dorjee recounts the inspirational efforts of monks and scholars who, following the

Chinese invasion of Tibet, became “a ‘mobile digital library’”: “They spent their whole lives studying the Dharma, and they carried everything in their minds. When they arrived in India from Tibet, that’s when the younger generation began to be taught and started to write Dharma texts”. These early efforts often took place under harsh conditions, with limited resources. He recalls, “At that time, there were no resources. People were outside in the heat, writing texts in simple huts. There are photos documenting this—it’s so sad. They worked so hard to write these texts”. This metaphor underscores the invaluable knowledge held by elders and the importance of capturing and preserving it through digitization before it is irrevocably lost.

Finally, both Geshe Lhakpa Dorjee and Sonam Topgyal emphasize the broader significance of preserving Tibetan culture, describing it as the foundation of Tibetan identity and a resource for all sentient beings. Sonam Topgyal reflects this urgency, stating, “Religion and culture are like a lifeline for us”.

Their responses align closely with the LTWA’s mission, which is dedicated to the preservation, protection, and promotion of Tibetan cultural heritage. Their focus on digitization, conservation, and education reflects the LTWA’s objectives of acquiring and safeguarding manuscripts, books, and cultural artifacts while fostering knowledge through classes on Buddhist philosophy, Tibetan language, and culture. These efforts are rooted in the LTWA’s broader vision of providing comprehensive Tibetan cultural resources and supporting scholarly exchange, as outlined on the LTWA’s homepage.⁵⁷

Modernization and Adaptation in Cultural Preservation

While traditionalists like Geshe Lhakpa Dorjee and Sonam Topgyal focus on conserving Tibetan culture through conventional means, Geshe Lobsang Monlam advocates for a progressive approach that embraces modern technology as a critical tool for cultural preservation. He emphasizes that adapting the Tibetan script, language, and culture to the digital age is essential for their continued relevance and accessibility.

Geshe Lobsang Monlam articulates a clear vision: modernization is indispensable for the survival and growth of Tibetan culture. He believes that without integrating technology, Tibetan culture risks becoming obsolete in a rapidly evolving world. “It is crucial for Tibetan script, language, and culture to keep pace with technology,” he asserts, highlighting his long-term commitment to this cause. His motivation stems from a proactive stance against cultural stagnation. By embracing technology, he sees an opportunity not only to preserve but also to enhance the global reach of Tibetan culture.

⁵⁷ Library of Tibetan Works and Archives – Aims and Objectives. <https://tibetanlibrary.org/aims-and-objectives/>.

Beyond mere preservation, he envisions a future where the Tibetan script and language transcend their traditional confines of religion and culture. He hopes that “everything can be expressed in the Tibetan script,” signaling a desire to integrate the Tibetan language into all facets of modern life. This ambition reflects a motivation to normalize the use of the Tibetan language in everyday contexts, thereby strengthening cultural identity and pride among Tibetans.

Recognizing the transformative potential of artificial intelligence, Geshe Lobsang Monlam aspires to develop tools like ChatGPT that can interact fluently in Tibetan, providing answers about Tibetan religion and culture. He envisions leveraging AI to make Tibetan culture more accessible: “I hope to develop models like ChatGPT that can answer questions about Tibetan religion and culture and even speak Tibetan fluently”. By harnessing AI, he aims to bridge linguistic and cultural gaps, democratizing access to Tibetan wisdom and making it a living part of the global digital landscape.

While optimistic about the integration of technology with cultural preservation, he remains cognizant of the inherent challenges. He points out that “without adapting culture and religion” to technological frameworks, there is a risk of losing relevance. His motivation is to prevent cultural obsolescence by ensuring that Tibetan traditions are not left behind in the digital revolution. He also highlights the practical benefits of technology for resource-limited communities. By utilizing advancements like machine translation and language models, he believes efficiency can be significantly enhanced. “For example, 500 staff members of the Central Tibetan Administration could handle the workload of 5000 workers if they effectively use technology”. This underscores a motivation to empower the Tibetan community through technological proficiency.

Addressing concerns about technology potentially replacing human roles, especially in translation, he argues that the magnitude of the task — translating global knowledge into Tibetan — is beyond human capacity alone. “Even if all six million Tibetans were translators, it would still be impossible to accomplish this within a lifetime”. His motivation is to position technology as a complementary tool that enhances human efforts rather than replacing them, balancing the need for technological assistance with the irreplaceable value of human expertise. Looking toward the future, Geshe Lobsang Monlam emphasizes the importance of equipping young Tibetans with technological skills and research capabilities. His motivation is rooted in sustainability; by preparing the youth, he ensures that the efforts in cultural preservation and modernization will continue beyond the current generation. He stresses that “preparing young Tibetans to engage with technology and research is crucial for sharing Tibetan religion and

culture more effectively in the future”. He also highlights the necessity of strategic planning in exile to prepare for potential political shifts in Tibet. Acknowledging that “significant changes can occur within a short timeframe,” his motivation is to ensure that Tibetans are not caught unprepared.

Ultimately, Geshe Lobsang Monlam advocates for a holistic approach that integrates technological advancements with a steadfast commitment to preserving Tibetan identity and heritage. He envisions embedding comprehensive Tibetan cultural material into electronic devices, effectively transforming them into “Tibetan brains,” making knowledge inherently accessible and easily shareable. This metaphor encapsulates his motivation to make Tibetan knowledge a living part of everyday technology, ensuring that cultural wisdom is readily available at the touch of a button.

In essence, Geshe Lobsang Monlam’s approach is a model for how traditional cultures can adapt and thrive in the digital age. By embracing technology, preparing future generations, and planning strategically, he seeks to create a resilient and vibrant cultural legacy that honors tradition while embracing innovation. His work underscores that modernization and cultural preservation are not mutually exclusive but can synergistically ensure that Tibetan heritage remains a dynamic and influential force in the global context. Through his visionary efforts, he demonstrates that the fusion of tradition and technology can revitalize a culture, making it more robust and accessible than ever before.

Parallel to Geshe Lobsang Monlam’s vision, Tashi focuses on the linguistic and educational aspects of digitization. Recognizing the challenges faced by learners of the Tibetan language, including native Tibetan children, he seeks to make language acquisition more accessible and effective. Tashi observes that “reading Tibetan is not easy,” and notes that many Tibetan kids express frustration with the complexity of their own language.

To address this, Tashi founded an online Tibetan language school. His motivation was twofold: “So, that’s actually why I started this online language school — because I wanted to help translators learn Tibetan so they can talk to scholars, learn from them before translating, and get help with deciding on the correct spelling in Tibetan before proceeding”. By improving the proficiency of translators, he aims to ensure that translations of Tibetan texts are accurate and authentic, preserving the integrity of the culture.

Tashi emphasizes the importance of corpus linguistics in modern language education. He explains that “all language education these days is actually based on corpus linguistics”. When creating curricula and lessons, educators need to decide which words and verbs to introduce at each stage. For larger languages, this is often guided by statistical analysis of language use.

Tashi notes, “They told me that what you need to do is build a corpus, do corpus analysis, and find the frequency. Based on that, you try to build your educational content, and you can really target it”.

By building a corpus of Tibetan texts and performing statistical analyses, Tashi aims to develop educational materials that introduce language elements in a gradual and systematic way. This approach can significantly ease the learning curve for students, making the language more accessible. He states, “This is actually one of the reasons my colleagues and I got involved in digitization. With a corpus, you can do statistics and carry out all this work”.

Tashi also highlights the need to tailor educational content to the comprehension levels of learners. He recalls advising a colleague on writing children’s books: “I told him that, in my opinion, the most important thing is to conduct research with children from different grades and to write at their comprehension level”. He references the Children’s Writer’s Word Book, a tool used by English authors to match vocabulary with grade levels. “It’s like a cheat sheet for writing children’s books... It shows simpler alternatives if, for example, the word you’ve chosen is at a sixth-grade level. Very simple but very effective”. By employing similar methods for Tibetan, educators can create resources that are appropriately challenging for learners at different stages.

Embracing emerging technologies, Tashi acknowledges that “now we need our LLMs and these kinds of tools, so things are changing. That’s another aspect of why digitization is so important”. By incorporating technologies like large language models (LLMs), he sees opportunities to further enhance accessibility, facilitate learning, and preserve cultural knowledge. This forward-looking approach reflects his understanding that digitization is essential for modern language education and that technological tools can significantly impact the effectiveness of teaching and learning. His main drive comes from the intrinsic motivation to make all the Buddhist literature available to the world and to help any effort that goes in that direction, combining technology with traditional knowledge.⁵⁸

Tashi’s approach highlights the critical role of digitization in language education and cultural preservation. By leveraging corpus linguistics and statistical analysis, he seeks to make the Tibetan language more accessible and engaging for learners. His focus on tailoring educational content to different comprehension levels addresses a fundamental challenge in language acquisition, fostering a deeper connection to Tibetan culture among both native speakers and learners worldwide. Through his innovative efforts with his language school and his commitment to integrating emerging technologies into education, Tashi exemplifies how

⁵⁸ Tashi, Paragraph 58.

modern tools can revitalize traditional languages. His work ensures that the richness of Tibetan linguistic heritage is not only preserved but also actively propagated, making it more robust and accessible than ever before.

Together, the efforts of Geshe Lobsang Monlam and Tashi underscore the multifaceted motivations behind the digitization of Tibetan texts. While their focuses differ, one on cultural preservation through technological integration, the other on language education through corpus linguistics, they share a unified vision of preserving and enriching Tibetan culture in the modern world. Their contributions demonstrate that modernization, technological advancement, and cultural preservation are not mutually exclusive but can synergistically ensure that Tibetan heritage remains a dynamic and influential force in the global context. Through their visionary efforts, they showcase how the fusion of tradition, technology, and education can revitalize a culture, making it more resilient and accessible than ever before.

4.2.2. Accessibility

While the primary motivation driving the digitization of Tibetan cultural and religious texts is preservation, the aspect of accessibility, though mentioned less frequently in the interviews, also plays a notable role. The digitization efforts are chiefly aimed at safeguarding these invaluable materials from deterioration, loss, or damage. However, an additional benefit that emerges from this process is the enhanced accessibility for those who cannot easily access physical copies. For instance, Sonam Topgyal mentions that providing digital access “will make it easier for people to study these materials,” especially considering the Tibetan diaspora scattered across various locations. This is particularly vital for those who cannot visit the LTWA due to “time or financial constraints,” ensuring that access to knowledge is not limited by circumstance. Digitization therefore effectively dismantles geographical barriers, enabling people worldwide to engage with these texts regardless of their physical location.

The younger generation’s increasing engagement with technology further amplifies the necessity for digital accessibility. Sonam Topgyal notes that “the younger generation is increasingly engaged with technology and computers,” highlighting that digitization aligns with contemporary modes of learning and information consumption. By offering digital versions of texts, the LTWA and similar institutions meet the evolving needs of younger audiences, fostering continued interest and study of Tibetan heritage.

Practical considerations also underscore the importance of accessibility through digitization. Traveling scholars and practitioners often face the impracticality of transporting heavy physical scriptures. Sonam Topgyal explains, “When we travel [...] and have 20 or 30 kg of scriptures, we would not be able to take all of these with us. So that would be the benefit [...]” of having

digital versions. Digitized texts can be easily carried on lightweight devices, ensuring uninterrupted access to essential materials during travel.

