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52

# The role of the national university in developing nations' digital cultural heritage projects

## A perspective from Kazakhstan

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### Abstract

**Purpose** – The purpose of this paper is to explore the role of the national university in developing sustainable cultural heritage digital preservation practices.

**Design/methodology/approach** – Using Nazarbayev University in Astana, Kazakhstan as an example, this paper discusses current development of cultural heritage digital collections, and looks to the university library's impact on nationwide digital practices development.

**Findings** – While the university and its digital collections are still nascent, NU will likely have a large impact on the creation of sustainable digital cultural heritage preservation practices due to its international visibility and direct connection to stakeholders.

**Originality/value** – Focused on developing nations, this paper will be of special interest to librarians working in countries facing similar challenges, such as other CIS nations.

**Keywords** Digitization, Preservation, Cultural heritage, Digital collections, Developing nations

**Paper type** Viewpoint

### Introduction

A culturally diverse CIS (Commonwealth of Independent States) country, Kazakhstan has a unique culture spanning prehistory through the Soviet era to present-day independence. While the ethnic lineage of Kazakhstan is that of Kazakhstani nomads, even this breaks down into tribal confederations, and further into clans and tribes (*zhuz*, *ru*, and *taipa*) (Schatz, 2000, pp. 489-90). These specific identities were maintained through the Soviet era, and now coexist along with a vast array of non-indigenous communities including Russian, German, Korean, Uzbek, and Tatar. Interestingly, “[w]hen the USSR collapsed, Kazakhstan was the only successor state whose titular group was an ethnic minority (39.7 percent)” (Schatz, 2000, p. 489). In post-Soviet statehood, emphasis on the indigenous ethnicity play an important role in government and education, and cultural institutions are increasingly working to preserve and disseminate cultural heritage information, such as books by the famous Kazakhstani poet Abai. This work is being done with a specific emphasis on indigenous ethnicity, to the exclusion of other populations' long histories in the country.

The author wishes to thank her colleague John Schriener for his ample support.



As relatively *ad hoc* digitization of cultural heritage material occurs with greater frequency in Kazakhstan, it is important to pause and focus on creating sustainable best practices that will resonate nationwide. In this paper, the author will outline the technical and cultural challenges facing the development of digital cultural heritage preservation practices in Kazakhstan, based on the author's experience as former manager of the Digital Center at Nazarbayev University (NU) in Astana. This will form the basis of argument that a large state university such as NU is most likely to create effective best practices in the digital preservation of cultural heritage information. The author will then provide suggestions as to the next steps necessary in order to build sustainable practices, and conclude by providing more general suggestions as to how this might apply to other developing and transitional countries.

### Context

With a population of 16.5 million people and an annual GDP of nearly \$200 billion in 2011 (World Bank, 2013), Kazakhstan is quickly changing from a developing nation into an internationally competitive economy. While the country has developed rapidly in certain areas, divergences still exist. For example, the literacy rate in the country is nearly 100 percent (IFLA, 2007, p. 222); however, growth of lower- and middle-class income is slow, with the average yearly salary just below 8,500 USD (Agency of Statistics of the Republic of Kazakhstan, 2013). According to Bhuiyan, the vision of Kazakhstan is to become one of the "50 most competitive countries in the world by 2030" (p. 36); while the actual meaning of that goal remains to be seen, Kazakhstan's natural resources and relative stability put the country at an advantage within Central Asia.

There is, of course, a measure of ambivalence on the part of scholars as to the progress of the country; while the actual development of the country is not in dispute, the level of intention is. Where De Vries and Sobis, 2012 argue that the development of Kazakhstan is "reluctant", Zhumagulov asserts that "[s]uch things do not, of course, simply happen" in discussing the cause of the country's recent international recognition (Reagan and Sagintayeva, 2013, p. 5). This divergence illuminates a particular problem that exists in researching a country such as Kazakhstan – there is a relative lack of non-biased research that focuses specifically on the country. While the author disagrees with any claim that the government of Kazakhstan directly controls the findings of academic research, some of the current materials published in Kazakhstan regarding the country's development and education system does contain a nationalistic bias. In the author's own research, moderation of this issue is accomplished by providing studies undertaken by international scholars on the geographic region, or on similar countries, in addition to those of Kazakhstan nationals.

### The current state of digital collections in Kazakhstan

#### *Kazakhstan National Electronic Library*

The Kazakhstan National Electronic Library (KAZNEB) is a government-developed project – a collaboration between the Ministry of Culture and Information and the National Academic Library of Kazakhstan (Kazakhstan National Electronic Library, 2013). While still in beta mode, this project indicates the problem of access to information that is standard in the country, as in-person registration is required prior

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to online entry. The catalog only allows for downloads of 24 pages of text (a problem that is also currently faced in the NU Library online portal, but that will likely be addressed in a forthcoming version).