Accuracy and preservation are additional benefits that enhance accessibility. Traditional methods of copying manuscripts are both time-consuming and prone to errors. Geshe Lhakpa Dorjee emphasizes, “If we scan it, it is fast and it accurately depicts the original,” ensuring that the texts are both preserved in their authentic form and made readily available. Scanning significant manuscripts like the Kangyur and Tengyur not only safeguards them against degradation but also makes them accessible to a broader audience without the risk of transcription errors.

Language accessibility is another critical aspect addressed by digitization. Tashi highlights the importance of making preserved knowledge available “in other languages,” thereby extending the reach of Tibetan teachings to non-Tibetan speakers globally. This effort to translate and digitize texts democratizes knowledge, allowing a diverse audience to engage with and learn from Tibetan culture and spirituality.

In summary, accessibility is a central motivation for the digitization efforts within the Tibetan community. By overcoming geographical limitations, accommodating modern technological engagement, alleviating practical burdens, ensuring accuracy, and breaking language barriers, digitization makes Tibetan cultural and religious texts more accessible than ever before. These efforts not only preserve the rich heritage for future generations but also invite a global audience to partake in the wisdom and traditions of Tibetan culture. Digitization thus serves as a powerful tool in the democratization of knowledge, aligning with the community’s commitment to making these invaluable resources available to those who seek them.

4.2.3. Socioeconomic Impact

Digitization projects within the Tibetan community extend beyond preservation and accessibility; they also have significant socioeconomic implications. These initiatives create employment opportunities and foster economic development, particularly for Tibetan youths and scholars who might otherwise face limited prospects.

Geshe Lobsang Monlam highlights this potential: “Many Tibetan youths can work in this field; therefore, we plan to establish an AI research hub in Bangalore, with the hope that 100 to 200 people can work there. Once one AI project is completed, there will be more and more opportunities.” By spearheading such projects, digitization not only preserves cultural heritage but also promotes technological advancement and job creation within the community.

Tashi echoes this sentiment by emphasizing the role of digitization in providing employment for Tibetans with specialized language skills. He shares, “My NGO in Dharamsala was the

second biggest employer of Tibetans who only speak Tibetan. We were the only NGO that hired people specifically for their Tibetan language skills.” This approach offers meaningful work to individuals who might otherwise struggle to find employment that utilizes their expertise. Tashi further explains his motivation: “I was really trying to create job opportunities related to Tibetan language, especially for former monks who have a lot of knowledge. Some of them studied for 20 years, and they end up doing the dishes in a small restaurant in Dharamsala because there’s no market for Buddhist scholars in the Tibetan community if they’re not Geshe or if they don’t have a title and don’t look holy.”

These efforts illustrate how digitization projects can address underemployment among highly educated Tibetans, particularly former monks who possess deep knowledge of Buddhist teachings but lack formal recognition or titles. By leveraging their language skills and cultural expertise, these individuals contribute to preserving and disseminating Tibetan heritage while securing livelihoods that respect their training and knowledge.

In conclusion, digitization projects serve not only to safeguard Tibetan culture and enhance accessibility but can also generate socioeconomic benefits. By creating employment opportunities and fostering technological development, these initiatives support the economic well-being of the Tibetan community. They provide meaningful work for those with specialized skills, particularly individuals who might otherwise be marginalized in the job market. Thus, the socioeconomic impact of digitization is a crucial factor in understanding the comprehensive motivations and goals behind these projects.

4.3. Target Audience

The digitization efforts for Tibetan texts are fundamentally driven by the goal of preserving Tibetan culture and language, naturally extending to serving a broad and diverse audience. Geshe Lhakpa Dorjee emphasizes inclusivity, stating that the resources are intended for anyone interested in Tibetan literature and Buddhism. He highlights the commitment to preserving traditional manuscripts without simplifying their content, ensuring that both casual enthusiasts and serious scholars have access to high-quality, authentic texts.⁵⁹ This inclusive approach allows digitization projects to cater not only to the local Tibetan population but also to regional communities in areas such as Himachal Pradesh, Tawang, and Ladakh, as well as international researchers seeking to study Tibetan texts extensively.⁶⁰

Additionally, Geshe Lobsang Monlam underscores the critical role of the younger generation of Tibetans in these efforts.⁶¹ He advocates for integrating technology into language education

⁵⁹ Geshe Lhakpa Dorjee, Paragraph 24.

⁶⁰ Sonam Topgyal, Paragraph 27.

⁶¹ Geshe Lobsang Monlam, Paragraph 4.

to empower young Tibetans, enabling them to engage in research and technological fields.⁶² This strategic focus aims to facilitate the sharing and preservation of Tibetan religion and culture on a global scale, ensuring that technological advancements support the sustainability and expansion of Tibetan linguistic and cultural heritage.

In contrast, Tashi makes a geographical distinction in the target audience, emphasizing the importance of ensuring that digitized resources remain available to the largest Tibetan demographic, the approximately seven million Tibetans residing within China. He believes that prioritizing this group is more meaningful and impactful than serving smaller, dispersed Tibetan communities in exile. By focusing on the Tibetan population in China, Tashi aims to maximize the reach and effectiveness of digitization projects, ensuring that the vast majority of Tibetans have access to these essential cultural resources despite external challenges.

4.4. Challenges

In this chapter, I present my analysis of the interview responses regarding the challenges faced in their work and digitization efforts. Many of these challenges align with the categories already identified by Pandey and Kumar (2019). However, additional issues, such as cultural challenges, have emerged and are added on top of these established categories.

4.4.1. Technical Challenges

Technical challenges refer to obstacles encountered during the practical implementation of processes or projects due to limitations in tools, systems, or resources. In the context of digitization, these challenges include insufficient infrastructure, lack of standardized guidelines, and concerns about the longevity and preservation of digital media. Such issues hinder institutions like libraries and archives from maintaining consistent quality and ensuring the sustainable management of digital materials.⁶³

One significant technical challenge is the limitation of Optical Character Recognition (OCR) technology for the Tibetan language. While many languages have OCR capabilities, Tibetan is only partially recognized by existing systems like Google OCR. Sonam Topgyal noted that the specific support needed isn't available due to a lack of significant business demand. The variety of Tibetan writing styles and numerous fonts further complicate OCR technology's effectiveness.⁶⁴ Tashi who works for the MonlamAI project as well as collaborates with BDRC elaborated on the limitations of current OCR technologies. Earlier efforts to digitize the entire BDRC collection using OCR were not very successful, resulting in digitized texts of subpar

⁶² Geshe Lobsang Monlam, Paragraph 28.

⁶³ Pandey and Kumar 2020: 28.

⁶⁴ Sonam Topgyal, Paragraph 9.

These challenges reflect the broader complexity of developing high-quality text data for LLMs, which not only depends on OCR technology to access historical materials but also requires extensive effort to align and refine existing translations. The MonlamAI project addresses these issues by fostering collaboration and dedicating resources to build a robust foundation for Tibetan language digitization and AI development.

Another challenge that Sonam Topgyal mentioned is the condition and completeness of the texts to be digitized. Some important and unique manuscripts are handwritten and incomplete, with missing pages that may have been lost or removed over time. Topgyal explained that texts being in folio form make them susceptible to pages being taken out, unlike bound books where pages remain intact unless ripped out. This physical fragility adds complexity to the digitization efforts.⁶⁹

Environmental factors also pose significant technical challenges. The LTWA is located in Dharamsala, an earthquake zone with high humidity levels. These conditions threaten the preservation of both physical and digital materials. Sonam Topgyal mentioned that natural disasters are unpredictable and that the best they can do is back up data as much as possible.⁷⁰ The unfavorable weather necessitates robust preservation strategies to mitigate potential losses. Compatibility issues with software and digital formats hinder collaboration and sharing of digitized materials. For instance, digitized texts from Tibet sold on USB sticks were incompatible with the software used by the LTWA due to different systems according to Sonam Topgyal. This underscores the need for standardized formats and interoperable systems in digitization projects.⁷¹

In summary, the technical challenges in digitizing Tibetan texts are multifaceted and interconnected. These include limitations in OCR technology, which struggles with traditional formats like woodblock prints and handwritten manuscripts; the physical condition of many historical materials, which may be fragile, damaged or incomplete; and environmental risks that threaten their preservation. Additionally, software compatibility issues hinder seamless digitization. Resource limitations further complicate these efforts, including the need for extensive text data to train language models, the challenge of collecting and aligning existing translations, and the scarcity of bilingual experts proficient in both Tibetan and English to create accurate parallel corpora. Addressing these challenges requires developing advanced OCR technologies capable of accurately recognizing Tibetan scripts in various formats, including woodblocks and manuscripts, as MonlamAI aims to achieve. Implementing effective

⁶⁹ Sonam Topgyal, Paragraph 11.

⁷⁰ Sonam Topgyal, Paragraph 23.

⁷¹ Sonam Topgyal, Paragraph 39.

preservation strategies is crucial to protect physical texts from environmental threats and ensure digital backups are securely maintained. Establishing standardized protocols will ensure compatibility across different software and formats, facilitating collaboration and sharing. Enhancing translation efforts by improving tools and increasing scholarly collaboration is necessary to improve the quality and quantity of translations. By tackling these challenges, institutions can significantly improve the digitization and preservation of Tibetan literary heritage.

4.4.2. Legal Challenges

Legal challenges in digitization refer to difficulties arising from regulatory or legal constraints that complicate the execution of projects. In the context of digitizing Tibetan texts, these challenges often revolve around intellectual property rights (IPR), which pose significant barriers for cultural heritage institutions. Navigating complex legal frameworks to digitize and distribute cultural materials can delay or restrict access to resources. The intricacies of IPR add an additional layer of complexity, further hindering the progress of digitization efforts.⁷² Moreover, concerns about ownership, reproduction, and attribution exacerbate these challenges. The ease with which digitized materials can be copied and misattributed frequently leads to a protective stance among organizations and individuals, highlighting the need to address both legal and ethical considerations when sharing digitized content.⁷³

Legal challenges in Tibetan text digitization present a range of complexities, particularly surrounding copyright and intellectual property. Sonam Topgyal highlighted that while ancient scriptures may not be subject to copyright protections due to their antiquity, modern publications with identifiable authors and ISBN registrations require explicit permissions for digitization and sharing. Without these permissions, organizations risk serious legal repercussions. According to him, an example of these complexities involves the BDRC, which faced legal action after uploading scanned versions of printed books produced by Chinese publishers.⁷⁴

In addition to external legal challenges, digitization efforts are constrained by internal considerations of resource accessibility and institutional sustainability. Geshe Lhakpa Dorjee highlighted the delicate balance between making texts widely accessible and preserving the unique role of institutions as stewards of cultural heritage. He emphasized that unrestricted

⁷² Pandey and Kumar 2020: 29.

⁷³ Binning 2019: 397.

⁷⁴ Sonam Topgyal, Paragraph 23.

public access could diminish an institution's relevance, disincentivizing engagement with physical archives and undermining its role as a distinctive scholarly hub.⁷⁵

This tension is further illustrated by an incident recounted by Sonam Topgyal involving a German scholar. The LTWA provided the scholar with materials, which he then processed using advanced OCR technology available at his university. Subsequently, he suggested that the digitized texts be entrusted to the Berlin State Library for preservation, emphasizing their long-term safeguarding. However, the LTWA refrained from responding immediately. As Topgyal explained, the director was cautious about granting access too readily, fearing future complications: "While it's encouraging that Western institutions want to preserve our materials, giving them access too easily could lead to complications later. When we need access again, they might impose various requirements. Therefore, we decided to let it be."⁷⁶

The reluctance to send the materials reflects a clear awareness of the risks of losing control over cultural assets. This caution stems from concerns about dependency and the potential for external entities to impose conditions that might restrict future access. Such challenges are particularly acute for smaller or under-resourced institutions, which may find themselves at a disadvantage in negotiating terms of use or ownership over their heritage. His caution also reflects a broader concern about the unequal dynamics in cultural heritage preservation. While the cultural right to access digital content is critical for safeguarding and sharing heritage, enforcing this right can be challenging. Geshe Lhakpa Dorjee understands that such efforts often operate within frameworks shaped by Western-centric policies, which risk marginalizing the communities most closely connected to the heritage.⁷⁷ To address these challenges, the LTWA has implemented selective sharing practices that balance openness with safeguards.⁷⁸ They ensure that digital versions of texts are available upon request, providing a practical solution for those seeking specific materials. Additionally, the LTWA has adopted restrictions on the use of digitized materials. While these texts are accessible to the public, functionalities like printing and copying are limited.⁷⁹ This strategy helps prevent unauthorized reproduction and supports their broader efforts to educate others about the importance of respecting cultural and intellectual property rights.

These measures reflect the complexity of digitization efforts, where institutions must navigate a fine line between openness and protection. The LTWA's approach exemplifies how careful strategic decisions can address legal and practical concerns while ensuring that the preservation

⁷⁵ Geshe Lhakpa Dorjee, Paragraph 30.

⁷⁶ Sonam Topgyal, Paragraph 23.

⁷⁷ Wagner and de Clippele 2023: 1919.

⁷⁸ Sonam Topgyal, Paragraph 37.

⁷⁹ Geshe Lhakpa Dorjee, Paragraph 30.

and sharing of Tibetan cultural heritage align with the long-term sustainability and mission of the institution. The protective stance among organizations is further echoed by Tashi. He observed that most people involved in digitization are extremely cautious about sharing their work because of the ease with which it can be copied and reproduced. He explained that individuals and organizations are protective, especially those that receive sponsorships for digitization efforts: “They really don’t want to share it with anyone because they know it’s so easy to copy and reproduce. If you can reprint it then you can claim that you did the work”.⁸⁰ This attitude, while understandable, can hinder collaboration and limit the dissemination of knowledge.

Despite concerns about sharing, there is a recognition of its importance for academic and cultural preservation. Sonam Topgyal explained that while there is no formal policy on sharing materials, the institution understands that withholding resources would hinder research progress. Scholars are generally seen as engaging with these materials for educational purposes rather than for commercial gain, making the case for providing access when it aligns with academic objectives. This perspective reflects a willingness to balance the protection of materials with their accessibility.

Another reason for favoring sharing stems from the fear that valuable work might go unused or be lost entirely. Tashi shared an example of a Bhutanese Khenpo from Leksheyling Monastery, who initially guarded his digitized files to prevent unauthorized reproduction or misuse. However, his outlook changed after a near-death experience in Thailand. While traveling to meet sponsors, he was involved in a serious accident. Among his belongings was a hard drive containing years of collective work, created by him and the monks at the monastery. Although the drive survived the accident, the incident made him reflect on what would have happened if it had been lost or destroyed. He realized that holding onto the work without sharing it risked its complete disappearance. This prompted him to create the platform Dharma Downloads where the files could be accessed and preserved for others to use.⁸¹

This example highlights the necessity of finding strategies that protect intellectual property while ensuring the longevity and accessibility of digitized materials. Sharing resources in a thoughtful and controlled manner helps amplify their cultural and academic value, preventing the irreplaceable loss of heritage. In summary, the legal challenges in digitizing Tibetan texts are multifaceted, involving navigating complex intellectual property rights, concerns over copyright infringement, and protective attitudes among organizations and individuals wary of

⁸⁰ Tashi, Paragraph 15.

⁸¹ Tashi, Paragraph 15.

unauthorized reproduction and misattribution. These challenges are compounded by international legal disputes and the need to balance the sharing of knowledge with the protection of cultural heritage. Addressing these issues requires developing clear legal frameworks that respect intellectual property laws while facilitating access for educational and research purposes.

Implementing access controls, such as restricting printing and copying, can help prevent misuse while still allowing scholars to benefit from the resources. Fostering collaboration and open communication among institutions can build trust and encourage the responsible sharing of materials. Additionally, incorporating cultural sensitivity into legal considerations ensures that traditional practices are respected within the broader legal context.

By carefully navigating these legal challenges, institutions can promote the digitization and preservation of Tibetan literary heritage. This ensures that invaluable resources are accessible for future generations while respecting the rights and contributions of all stakeholders. Balancing protection with accessibility is crucial for the advancement of scholarship and the continued vitality of Tibetan cultural traditions.

4.4.3. Financial Challenges

Financial constraints are a pervasive issue in digitization projects, often impeding progress from inception through completion. The lack of financial resources hampers institutions' ability to sustain digitization efforts, affecting their implementation and success.⁸² In the context of digitizing Tibetan texts, these financial challenges manifest in various ways, impacting the capacity to acquire necessary equipment, retain skilled professionals, and maintain ongoing projects.

At the LTWA, both Geshe Lhakpa Dorjee and Sonam Topgyal highlighted how financial limitations impede their digitization efforts. Geshe Lhakpa Dorjee noted the institution's inability to enhance user experience due to a lack of professional expertise, which is directly tied to financial constraints: "Of course, we could make it more user-friendly, but we're not in a position to do that — we need professionals for that. To be honest, we haven't uploaded much material yet because we lack the necessary expertise".⁸³ Hiring skilled professionals requires offering competitive salaries, which the institution cannot afford: "We can't find someone like that because we would need to offer a high salary, and we simply don't have the financial resources. That's the biggest challenge".⁸⁴

⁸² Pandey and Kumar 2020: 29.

⁸³ Geshe Lhakpa Dorjee, Paragraph 30.

⁸⁴ Geshe Lhakpa Dorjee, Paragraph 68.

The scarcity of funds also affects the procurement of essential equipment and technology. Sonam Topgyal mentioned that their aging scanners and outdated software slow down the digitization process: “The resolution is high due to the quality of our equipment, but as the machines age and their software needs updating, we face some challenges. The service in India isn’t very reliable, so while we are storing the data, it’s not happening as quickly as we would like”.⁸⁵ Upgrading to advanced scanners that could significantly expedite the process is not feasible without sufficient budget: “If we had the budget, I would acquire different machines — some for scanning books and others for overhead scanning of higher-quality materials”.⁸⁶ Moreover, the high cost of cloud storage prevents them from securely storing and accessing digitized materials: “We don’t yet have the resources to upload the data to the cloud, as it is quite expensive”.⁸⁷

Financial limitations also lead to staff shortages and high turnover, which disrupt ongoing projects. Sonam Topgyal pointed out that they need additional staff for tasks like scanning and quality control, but funding constraints make it challenging: “We need two staff members for scanning and two for quality control — this is challenging, as each page must be thoroughly checked”.⁸⁸ The departure of workers further hinders progress: “The Library has an ongoing project for online access, but it hasn’t been completed yet due to many workers leaving, which has hindered our ability to upload the materials”.⁸⁹

This reliance on external funding creates a cycle of uncertainty. Projects often only advance when new funding is received, and they tend to stall when funds run out. As Geshe Lhakpa observed, “There are times when we only take action in response to receiving funding. Whatever you start, you need funding for that initially. But if we don’t have funding anymore, I rarely see a project continued”.⁹⁰ This dependency on sporadic grants makes long-term planning difficult and undermines the sustainability of digitization efforts.

At Monlam IT, similar financial challenges especially regarding sustainability of funding affect their work. Geshe Lobsang Monlam explained that while external funding provides immediate relief, it does not offer a long-term solution: “When His Holiness gave us guidance, he said that funding is like pain relief: It helps in the moment, but it doesn’t benefit us in the long term. That’s why we are seeking a way to become self-reliant”.⁹¹ This underscores the need for

⁸⁵ Sonam Topgyal, Paragraph 7.

⁸⁶ Sonam Topgyal, Paragraph 37.

⁸⁷ Sonam Topgyal, Paragraph 37.

⁸⁸ Sonam Topgyal, Paragraph 15.

⁸⁹ Sonam Topgyal, Paragraph 27.

⁹⁰ Geshe Lhakpa Dorjee, Paragraph 42.

⁹¹ Geshe Lobsang Monlam, Paragraph 28.

institutions to develop strategies for financial self-sufficiency to ensure the longevity of their digitization projects.

However, achieving self-reliance is complicated by cultural and ethical considerations. As a monk, Geshe Monlam feels that operating a business is not appropriate: “It doesn’t fit to operate a business as a monk. It’s not just about whether it’s right for me, but because it’s for the benefit of society”.⁹² This reflects how cultural factors intersect with financial constraints, further hindering potential avenues for generating income that could support digitization efforts. Consequently, he plans to work for a limited period before stepping back: “In my case, I plan to work for about 10 to 15 years, and then I would like to step back; that’s my plan”.⁹³ This plan may impact the continuity and leadership of projects, as the institution must find ways to sustain operations without his direct involvement.

Tashi highlighted the high costs previously associated with digitization work, which limited participation: “Now it’s cheaper, but it used to cost quite a lot, so not just any monk could decide to do data input and work on this”.⁹⁴

These financial challenges are compounded by the need for specialized skills and knowledge. As Geshe Lhakpa mentioned, while they can train full-time workers in basic tasks, these individuals lack the qualifications to address complex issues related to preservation and management: “They are not qualified to handle questions like how to preserve these materials for the future or how to manage them if there are restrictions. We need someone who understands all of that”.⁹⁵ Without the resources to hire experts, institutions struggle to address critical aspects of digitization beyond mere scanning and filing.

In conclusion, financial constraints significantly hinder the digitization of Tibetan texts, affecting multiple facets of these projects. Limited funding restricts the acquisition of advanced equipment and technology, impedes the hiring and retention of skilled professionals, and causes reliance on intermittent external funding. Staff shortages and high turnover disrupt ongoing work, while the scarcity of specialized skills hampers the ability to address complex preservation and management issues. Cultural factors may also influence funding opportunities, as seen in the case of monastic involvement in business activities.

4.4.4. Managerial Challenges

Managerial challenges significantly impact the success of digitization projects, often leading to delays or failures. Many initiatives suffer from a lack of clear policies and procedures, which

⁹² Geshe Lobsang Monlam, Paragraph 28.

⁹³ Geshe Lobsang Monlam, Paragraph 28.

⁹⁴ Tashi, Paragraph 16.