This electronic library was created as part of Kazakhstan's "Cultural Heritage" state programme," which supports the "studying, restoration and preservation of historical and cultural heritage of the state, revival of historical and cultural traditions and propaganda of cultural heritage of Kazakhstan" (Ministry of Culture of the Republic of Kazakhstan, 2011). These materials are, however, only representative of the government's idea of national identity, and present only "content created in the country" (Behles, 2013). Shaimukhanbetova, 2012, asserts that the Assembly of the Nation ([www.assembly.kz](http://www.assembly.kz)) is the "main partner" of the country's libraries (p. 229), suggesting that the government plays a large role in determining the development of programs and collections. KAZNEB is, however, a positive sign for future digital collections, as it is one of only two statewide databases (the other belonging to Kyrgyzstan).

#### *Nazarbayev University Library digital collections*

Nazarbayev University is only three years old and currently has around 1,500 students. A Western-style university with aspirations of becoming one of Central Asia's leading research universities, NU has a foreign faculty of over 150, connections to some of the top US and British institutions, and a growing library collection. Within the library, the Digital Center is charged with developing digital collections. In its first year, it has cultivated digital projects that will further scientific research in Kazakhstan, provide access to students, and preserve cultural materials. The broad aims of the department are twofold: access and preservation. As the second university in Central Asia working to develop an institutional repository (Behles, 2013), the NU Library Digital Center stands to greatly impact scholarly access in the region.

Currently, the Nazarbayev University Library Digital Center is overseeing the development of two major digital collections. The first is the Kazakh Cultural Collection, established through the recommendations of the Kazakh Language Department located in the School of Humanities and Social Sciences. The intentions of this digital collection are both to digitally preserve important original texts in the language, as well as to make popular literature available in the Kazakh language. The other digital project is the Central Asian Collection, developed in collaboration with the Eurasia Regional Studies Institute, also a part of the School of Humanities and Social Sciences. The vision for this project, initiated in late 2012, is to create a unique collection of region-specific materials that are largely unavailable anywhere else in the world. While the Kazakh Cultural Collection seeks to fill the needs of a local population, the Central Asian Collection pursues an international audience.

The development of these collections has been somewhat successful; however, there are still institution-wide challenges. These include the need to make current and future digital collections open access and remove security restrictions imposed by the library's web site. While the NU Library does support open access, it has so far been unsuccessful in implementing access for unaffiliated researchers, largely because of the challenging nature of the in-house developed library portal. The collections also currently do not have a public web presence outside of the library's online catalog; this would allow for better curation and exposure of the collections, and would likely

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improve the availability of usage analytics. Finally, and perhaps most importantly, the Digital Center must engage greater populations of the country and work to represent and preserve their culture in addition to that of the ethnic majority.

### Technical challenges

A major challenge to digital cultural heritage preservation is the technical infrastructure of the country. In 2012, only 7.6 percent of the population had home Internet access (Agency of Statistics of the Republic of Kazakhstan, 2013), and libraries themselves are underdeveloped in terms of Information and Communication Technology (ICT). While this is changing in schools and universities, as 2007 saw one computer per 21 students (UNESCO, 2008, as cited by Bhuiyan, 2010, p. 38), national access to the Internet within libraries was only 40-60 percent as of 2010 (IFLA, 2010), up from 20 percent in 2007 (IFLA, 2007, p. 220). Web and software development for less prevalent languages existing in Kazakhstan, including Kazakh, has also been slow to develop. According to Shaimukhanbetova, this issue is widespread, as it even affects the existence of web pages in the language (p. 227); however, it is especially acute in terms of character recognition software for Kazakh.

The connection between industry and government is exacerbating the ICT challenge. Much of the industry in Kazakhstan is state-owned, as is the case with the country's largest telecommunications provider KazakhTelecom (OpenNet Initiative, 2010, p. 185). "Restrictions on foreign ownership" and the "80 percent government ownership" of the NGO that administers the.kz domain, the Kazakhstan Association of IT Companies (OpenNet Initiative, 2010, p. 187), suggests that development of the ICT market is being stymied by government intervention and lack of actual competition. Further evidence of this is the government's over-legislation, as "nearly 300 legislative acts that expressly or implicitly control the ICT environment," including the legal obligation of all telecom companies "to connect their channels to a public network controlled by KazakhTelecom" (OpenNet Initiative, 2010, p. 187). This is undoubtedly how the country is able to filter unwanted web content, such as Wordpress.