⁹⁵ Geshe Lhakpa Dorjee, Paragraph 70.

creates inconsistencies and confusion among professionals involved. The absence of a national-level digitization policy exacerbates these issues, resulting in fragmented efforts and a lack of unified direction. This problem is even more delicate and complicated for the Tibetan heritage in exile, as there is essentially no national-level digitization policy to guide and coordinate efforts. Without a nation-state to develop such policies, Tibetan organizations face additional hurdles in aligning their objectives and methodologies, leading to further fragmentation and inefficiency. Furthermore, the need for skilled personnel and adequate training is critical, as the shortage of expertise in digitization practices hampers progress.⁹⁶

An illustrative example of these managerial challenges is mentioned by Geshe Lhakpa Dorjee when referring to the “Tibetan Digital Library Project”. This initiative led by the Department of Religion and Culture of the Central Tibetan Administration (CTA) aims to create a comprehensive digital repository of ancient Tibetan manuscripts and cultural artifacts that have been physically preserved in Tibetan monastic institutions and cultural centers. Geshe Lhakpa Dorjee expressed concerns over sudden interest from the CTA without prior consistent effort. “Whatever you start, you need funding for that initially. But if we don’t have funding anymore, I rarely see a project continued. With this Tibetan Digital Library Project, the United States is providing funding to the Tibetan exile government. Now [...] they are under pressure to quickly establish something. On one hand, they now have the financial resources for it and need to make something out of it; on the other hand, they lack a long-term vision. If the government suddenly deems this issue important, why has nothing been done until now?”.⁹⁷ In his opinion, this reactive approach suggests that initiatives are driven by immediate pressures rather than sustained planning.

Furthermore, he implies that there are numerous capable institutions already engaged in similar work, such as preserving and digitizing Tibetan cultural heritage. Instead of collaborating with these institutions or assigning them specific roles, the government appears intent on centralizing the task and undertaking it independently. This suggests a lack of coordination or willingness to leverage existing expertise, which could lead to inefficiencies or duplication of efforts.

Further, he shared an anecdote illustrating these challenges: During a series of conferences on digitization, after initially sending a representative to attend, he was later invited as a special guest, which he believed was perhaps intended to make him feel esteemed. In his speech, he highlighted the importance of digitization but questioned whose libraries the government intended to digitize. He pointed out that institutions like the LTWA and libraries in Varanasi

⁹⁶ Pandey and Kumar 2020: 30.

⁹⁷ Geshe Lhakpa Dorjee, Paragraph 42.

have already invested extensive resources and effort into digitizing materials over many years. Now, the government was asking these institutions to share their resources or digitize materials on their behalf, without proper acknowledgment or compensation. This approach seemed unfair and highlighted a lack of coordination and respect for existing work. Additionally, he noted that opposing the government's methods could risk being labeled as uncooperative, placing institutions in a difficult position. This indicates a lack of coordination and communication between organizations, resulting in duplicated efforts and potential tensions.

Similarly, Sonam Topgyal highlighted challenges in collaborating with national institutions in India, specifically the National Mission for Manuscripts (NMM). The NMM is an office dedicated to preserving India's wealth of manuscripts through preventive conservation, digitization, and educational initiatives. The LTWA has participated and collaborated in these efforts for many years, such as by sending them a list of the manuscripts they have digitized. However, bureaucratic inefficiencies hinder effective collaboration. Sonam Topgyal noted that the way things operate in India can be quite slow, and the work is often not thorough or professional. While the LTWA informs the NMM when they have completed tasks or asks what else is needed, once the NMM receives the LTWA's list, they often send back a superficial report, and that's it. This managerial inefficiency diminishes the potential impact of collaborative projects, as superficial engagement fails to address substantive needs.

Moreover, there appears to be a preferential focus on certain cultural materials over others, affecting the inclusion of Tibetan resources. Sonam observed that national efforts tend to concentrate on Hindu materials, with Tibetan contributions included only superficially:

“They don't pay much attention to our work; they simply follow orders from those above them and tend to focus more on Hindu materials. They include us just for the sake of appearances, but not for any substantial collaboration.”⁹⁸

This managerial oversight leads to the neglect of significant cultural resources and hampers the preservation of Tibetan manuscripts.

A critical managerial challenge is the shortage of skilled personnel, which is closely tied to financial limitations. As discussed in the previous sections, institutions like the LTWA struggle to hire and retain professionals with the necessary expertise due to limited funds which hinders both the technical aspects of digitization and overall managerial efficiency. Geshe Lhakpa Dorjee emphasized their inability to enhance user experience because of this lack.⁹⁹ Furthermore, without adequately trained staff, institutions face challenges in planning,

⁹⁸ Sonam Topgyal, Paragraph 29.

⁹⁹ Geshe Lhakpa Dorjee, Paragraph 30.

executing, and overseeing complex preservation efforts. While the LTWA employs full-time workers who are trained in basic tasks such as scanning and organizing documents, these individuals lack the expertise required for addressing more complex issues. This includes long-term preservation strategies and managing restrictions on materials.¹⁰⁰ The absence of personnel with specialized knowledge creates a gap in ensuring that digitization efforts are sustainable and aligned with best practices for preservation and management. This reliance on minimally trained staff limits the institution's ability to handle critical aspects of its mission effectively. This intersection with financial challenges creates a cyclical problem: without adequate funding, institutions cannot hire skilled personnel; without skilled personnel, projects lack proper management and are less likely to attract funding. The inability to offer competitive salaries means that even when institutions identify the need for expertise, they cannot fulfill it.¹⁰¹

In conclusion, managerial challenges in digitizing Tibetan texts are both complex and interconnected. They encompass a lack of long-term strategic planning, inadequate collaboration between key institutions, bureaucratic inefficiencies, and an unequal focus on cultural materials. These issues are further compounded by financial limitations and a shortage of skilled personnel, both of which hinder the effective implementation and sustainability of digitization efforts. Without unified policies and adequate resources, these challenges continue to impede the preservation of Tibetan cultural heritage.

4.4.5. Cultural Challenges

Cultural challenges play a significant role in the digitization of Tibetan texts, affecting both the processes involved and the perceptions of those engaged in these initiatives. The interviews reveal a recurrent theme of contrasting Tibetan approaches with Western methods, highlighting differences in mindset, societal expectations, and practices. These disparities can lead to misunderstandings, resistance, and obstacles that hinder collaboration and the successful implementation of digitization projects.

One prominent issue is the tendency within the Tibetan community to uncritically adopt Western practices. Geshe Lhakpa Dorjee observed that Tibetans often imitate foreigners without discerning whether these practices are genuinely beneficial or suitable for their context. He emphasized the importance of selectively integrating useful aspects while avoiding those that do not align with Tibetan needs or values.¹⁰² This inclination to emulate without critical

¹⁰⁰ Geshe Lhakpa Dorjee, Paragraph 70.

¹⁰¹ Geshe Lhakpa Dorjee, Paragraph 68.

¹⁰² Geshe Lhakpa Dorjee, Paragraph 44.

evaluation can result in ineffective strategies that do not address the unique challenges faced in Tibetan digitization efforts.

Additionally, there is a cultural inclination towards short-term thinking and immediate action rather than strategic, long-term planning. Geshe Lhakpa noted that when Tibetans receive funding, they tend to initiate projects hastily, spending resources without sustainable strategies. He stressed the need for sustainable work and advised against quick fixes, highlighting that meaningful progress requires thoughtful planning.¹⁰³

Perceptions of credibility and expertise present another cultural hurdle. Geshe Lobsang Monlam shared that initially, many people doubted his capabilities because he is a monk who does not speak English fluently. There was skepticism about his involvement in technological endeavors, with assumptions that someone else must be behind his work. Over time, as his projects produced tangible results, he gained recognition both within the Tibetan community and in academic circles. Obtaining a PhD further improved his credibility, particularly when engaging with Western universities, where academic credentials are highly valued.¹⁰⁴ This experience highlights how societal expectations and perceptions can influence acceptance and respect, affecting collaboration opportunities.

The intersection of religious roles and professional activities also poses cultural challenges. Monastic individuals like Geshe Lobsang Monlam might face difficulties reconciling their religious identity with involvement in business and technology.¹⁰⁵ Societal expectations often dictate that monks focus solely on spiritual matters, making it challenging for them to participate in projects that require business acumen or technical expertise. This perception limits the potential contributions of monastic members to digitization efforts and can restrict access to funding and resources, as engaging in certain activities may be deemed inappropriate. The challenges of credibility and expertise for individuals navigating multiple cultural contexts, are illustrated by Tashi's experiences as well. In one instance, Tashi recounted pitching the creation of a Tibetan corpus to improve the education system. Despite his dedication and innovative approach, he faced skepticism rooted in his perceived identity as a Westerner. Even when the Dalai Lama Foundation acknowledged the importance of the problem, they dismissed his proposal with the assumption that, as a Westerner, he should be the one funding the initiative rather than seeking financial support from Tibetan sources. Tashi highlighted the irony of this assumption, as he was working without a salary and lacked the resources to even travel for the

¹⁰³ Geshe Lhakpa Dorjee, Paragraph 44.

¹⁰⁴ Geshe Lobsang Monlam, Paragraph 8.

¹⁰⁵ Geshe Lobsang Monlam, Paragraph 28.

project.¹⁰⁶ This interaction underscores how perceptions of identity and cultural expectations can limit opportunities for collaboration and resource mobilization, even when the proposed solutions address critical challenges.

In another instance, Tashi proposed a corpus linguistics project to the Tibet Fund, aimed at hiring a team of 30 professionals to digitize texts and apply natural language processing (NLP) for educational improvements. However, the proposal was rejected after the Tibet Fund consulted a Senior education official in the Indian government. The specialist dismissed the idea as “what the British do,” asserting that India does not need such an approach and could achieve similar results by simply providing better training to writers. This rejection underscores a preference for methods rooted in local or traditional practices, which were seen as sufficient compared to methodologies perceived as foreign or overly technical, such as corpus linguistics.¹⁰⁷ This incident highlights resistance to modern, technology-driven approaches often associated with Western methodologies, even when they offer solutions to pressing issues. While traditional methods are valuable and contextually grounded, the outright dismissal of innovations like Tashi’s proposal underscores a reluctance to integrate tools that could enhance established practices. Such resistance risks missing opportunities to advance educational and cultural preservation initiatives while maintaining cultural authenticity.

Differences in academic practices between Tibetan and Western scholars further complicate collaboration. Sonam Topgyal pointed out that Western academics often withhold materials until after publishing their research and prioritize individual recognition, whereas the Tibetan approach, aligned with the Dalai Lama’s wishes, is to make information readily available.¹⁰⁸ This divergence can lead to tensions, as Tibetan institutions may be wary of sharing materials with Western researchers who might later impose access restrictions or claim ownership.

Communication styles and expectations also differ significantly. Tashi noted that methods commonly used in the West, such as emails or social media messages, are often ineffective when reaching out to Tibetan monasteries. Personal, face-to-face interactions are preferred and necessary for building trust and obtaining information. Western researchers may find it challenging to engage with Tibetan institutions if they rely solely on remote communication, leading to missed opportunities for collaboration.¹⁰⁹

Moreover, Sonam Topgyal highlighted the perception that Western institutions often impose funding stipulations that do not fully consider the Tibetan context. He noted that many Western

¹⁰⁶ Tashi, Paragraph 60.

¹⁰⁷ Tashi, Paragraph 60.

¹⁰⁸ Sonam Topgyal, Paragraph 37.

¹⁰⁹ Tashi, Paragraph 23.

organizations require institutions to meet specific criteria, such as maintaining female hiring quotas or prioritizing disabled individuals for employment. While these requirements aim to promote inclusivity, they can be challenging to fulfill in Tibetan institutions, which may lack the infrastructure or demographic composition to meet these conditions.¹¹⁰

Respect for tradition presents another cultural challenge. Tashi recounted how efforts to standardize or correct historical texts were met with resistance from Tibetan lamas who believed that original compilations were perfected through enlightened means. Questioning or attempting to improve upon these texts was seen as inappropriate, reflecting a deep reverence for tradition that can conflict with modernization efforts like digitization, which may involve editing or altering texts.¹¹¹

There is also skepticism towards Western involvement in Tibetan projects. Instances where Western researchers are perceived as expecting effortless access to resources without contributing effort can foster resentment.¹¹² Additionally, past experiences where promises of sharing digitized data were unfulfilled have led to distrust among Tibetan monasteries, causing them to withhold cooperation. Tashi shared that monasteries stopped providing data to BDRC after realizing that their contributions were not being shared as promised.¹¹³

In summary, cultural challenges in the digitization of Tibetan texts stem from differences in mindset, expectations, and practices between Tibetan and Western approaches. A key issue is the tendency within the Tibetan community to adopt Western methods without critical evaluation, which can result in ineffective strategies. This is compounded by a focus on short-term solutions, such as initiating projects immediately after receiving funding, rather than planning for long-term sustainability.

Perceptions of credibility also create barriers, as societal expectations often lead to skepticism toward monks or traditional figures engaging in technology-driven projects. Similarly, divergent academic practices, such as the Western tendency to restrict access to materials until after publishing, contrast with the Tibetan emphasis on openness, leading to mistrust.

Communication styles further complicate collaboration. Western researchers often rely on remote methods like emails, which are less effective in the Tibetan context, where personal, face-to-face interactions are preferred. Additionally, the Tibetan reverence for tradition can resist changes introduced by digitization, such as editing or modernizing texts, while past experiences of perceived exploitation by Western entities have fostered distrust.

¹¹⁰ Sonam Topgyal, Paragraph 23.

¹¹¹ Tashi, Paragraph 32.

¹¹² Sonam Topgyal, Paragraph 39.

¹¹³ Tashi, Paragraph 23.

Addressing these challenges requires sensitivity, mutual understanding, and respect for Tibetan values and practices, ensuring that collaborations are equitable and build trust. By bridging these cultural gaps, digitization efforts can better preserve and honor Tibetan heritage.

4.4.6. Language and Textual Complexity

In the digitization of Tibetan texts, language and textual complexity present unique challenges that differ from broader technical, legal, financial, or managerial obstacles. These difficulties stem from the distinctive features of the Tibetan language and its literature, including inconsistent spellings, specialized terminology, and intricate textual structures. Addressing these linguistic complexities is essential to ensure that digitized Tibetan manuscripts are accurate, accessible, and retain their cultural and scholarly significance. Overcoming these challenges requires specialized approaches that preserve the integrity and meaning of Tibetan literary heritage in its digital form.

One of the challenges lies in the inconsistent spellings found across editions of Tibetan texts. As Tashi highlighted, the Pedurma (Tibetan: དཔེ་བསྐྱར་མ།, Wylie: dpe bsdur ma) edition of the Kangyur (Tibetan: བཀའ་འབྱུང་, Wylie: *bka' 'gyur*) with each page containing multiple spelling differences—some of which significantly alter the meaning of the text. For instance, “nyi” (གཉིས་) means “two,” while “nyi” (ཉིད་) can mean “emptiness.” These differences create substantial obstacles for translators, who must select one spelling, thereby affecting the interpretation and subsequent translations.¹¹⁴ The problem becomes compounded when translators lack linguistic proficiency; Tashi noted that 98% of translators surveyed did not speak Tibetan, limiting their ability to consult Tibetan scholars or resolve ambiguities effectively. This deficiency risks perpetuating errors in translated texts, which can then spread to other languages.¹¹⁵

The complexity of Tibetan texts is further underscored by an anecdote shared by Tashi, illustrating the challenges of resolving spelling discrepancies in sacred texts. He recounted an incident where the most highly regarded scholars, the Geshe Lharampas (Tibetan: ལྷ་རམས་པའི་དགེ་བཤེས་, Wylie: lha rams pa'i dge bshes) from the three major Gelug monasteries, convened to address a single spelling issue in a Tibetan text. The debate focused on whether a word should be spelled with “kyi” (ཀྱི) or “kyis” (ཀྱིས་), a seemingly minor variation that held significant implications for meaning. Despite dedicating three days to the discussion and involving top scholars, no consensus was reached.¹¹⁶ This anecdote exemplifies the depth of challenges posed by spelling discrepancies, which, according to Tashi, occur on average three times per page in

¹¹⁴ Tashi, Paragraph 33.

¹¹⁵ Tashi, Paragraph 37, 39.

¹¹⁶ Tashi, Paragraph 39.

the 7000 pages of the Kangyur and even more frequently across the Tengyur (Tibetan: བསྟན་འགྱུར་, Wylie: bstan 'gyur).

Tashi highlighted that resolving these issues is not straightforward, particularly when the meaning of the text changes based on spelling. While obvious errors might be corrected by those with basic knowledge of Tibetan grammar, more nuanced discrepancies require a systematic approach. As one scholar advised Tashi, resolving these issues should begin by referencing Sanskrit or Chinese originals where available. Such comparisons can provide critical context for determining the most accurate spelling. However, many Kangyur and Tengyur texts lack surviving Sanskrit originals, necessitating the use of related source materials covering similar topics. When neither original texts nor comparable materials are accessible, the next step involves consulting commentaries, both Indian and Tibetan. These interpretations can shed light on the intended meaning of disputed terms, guiding spelling decisions. However, even this approach may not resolve all issues, especially for texts with limited interpretive sources. In such cases, the scholar recommended involving a broad range of experts to deliberate and reach a collective decision, emphasizing that no single individual should have the authority to make unilateral changes to the text. A democratic and inclusive approach ensures that decisions reflect a consensus of scholarly opinion, preserving the integrity of the text.¹¹⁷

This anecdote highlights the intricate relationship between language, meaning, and tradition in Tibetan texts. It also underscores the labor-intensive nature of resolving linguistic discrepancies, particularly in the context of digitization. Unlike other challenges that can be addressed with technical tools, such as machine learning, the resolution of spelling issues often requires deep cultural and linguistic expertise. The process of identifying discrepancies, interpreting their implications, and achieving consensus demands significant time and collaboration, making it one of the more unique challenges specific to the digitization of Tibetan texts.

The structural complexity of Tibetan texts adds further complications. Tashi described how digitized texts often lack clear identification of their titles, authors, or topics, leading to confusion about where one text ends and another begins. Files may contain fragmented texts or combine multiple unrelated works, making them challenging to organize and process.¹¹⁸

Additionally, Tashi observed the misalignment between traditional Tibetan language education methods and the students' actual comprehension levels. Traditional textbooks often employ

¹¹⁷ Tashi, Paragraph 39.

¹¹⁸ Tashi, Paragraph 46.

complex, academic Tibetan that does not cater to the varying abilities of learners, resulting in a disconnect that hinders effective learning and diminishes students' interest. This gap makes it difficult for students to develop reading fluency and fully engage with the material. Tashi therefore is dedicated to enhancing Tibetan language education by utilizing corpus linguistics to create graded materials that match students' comprehension levels.

In conclusion, language and textual complexity present unique challenges to the digitization of Tibetan texts. These include variations in spelling, the dated nature of some texts, the structural organization of digitized materials, and the creation of accessible educational content. While these challenges may not have the broad implications of technical or financial barriers, they are critical to the success of digitization efforts. Ensuring linguistic accuracy and accessibility requires collaboration among translators, Tibetan scholars, and technologists, alongside the development of tools to address structural and linguistic inconsistencies. By tackling these specific issues, digitization projects can preserve the integrity and usability of Tibetan texts for a diverse range of audiences.

4.5. Perspectives on Digitization and Technology: Balancing Progress with Tradition

During the interviews, it became evident that differing stances on digitization and technology exist between the LTWA and figures like Geshe Lobsang Monlam and Tashi. These distinctions reflect broader debates within the Tibetan community about how to navigate the balance between tradition and modernity. This contrast was already highlighted in the chapter on Modernization and Adaptation in Cultural Preservation, where traditionalists such as Geshe Lhakpa Dorjee and Sonam Topgyal emphasize preserving Tibetan culture through conventional means, while more progressive figures like Geshe Lobsang Monlam and Tashi advocate for the integration of modern technology as a pivotal tool for cultural and language preservation.

This chapter delves deeper into these varied stances on digitization and technology, particularly focusing on the perspectives shared by Geshe Lhakpa Dorjee during the interviews. By analyzing his cautious yet pragmatic approach alongside the forward-thinking views of Geshe Lobsang Monlam and Tashi, the chapter sheds light on the broader implications of these debates for the future of Tibetan culture and its preservation in an increasingly digitized world.

Geshe Lhakpa Dorjee's answers present a reflective and cautious perspective on the role of digitization and technology in the preservation of Tibetan culture and tradition. While acknowledging the practical benefits of digitization, such as enhanced accessibility and the convenience of storing and sharing texts, he emphasizes that these tools are not inherently transformative. For him, the value of digitization lies not merely in external storage but in its potential to support the deeper internalization of knowledge and values. He stresses that

“digitization must take place in the minds of the people,” underscoring the importance of education and mindset over reliance on external technologies.¹¹⁹

A central theme in Geshe Lhakpa Dorjee’s responses is the duality of technology as both a tool for progress and a source of distraction. He recognizes its potential to amplify greed, attachment, and mental afflictions, reflecting broader concerns within Buddhist philosophy about the risks of becoming overly attached to external objects or tools. While technology can provide easier access to resources, he warns that without the right mindset, it risks becoming a source of distraction and superficial engagement, rather than fostering deeper understanding or ethical growth.¹²⁰

Additionally, Geshe Lhakpa Dorjee highlights the importance of cultural resilience and the irreplaceable role of human agency in the preservation of Tibetan tradition.¹²¹ He reflects on the significant strides made in the availability of texts, contrasting the scarcity of Dharma texts in the past with the abundance provided by modern technology. However, he notes with concern that while access has improved, fewer people are engaging with the texts in meaningful ways. This raises a critical issue: preservation is not just about digitizing texts but ensuring there are individuals who can read, understand, and embody their teachings.¹²²

Geshe Lhakpa Dorjee also links the conversation about digitization to broader societal and philosophical concerns. He critiques the idea that technological progress inherently leads to human happiness or ethical improvement, pointing to the paradox of increasing material wealth and technological sophistication alongside growing societal challenges such as loneliness and mental health issues. He questions whether science and technology, despite their immense achievements, have made humanity better, framing his concerns within the context of Buddhist teachings on mindfulness and the dangers of distraction.¹²³ Geshe Lobsang Monlam’s is questioning whether humanity has truly improved over the past thirty years of technological advancement as well. While acknowledging remarkable progress in knowledge and technology, he remains skeptical about whether this translates into ethical or moral betterment. This skepticism is grounded in his observation that technology can be used for both good and bad purposes, emphasizing that the ethical application of technology ultimately depends on human behavior, not the technology itself.¹²⁴ Geshe Lobsang Monlam foresees a drastic decline in the global population over the next fifty years. He attributes current population growth primarily to

¹¹⁹ Geshe Lhakpa Dorjee, Paragraph 28, 78.

¹²⁰ Geshe Lhakpa Dorjee, Paragraph 28, 44.

¹²¹ Geshe Lhakpa Dorjee, Paragraph 62.

¹²² Geshe Lhakpa Dorjee, Paragraph 72.

¹²³ Geshe Lhakpa Dorjee, Paragraph 44.

¹²⁴ Geshe Lobsang Monlam, Paragraph 30.

regions where women face oppression and limited rights. As women's rights and access to education improve, he predicts that birth rates will naturally decline as women increasingly enter the workforce, prioritizing careers and economic independence over childbirths. He supports this argument with examples, such as the declining birth rate in China, where women, despite limited political freedoms, have gained economic and household influence. He observes a similar trend among Tibetan women in exile, who are becoming increasingly independent and capable. This development, combined with the challenges of immigration to new countries and the resulting difficulty in establishing permanent homes, leads to fewer Tibetan children being born, as women often delay childbirth until they are older and more settled.

In response to these demographic shifts, Geshe Lobsang Monlam anticipates an increasing reliance on technology to address labor shortages caused by reduced human populations. He envisions a future where robots not only perform manual tasks but also replicate human behaviors, such as speaking and cooking. However, he cautions that if preparations are not made now, there is a serious risk of losing Tibetans' cultural and linguistic heritage. Therefore, his stance on technology is pragmatic: to accept its inevitability and prepare for its integration while safeguarding cultural identity.¹²⁵

In conclusion, this chapter underscores the diverse perspectives within the Tibetan community regarding the role of digitization and technology in cultural preservation. Figures like Geshe Lhakpa Dorjee advocate for a cautious and reflective approach, emphasizing that the true value of digitization lies not in the tools themselves but in fostering meaningful engagement with Tibetan cultural knowledge. He highlights the importance of balancing technological progress with the cultivation of wisdom, resilience, and ethical frameworks within individuals.

In contrast, Geshe Lobsang Monlam takes a more forward-looking stance, recognizing the inevitability of technological integration and advocating for proactive preparation. His pragmatic view emphasizes the necessity of embracing technology to address future challenges, such as labor shortages, while also safeguarding the cultural and linguistic heritage of Tibetans. By acknowledging both the potential benefits and risks of technological advancement, he offers a balanced yet future-oriented perspective.

These differing viewpoints reflect broader debates about how tradition and modernity can coexist in the preservation of Tibetan culture. The conversation is not simply about technology as a tool but about the values and intentions that guide its use. Ultimately, the challenge lies in navigating these perspectives to ensure that Tibetan heritage remains resilient and relevant in an increasingly digital world.

¹²⁵ Geshe Lobsang Monlam, Paragraph 30.

4.6. Projects in Focus: The Tibetan Digital Library Project and Other Initiatives

After establishing the motivation, target audience, challenges, and differing perspectives on digitization and technology, this section introduces a cornerstone initiative in the digitization of Tibetan texts: the Tibetan Digital Library Project led by the Central Tibetan Administration (CTA). This project emerged repeatedly during the interviews, underscoring its significance in the broader landscape of Tibetan digital preservation.

The Tibetan Digital Library Project, initiated by the CTA, serves as a central hub for digitizing and preserving Tibetan texts, with the dual goals of safeguarding cultural heritage and providing accessibility to Tibetan communities and researchers worldwide. Notably, all the interview participants, though coming from distinct cultural, educational, and institutional backgrounds, revealed varying degrees of involvement in this project.

This convergence highlights the project's centrality to the Tibetan digitization movement and its collaborative ethos, bridging diverse stakeholders. By introducing this project, this chapter aims to contextualize its influence and explore the expectations, challenges, and contributions of its participants.

4.6.1. The Tibetan Digital Library Project

In April 2023, USAID announced a \$5 million initiative spanning five years to support the digital preservation of Tibetan manuscripts and artifacts in India and Nepal. Managed by the Central Tibetan Administration (CTA), the Tibetan Digital Library Project seeks to address three core objectives: preserving Tibetan cultural resources through advanced digital technologies, increasing accessibility for the Tibetan community, and strengthening the CTA's capacity to sustainably manage and maintain a secure digital platform. This initiative targets key Tibetan settlements in India and Nepal and adopts a participatory approach to engage stakeholders, ensuring that the project reflects community needs and priorities.¹²⁶

Preparations for the initiative began in mid-2023, focusing on assembling a capable team. In August 2023, the CTA's Department of Religion and Culture launched a recruitment drive to find a project manager and assistants. The required qualifications ranged from expertise in Tibetan religion and literature to degrees in library science, underscoring the need for a multidisciplinary team capable of handling both the cultural and technical aspects of the project. This recruitment marked one of the first major step in operationalizing the initiative.¹²⁷

¹²⁶ NOFO for Strengthening Preservation of Tibetan Culture. <https://www.usaid.gov/india/business-opportunities-notices/nofo-strengthening-preservation-tibetan-culture>. <https://www.highergov.com/grant-opportunity/nofo-for-strengthening-preservation-of-tibetan-culture-347706/>.

¹²⁷ Department of Religion and Culture Announces Three Vacancies on Contractual Basis for its Tibetan Digital Library Initiative. <https://tibet.net/department-of-religion-and-culture-announces-three-vacancies-on-contractual-basis-for-its-tibetan-digital-library-initiative/>.

The project was formally inaugurated on November 3, 2023, when Sikyong Penpa Tsering announced the commencement of the “Strengthening Cultural Resilience of Tibetan Communities” program in Dharamsala. The Tibetan Digital Library Project was introduced as a key component of this broader program. The launch highlighted the collaborative framework of the project, which involves the Department of Religion and Culture, Wadhwani AI, MonlamIT as well as BDRC. Each partner organization plays a specialized role: the Department of Religion and Culture is responsible for collecting and curating rare manuscripts, thangkas, and artifacts from monasteries, nunneries, and libraries. Meanwhile, Wadhwani AI with the support of Monlam IT and BDRC focus on developing the technological infrastructure to support a robust digital repository.¹²⁸

Stakeholder engagement has been a priority since the project’s inception. In December 2023, the Department of Religion and Culture organized a virtual meeting with representatives from approximately 100 monasteries and five cultural centers. This meeting aimed to provide an overview of the project’s objectives, outline the digitization processes, and invite feedback from participants.¹²⁹ Initial assessments by the Department of Religion and Culture revealed that over 75% of Tibetan monasteries had not yet initiated digitization of their collections. To address this gap, the Department conducted a comprehensive evaluation to identify monasteries suitable for participation in the project. In the first phase, 105 out of 292 Tibetan monastic institutions across India, Nepal, and Bhutan were shortlisted for further analysis. A subsequent stakeholder review confirmed that 65 of these monasteries and institutions possessed significant resources.¹³⁰ These efforts culminated in the Consortium Conference held in Dharamsala in March 2024, where representatives from 65 monasteries and institutions were invited to participate. During the conference, 58 representatives formally committed to the project, marking a significant step forward in its development. A consortium body was established during the event, with guidance from the Tibetan Legal Association, to oversee the initiative’s governance and ensure its effective and sustainable implementation.¹³¹

The digitization process officially began in early 2024, with the first phase focusing on 20 monasteries located in both southern and northern regions. This phase was supported by the

¹²⁸ Sikyong Penpa Tsering Inaugurates Programme “Strengthening Cultural Resilience of Tibetan Communities”. <https://tibet.net/sikyong-penpa-tsering-inaugurates-programme-strengthening-cultural-resilience-of-tibetan-communities/>.

¹²⁹ Department of Religion and Culture Holds Two-day Virtual Meeting to Discuss its Tibetan Digital Library Initiative. <https://chorig.org/departement-of-religion-and-culture-holds-two-day-virtual-meeting-to-discuss-its-tibetan-digital-library-initiative/>.

¹³⁰ (Ep 189) In Conversation on Tibetan Digital Library Project and its Prospect. TibetTV. <https://www.youtube.com/watch?v=NC2mZ38Id28>.

¹³¹ Empowering Tibetan Cultural Preservation: Consortium Conference on Tibetan Digital Library. <https://tibet.net/empowering-tibetan-cultural-preservation-consortium-conference-on-tibetan-digital-library/>.

Tibetan Library Management System (TLMS) app, a critical tool developed by Wadhvani AI in collaboration with Monlam IT and the BDRC. The TLMS app is designed to streamline cataloging, track progress, and facilitate efficient management of resources while ensuring data accuracy and preventing duplication. Alongside, the Tibetan Digital Library Platform is being developed to incorporate advanced AI technologies, including Optical Character Recognition (OCR), machine translation, speech-to-text, and text-to-speech capabilities. These features aim to enhance the accessibility and usability of Tibetan manuscripts, making them available to both scholars and the broader Tibetan diaspora.¹³²

Training and capacity building form a cornerstone of the project. Librarians and monastery staff are receiving training on the use of the TLMS app and other digital tools. In addition, the project offers online Tibetan language courses and cultural programs to deepen engagement and foster connections with Tibetan heritage. In May 2024, a two-day introductory workshop was held in Dharamsala to introduce staff from three Tibetan monasteries to advanced tools and methodologies, while pilot projects were launched at these monasteries to refine the digitization process and ensure its scalability.¹³³

International collaboration has further strengthened the project. During the summer of 2024, a delegation from the Department of Religion and Culture traveled to the United States to visit major academic libraries and the BDRC. These engagements provided valuable insights into best practices in digital preservation and resource management. The team also participated in hands-on training sessions on collection management and digital methodologies, which have informed the ongoing development of the Tibetan Digital Library Project.¹³⁴

By October 2024, significant milestones had been achieved. Orientation workshops were completed at 20 Tibetan cultural and religious institutions across Dharamsala, Bylakuppe, Hunsur, Kollegal, and Mundgod. During this phase, QR codes were integrated into 2000 bookshelves and 70'000 master texts, marking a critical step toward efficient cataloging and digital preservation. These efforts reflect the project's commitment to safeguarding Tibetan

¹³² (Ep 189) In Conversation on Tibetan Digital Library Project and its Prospect. TibetTV.

<https://www.youtube.com/watch?v=NC2mZ38Id28>.

¹³³ From Scrolls to Screens: Tibetan Digital Library Initiative Begins in Dharamshala-based Monasteries and Cultural Centres. <https://tibet.net/from-scrolls-to-screens-tibetan-digital-library-initiative-begins-in-dharamshala-based-monasteries-and-cultural-centres/>.

¹³⁴ Tibetan Digital Library Project Team Concludes Productive Trip to Boston, New York, and Washington D.C.. <https://chorig.org/tibetan-digital-library-project-team-concludes-productive-trip-to-boston-new-york-and-washington-d-c/>.

cultural heritage while leveraging modern technologies to ensure its accessibility for future generations.¹³⁵

Insights and Reflections on the Tibetan Digital Library Project

The Tibetan Digital Library Project has garnered diverse perspectives from stakeholders, reflecting both optimism and critique regarding its scope, execution, and implications for Tibetan cultural heritage. These insights, shared during interviews, provide valuable context for analyzing the project's structure and progress.

The announcement of the Tibetan Digital Library Project by the Central Tibetan Administration (CTA) generated discussions among the Tibetan community. As Geshe Lhakpa Dorjee observed, “The Tibetan exile government announced that they are starting a Tibetan Digital Library Project. They’re over the moon. The Sikyong is pushing it. A key focus is on us, as they need our materials. Without Dharma texts, what would there be to digitize?”¹³⁶ His statement underscores the project's reliance on existing monastic collections, highlighting their centrality to the initiative. However, he also cautioned against overlooking critical considerations, emphasizing the importance of carefully planning such an ambitious undertaking.

The collaborative framework, involving the Department of Religion and Culture, Wadhwani AI, and Monlam IT sparked varied feedback. While praised for leveraging expertise in artificial intelligence and library science, the partnership has also been shaped by underlying complexities. Tashi offered further context, stating, “There’s a very long political backstory, but in the end, USAID decided that Monlam AI would be part of it. So, Monlam IT, and I, as part of BDRC, [...] are still part of the project. They weren’t originally supposed to be part of it.”¹³⁷ However, it was crucial that these institutions became collaborators in this project, as they were the ones who “pushed for [...] the creation of a library cataloging app and training monasteries to catalog their collections”.¹³⁸ Tashi emphasized the importance of starting with a physical cataloging system for monastic libraries instead of jumping directly to a digital platform. This approach would allow monasteries to organize and document their collections, enabling the identification of texts that had already been digitized and those that were still missing. With this information in hand, the project could strategically deploy teams to scan, process using optical character recognition (OCR), and digitize the remaining materials.¹³⁹ Tashi’s statement

¹³⁵ Department of Religion and Culture Achieves Key Milestones in First Year of Tibetan Digital Library Initiative. <https://tibet.net/departments-of-religion-and-culture-achieves-key-milestones-in-first-year-of-tibetan-digital-library-initiative/>.

¹³⁶ Geshe Lhakpa Dorjee, Paragraph 28.

¹³⁷ Tashi, Paragraph 46.

¹³⁸ Tashi, Paragraph 46.

¹³⁹ Tashi, Paragraph 48.

underscores the logical progression required for an effective digitization project. Before establishing a digital platform, it is essential to conduct an inventory of the existing materials. The implementation of a physical cataloging system serves this purpose, enabling monasteries to document their collections systematically. Without this preliminary work, the digitization effort risks inefficiencies, such as redundant scans or overlooked texts.

Additionally, this process empowers the involved institutions to plan systematically for the digitization phase. By knowing exactly what is missing, targeted actions can be taken to locate and digitize these materials, ensuring that the digital library becomes as comprehensive as possible. In this sense, the cataloging system is not merely a tool but a critical first step in creating a robust and meaningful digital archive.

Furthermore, it was essential for Monlam IT, led by Geshe Lobsang Monlam, and BDRC, represented by Tashi, to be part of this initiative. Tashi noted that Wadhwani AI, as the primary contractor, lacked familiarity with the Tibetan community and its manuscripts. To address this gap, USAID selected Monlam IT as the most suitable partner for the project.¹⁴⁰ Geshe Lobsang Monlam elaborated on this collaboration: “[...] While Wadhwani AI is highly skilled in artificial intelligence, they lack expertise in library science. I, on the other hand, have completed my studies in library science, enabling us to collaborate effectively in this area.”¹⁴¹

The importance of technological innovation is evident in the project’s design. Geshe Lobsang Monlam outlined how AI-driven tools would enhance the accessibility of Tibetan manuscripts. “The scriptures will be ready to be read like this (shows image on the laptop). In the background, it works as follows. The materials are scanned, cataloged, made readable via OCR, integrated into a search engine, checked for spelling, equipped with a read-aloud function, and directly linked to a dictionary.”¹⁴² Such features not only streamline access but also hold the potential to revolutionize the way Tibetan texts are studied and utilized.

This underscores the essential role of Monlam IT, whose unique combination of cultural knowledge, IT skills and library science expertise bridges the gap between advanced technological tools and the specific needs of Tibetan manuscripts.

This collaborative framework exemplifies how different areas of expertise—technological, cultural, and organizational—must come together to achieve large-scale preservation goals. The combined efforts of MonlamAI and BDRC, underpinned by their shared focus on systematic cataloging and digitization, ensure that the project is not only technologically sophisticated but also culturally authentic and operationally sustainable.

¹⁴⁰ Tashi, Paragraph 48.

¹⁴¹ Geshe Lobsang Monlam, Paragraph 86.

¹⁴² Geshe Lobsang Monlam, Paragraph 84.

Stakeholder engagement has been a focal point of the project, with online meetings and conferences facilitating dialogue between the CTA and participating monasteries. Sonam Topgyal stated, “They invited the LTWA to participate and held an online meeting via Zoom. During this meeting, the Sikyong was present, along with the secretary for the Department of Religion and Culture, project staff and collaborators, librarians, and other stakeholders.”¹⁴³ Despite these efforts, concerns about equitable collaboration remain. For instance, Sonam Topgyal highlighted the challenges of balancing government-led initiatives with existing institutional expertise: “The Department of Religion and Culture is set to kick off in April. Naturally, they approached us first, asking for copies of our already digitized materials. We responded, saying, ‘Yes, we can provide them, but you need to compensate us for our collection of ten years’ worth of digitized material.’”¹⁴⁴ This sentiment is shared by Geshe Lhakpa Dorjee as well, who highlighted concerns about the fairness of the project’s execution, particularly in terms of resource allocation. Geshe Lhakpa Dorjee criticized that although institutions like the Library of Tibetan Works and Archives and libraries in Varanasi are well-suited for initiatives of this nature, they were not approached as primary partners. Instead, they were expected to contribute the resources and significant efforts they had invested over many years in digitizing their collections.¹⁴⁵

The Tibetan Digital Library Project represents a significant step toward the preservation and digitization of Tibetan cultural heritage, yet it also reveals the complexities and challenges inherent in such an ambitious undertaking. Insights from stakeholders highlight a dual narrative: optimism for the potential of technology-driven initiatives to enhance access to Tibetan texts, and critiques regarding resource allocation, collaboration, and project management.

While the inclusion of organizations like Monlam IT and BDRC has brought invaluable expertise in library science and cultural knowledge, concerns about equitable collaboration and the role of established institutions such as the Library of Tibetan Works and Archives remain prominent. Stakeholders like Geshe Lhakpa Dorjee and Sonam Topgyal have drawn attention to the importance of recognizing and compensating the extensive work already undertaken by these institutions.

Moreover, the emphasis on systematic cataloging as a foundational step underscores the need for careful planning and resource management to ensure that digitization efforts are efficient and comprehensive. Technological innovation, particularly through AI tools, has shown promise in transforming the accessibility and usability of Tibetan manuscripts. However, as

¹⁴³ Sonam Topgyal, Paragraph 9.

¹⁴⁴ Sonam Topgyal, Paragraph 23.

¹⁴⁵ Geshe Lhakpa Dorjee, Paragraph 42.

stakeholders have cautioned, the success of such initiatives depends not only on technological sophistication but also on meaningful collaboration, transparency, and respect for the contributions of all parties involved.

Ultimately, the Tibetan Digital Library Project serves as a case study in balancing technological advancement with cultural authenticity. By addressing these challenges and fostering more inclusive partnerships, the project holds the potential to set a precedent for future cultural preservation initiatives in Tibetan and other communities.

4.6.2. Other Initiatives

Following the discussion of the Tibetan Digital Library Project, this section presents a selection of other noteworthy digitization initiatives that contribute to preserving and disseminating Tibetan texts. These projects, though varied in scope and approach, collectively highlight the breadth of efforts undertaken to safeguard Tibetan literary heritage. The information presented here is drawn primarily from an interview with Tashi, a well-connected expert with extensive knowledge of the digitization scene. Tashi's insights provide valuable context on the historical development, motivations, and challenges of these initiatives, offering a nuanced understanding of their roles within the broader digitization landscape. As Tashi noted, "The goal of all these projects has always been publication, first and foremost."¹⁴⁶

Digitization initiatives in the Tibetan Buddhist context have taken various forms, each contributing uniquely to preserving and disseminating Tibetan texts while facing significant challenges along the way. **Dharma Downloads**, an early project originating from Karma Leksheyling Monastery in Nepal, was directed by Khenpo Karma Namgyal, a Bhutanese monk whose pioneering journey into digitization began in 1999. He launched this online platform dedicated to publishing Tibetan Buddhist texts, with a particular focus on the Karma Kagyu Lineage.¹⁴⁷ This initiative marked one of the first significant efforts to make Tibetan texts widely accessible in digital format, laying the groundwork for future advancements in the field of Tibetan text preservation and dissemination. The project gained momentum after a transformative event: a near-death experience led the Khenpo to prioritize sharing his extensive digital collection widely, breaking from the common reluctance to share such valuable resources.¹⁴⁸

Another project is **Nitartha International**, a non-profit educational organization founded by Dzogchen Ponlop Rinpoche and based in Seattle, Washington. Dedicated to the preservation of endangered Asian texts and art, the organization combines modern technologies with traditional

¹⁴⁶ Tashi, Paragraph 14.

¹⁴⁷ Karma Leksheyling Foundation – About Us. <https://www.bhutankl.org/about-us/>.

¹⁴⁸ Tashi, Paragraph 10, 15.

scholarship to produce digital archives and print publications.¹⁴⁹ Central to its mission is an input center that plays a vital role in processing and preparing materials for broader access, serving scholars, developers, and professionals alike. Besides Dzogchen Ponlop Rinpoche, Lama Palden plays a key role in these activities and is based at Gyuto Monastery near the Karmapa's residence. In its early years, the organization worked with Tony Duff, a prominent contributor to Tibetan text digitization, to further its goals.

Nitartha International's impact extends beyond its immediate base, with contributions reaching Tibet, where its digitized files have supported local printing and publication efforts. A notable example is the Mipham Rinpoche Sungbum, published in Tibet over a decade ago using input data provided by the organization. By bridging traditional knowledge and modern innovation, Nitartha International exemplifies a strategic approach to preserving and sharing Tibetan literary heritage.

The Latse Project, based in New York, played an important role in early Tibetan text digitization efforts as well. While its primary focus was on data input, it also prioritized providing teams with essential technology, such as computers, which were prohibitively expensive at the time for most individuals and institutions.¹⁵⁰ The project's work was funded by the **Tsadra Foundation**, a significant sponsor of Tibetan digitization projects, particularly supporting the Kagyü and Nyingma lineages. The Tsadra Foundation was founded by Eric Colombel, who, during his tenure at BDRC, met George Soros's daughter Andrea Soros. Inspired by her partnership with Colombel, she became deeply engaged in Tibetan cultural preservation. Through substantial investments in bank assets, the foundation has generated returns to support long-term initiatives, including the publication and digitization of Tibetan texts. One of the Tsadra Foundation's notable contributions is the **DharmaCloud** platform, which provides access to a vast collection of digitized and meticulously formatted Tibetan texts.¹⁵¹ Although its primary focus has been on non-Gelug lineages, the foundation continues to fund various initiatives that enhance the accessibility and preservation of Tibetan literary heritage, particularly in India.

In addition, Andrea Soros herself established the **Trace Foundation** to promote Tibetan cultural preservation in Tibet.¹⁵² While the Trace Foundation has since ceased operations in the region, it left a lasting legacy in Tibetan cultural preservation and digitization projects. For instance, the Yalasoo website, which offered a font converter and other valuable resources, was funded

¹⁴⁹ Dzogchen Ponlop Rinpoche. <https://dpr.info/biography/reincarnation/>.

¹⁵⁰ The Latse Project – About Us. <https://www.latse.org/about-us/>.

¹⁵¹ DharmaCloud Tibetan E-Book Library. <https://dharmacloud.tsadra.org>.

¹⁵² Trace Foundation – About Us. <https://www.trace.org/about>.

by the Trace Foundation. Similarly, in India, the Tsadra Foundation has supported book publications for many years.¹⁵³ Tashi recounted an experience from a meeting in 2012 or 2013 with representatives from all the Kagyü libraries. Organized by the Karmapa, the gathering took place at Thrangu Monastery, also known as the Vajra Vidya Institute, in Sarnath. The Karmapa had allocated funds to support publishing projects and invited librarians and publishers to discuss their needs. Tashi, involved with the Sherabling Library at the time, was also invited. During the meeting, the Karmapa asked each monastery about their current publishing efforts and whether they required financial support for input work or book production. However, to his surprise, every monastery declined the offer, explaining that their digitization and publication needs were already funded for the next two to three years by the Tsadra Foundation. In response, the Karmapa decided to distribute the funds he had prepared, giving each monastery approximately ₹200'000. This anecdote illustrates the importance of sponsorship in digitization efforts and the substantial role funding organizations like the Tsadra Foundation play in supporting such projects.¹⁵⁴

In 2009, **84000**, a non-profit organization dedicated to translating the complete Tibetan Buddhist canon, the Kangyur and Tengyur, into modern languages, was established. Its goal is to ensure that these sacred texts are freely accessible to all. In 2012, surveys were conducted to lay the groundwork. To execute the project, approximately 30 former monks were hired. Their expertise in Tibetan Buddhist texts, combined with their need for stable income, created a conducive environment for a productive and sustainable working relationship. The team meticulously compared the texts and ensured that they adhered to the Derge edition of the Kangyur, maintaining high standards of accuracy and consistency.¹⁵⁵ As of 2024, over 40 percent of the Kangyur has been translated into English and made available through 84000's online collection, marking significant progress in its mission to preserve and share the Buddha's teachings with the world.¹⁵⁶

The Shechen Monastery's Rinchen Terdzö (Tibetan: རིན་ཆེན་གྲེས་མཛོད་, Wylie: rin chen gter mdzod) Input project focused on the digitization and meticulous proofreading of important Nyingma texts. Supported by the Tsadra Foundation, this initiative exemplifies the foundation's commitment to funding digitization and publication efforts, particularly within the Kagyü and Nyingma traditions.¹⁵⁷

¹⁵³ Tashi, Paragraph 16.

¹⁵⁴ Tashi, Paragraph 17.

¹⁵⁵ Tashi, Paragraph 32.

¹⁵⁶ 84000 – Our History. <https://84000.co/our-history>.

¹⁵⁷ Rinchen Terdzö Chenmo. https://rtz.tsadra.org/index.php/Main_Page. Tashi, Paragraph 42.

Finally, the **Adarshah Project**, launched by the Karmapa, aimed to digitize the earliest Kangyur editions, including the Lithang edition. Initially envisioning a corrected Derge edition, the project faced resistance from scholars unwilling to revise what were seen as sacred, magically inspired texts. This led to a focus on reproducing earlier woodblock editions, maintaining fidelity to their historical forms. The reluctance of scholars to engage in textual correction highlights the tension between traditional reverence for texts and modern approaches to textual accuracy. Adarsha is now a versatile digital platform available as an online resource and a mobile application. Comprising 110 volumes, it provides a robust tool for accessing and interacting with Buddhist scriptures. The software offers a range of functionalities, including the ability to read and search scriptures seamlessly. It also supports the creation of a comprehensive dictionary of Dharma concepts, aiding in the understanding of key terms and ideas.¹⁵⁸

Innovative approaches like the **OpenPecha** project have sought to leverage technology to streamline digitization processes. By using statistical and natural language processing (NLP) techniques, OpenPecha has developed tools to semi-automate text preparation and error correction. These tools reconcile discrepancies across multiple versions, ensuring high-quality digital texts for both scholarly and general use. However, such technology-driven initiatives face challenges in obtaining consistent and accurate input data, as well as adapting to the nuances of complex texts.¹⁵⁹

Projects in China

The **Pedurma** (Tibetan: དཔེ་བསྐྱར་མ།, Wylie: dpe bsdur ma) is a modern computer-printed edition of the Kangyur and Tengyur, developed as a comparative edition by analyzing eight versions of the Kangyur and four versions of the Tengyur. This ambitious project was funded by the China Tibetology Research Centre (CTRC) in Beijing, with a team of 100 people working over 20 years under government sponsorship. Another notable player is the **Himalaya Rigdzo Khang** (Tibetan: ཧི་མ་ལ་ཡ་དཔེ་མཛོད་ཁང་།, Wylie: hi ma la ya dpe mdzod khang), which publishes approximately 200 volumes of digitized material annually. In addition to these efforts, the government has invested heavily in the digitization and republication of Tibetan medical texts, often producing extensive series containing 100 to 300 books.¹⁶⁰

According to Tashi, the Chinese government has played a significant role in digitizing and preserving Tibetan literature. The Chinese Department of Culture, for example, has dedicated

¹⁵⁸ Tashi, Paragraph 32. Adarshah – About. <https://adarshah.org/about/>.

¹⁵⁹ Tashi, Paragraph 45; Ngawang Trinley et al. 2021.

¹⁶⁰ Tashi, Paragraph 27.

substantial resources to digitizing the Kangyur and Tengyur, thereby making these texts widely accessible. Tashi highlighted that these efforts began much earlier than commonly assumed, even during the Cultural Revolution, when digitization and translation projects were already underway. One of the first computer-input books printed during that time was Alak Zenkar Rinpoche's edition of the Sheja Kunkyab (Tibetan: ཤེའུ་ཀུན་མཁྱེད་, Wylie: shes bya kun khyab), a work by Jamgon Kongtrul Rinpoche. For the Chinese government, preserving Tibetan literature is part of its broader cultural agenda, framing Tibetan heritage as an integral aspect of "China's Tibet."¹⁶¹

Tashi further emphasized the scale of these projects, noting that with 7 million Tibetans living in China compared to approximately 150'000 outside of China, the scope of text-related initiatives is naturally much larger within the country. Current developments highlight this disparity, with numerous large-scale digitization projects ongoing in China, far outpacing efforts outside its borders.

The diverse digitization initiatives highlighted in this section demonstrate the immense efforts being made globally to preserve and disseminate Tibetan texts. From the early Dharma Downloads project to large-scale efforts like 84000 and the Pedurma edition, these projects reflect a combination of traditional reverence for Tibetan literature and innovative technological approaches. Each initiative, whether focused on translation, textual comparison, or digital access, plays a critical role in safeguarding Tibetan literary heritage for future generations. Despite varying challenges and motivations, these endeavors collectively underscore the importance of collaboration, sponsorship, and technological advancement in preserving and sharing the rich legacy of Tibetan Buddhism.

5. Conclusion

This thesis set out to explore the digitization of Tibetan Buddhist texts by examining the efforts, motivations, and challenges faced by key actors involved in this movement. Through interviews and case studies, this thesis has provided a nuanced understanding of how digitization efforts serve as a tool for cultural preservation and accessibility while navigating complex sociocultural, technical, and institutional landscapes.

The findings reveal that the digitization movement is driven by a diverse group of actors, including institutions such as the Library of Tibetan Works and Archives and the Monlam Tibetan IT Research Center, as well as individuals with unique backgrounds and perspectives. These actors approach digitization through lenses shaped by their experiences, whether monastic, academic, or technological. For some, digitization represents a response to the threats

¹⁶¹ Tashi, Paragraph 27, 29, 30.

posed to Tibetan cultural heritage by displacement and globalization, while for others, it is an opportunity to democratize access to Tibetan texts, allowing broader audiences, including the diaspora and global scholars, to engage with this rich tradition.

The motivations underlying these efforts range from the preservation and conservation of cultural heritage to increasing accessibility and fostering socioeconomic benefits. However, the process is fraught with challenges, including technical limitations, financial constraints, legal barriers, and cultural sensitivities. The linguistic and textual complexity of Tibetan works further necessitates specialized expertise, underscoring the critical role of Tibetan actors who bring not only technical proficiency but also deep cultural and spiritual understanding to these projects.

Throughout this research, the use of grounded theory methodology was instrumental in challenging and refining my assumptions. Initially, I approached the field with the belief that digitization projects were primarily shaped by non-Tibetan actors. However, through engagement with the research field, I discovered the significant involvement of Tibetan actors, particularly monastic institutions, in digitization initiatives. This realization not only reshaped my understanding of the field but also underscored the importance of staying open to new insights that emerged from the data.

This thesis demonstrates that digitization is not simply a technical process but a deeply cultural act. While technology offers unprecedented opportunities for preservation and dissemination, its integration into Tibetan contexts requires careful consideration to ensure alignment with traditional values and ethical principles. The findings also challenge the perception that Western institutions dominate digitization efforts by emphasizing the pivotal role of Tibetan scholars and practitioners, who ensure that these initiatives remain culturally grounded.

The research has implications for policy and practice, particularly for funding bodies and institutions that must recognize the dual role of digitization in preserving cultural heritage and advancing global knowledge production. Future studies could build upon this work by examining the impact of digitization on Tibetan communities and their relationship with their cultural heritage or by investigating the role of emerging technologies, such as artificial intelligence, in addressing linguistic and technical challenges.

Navigating the intersections of Tibetan and Swiss identities throughout this project has provided a unique perspective on the tensions and synergies between different settings. Balancing an insider's cultural understanding with an outsider's analytical objectivity has enriched the research process and its outcomes. Ultimately, this thesis underscores that digitization is not only about preserving texts but also about safeguarding the identity, values, and traditions of a

people. By documenting the efforts and challenges faced by key actors, this work contributes to a deeper understanding of how digitization serves as a bridge between past and future, ensuring that Tibetan culture continues to thrive in an ever-changing world.

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7. Appendix

7.1. Interview guide example

Background information

- Geshe Lobsang Monlam, the founder and director of the Monlam Tibetan IT Research Centre
- New features of the software Monlam AI
- Four primary machine learning models
 - The Machine Translation Model
 - Optical Character Recognition Model
 - Speech-to-Text Model
 - Text-to-Speech Model

Introduction

- Analysis of efforts and processes related to the digitization of Tibetan Buddhist texts.
- My particular interest lies in understanding the driving forces behind the digitization movement, including the identification of key actors significantly involved in the digitization of Tibetan manuscripts. This encompasses an examination of their backgrounds, such as their relationship to Tibetan Buddhism, as well as their motivations.

Questions

- ❖ Introduction

- Hello/Good afternoon. Thank you for taking the time for this interview. I am interested in the digitization of Tibetan Buddhist texts and would like to learn more about the actors and motivations behind it.

❖ General Information

- Could you please tell me about your institution? (Year of establishment, main activities, goals, etc.)

❖ Backgrounds and Motivations

- What motivated you to establish or work in this institution?
- What backgrounds and experiences contributed to the formation of your institution and how do they relate to the digitization of Tibetan texts?

❖ Activities and Projects

- Could you describe some of the key projects or activities of your institution, especially those related to the digitization of Tibetan texts?
- What are your goals with these projects, and how do they contribute to achieving your mission in terms of digitization?

❖ Target Audiences and Impact

- Who are the main recipients of your activities, including those related to Tibetan texts?
- How do you measure the impact and success of your work on these target audiences, particularly in the context of digitization?

❖ Challenges and Achievements

- What challenges have you experienced in implementing your projects, especially regarding the digitization of Tibetan texts?
- Can you highlight some of the most significant successes or milestones of your institution in the context of digitization?
- Are the resources your institution provides for the digitization of Tibetan texts publicly accessible? If not, why did you decide not to make these archives public despite their existence?

❖ Partnerships and Collaboration

- Which other organizations or institutions do you collaborate with to achieve your goals?

❖ Future Outlook

- How do you envision the future of your institution and its activities? What are your long-term goals, especially regarding the digitization of Tibetan texts?