Kazakhstan's libraries also face an arduous battle before copyright laws will fully support the development of digital cultural heritage collections. Although it has seen positive changes over the past decade, copyright law in the country still lacks fair use-equivalent exceptions related to libraries and educational institutions (Massalina, 2005, p. 8). Current copyright law restricts replication to a very small percent of a work, which has currently been interpreted by Nazarbayev University legal advisors as 5 percent. Facing both preservation and access challenges at NU, this limitation diminishes the positive effect that the Digital Center's collections could have for students and researchers. In many ways, the law in Kazakhstan promotes piracy, because legal access is so limited. Thus there is a need for standardized copyright law that supports continued creation while making digitization, sharing, and use more accessible.

### Cultural challenges to preservation

While the preservation and teaching of Kazakhstan's heritage are a focus for the country's president Nursultan Nazarbayev, there are also many cultural barriers currently facing libraries as they look towards digitization of cultural heritage. As the concept of authorship was only introduced in Kazakhstan during the Russian empire

(Massalina, 2005, p. 2), much of the cultural heritage from previous eras is intangible. Indeed, according to Massalina, “[b]efore Kazakhstan joined the USSR in 1920, many works created by legendary Kazakh composers and poets had only occasionally been [written down] due to the nomadic lifestyle of the Kazakhs” (p. 2). Another complicating factor is that if the heterogeneity of the country – as Karin and Chebotarev (2002) assert, even the country’s cultural institutions are powerless to effectively protect non-indigenous ethnicities against the “Kazakhization” of the nation as driven by the Nazarbayev Government (p. 2). Indeed, this policy is intrinsic in much of the education within the country, as a faculty member at East Kazakhstan State University stated that he agreed with “having the history of Kazakhstan be a history of the Kazakh people” (Heyneman, 2007, p. 309). The Government’s bias towards ethnic Kazakhstani history could negatively impact the development of cultural heritage digital collections, as those deemed unnecessary by the government will likely be met with opposition and lack of funding.

These challenges are compounded when the heavy hand of the law also becomes involved. A piece of contentious legislation regulating Internet activity enacted in 2009 concludes that “all internet-resources” including “electronic libraries [...] are considered to be ‘mass media’ ...

and can be imposed criminal and civil penalty [sic]. The new law prohibits sharing information which potentially causes interethnic conflicts, or creates a negative image of the country and political management” (Janenova, 2010, p. 10). While, to the author’s knowledge, this legislation has not yet resulted in the prosecution of any libraries within Kazakhstan, it provides strong incentive to follow government edicts when moving into the digital realm. The obvious, if not overt, censorship is still quite problematic in Kazakhstan in both the physical and digital realm; this is the most challenging problem facing librarians in the country.

### Next steps

From the author’s experience at Nazarbayev University, NU is best situated to effectively create unbiased cultural heritage preservation practices within Kazakhstan. In asserting this, the author does not mean to say that NU has solved the challenges faced in providing digital access to cultural heritage collections, but rather that it could affect the change necessary if university and library officials are willing to accept the challenge. This is largely because, while state-funded, Nazarbayev University has a level of “autonomy and academic freedom” granted by law that is not yet available to other institutions (Orynbayev, in Reagan and Sagintayeva, 2013, p. 11).

According to the Scholarly Publishing and Academic Resources Coalition, “governments invest in research ‘in order to accelerate the pace of scientific discovery, encourage innovation, enrich education, and stimulate the economy [...] and the value of an investment in research is only maximized through wide use of its results” (as cited in Donabedian and Carey, 2011, p. 220). In the case of Kazakhstan, Nazarbayev University is the foremost example of the government’s investment as, in addition to the school’s actual funding, many grants are being funded for specific research. This puts NU in a strong position, as it can mediate between government connections and autonomy through research funding. Large-scale digitization for cultural heritage preservation is on the horizon for Kazakhstan, and it will have a strong impact on the future of libraries in the country if it can be done effectively.



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Nazarbayev University's connections to other large libraries and associations will further assist its position in being the institution through which best practices are developed.

The first and perhaps most vital step for the institution is to develop institution-wide policies and share these as broadly as possible. During the author's time at NU, the Digital Center moved in this direction, but it must further hone policies and then seek to present these around the country to other interested librarians. This will assist in the ultimate development of a national policy related to digital preservation, which will help to articulate the goals of digitization on a national level. While necessary, this step will be a challenge for the country's leaders to negotiate between overregulation and opacity, and to serve the seemingly incompatible interests of different generations of librarians in the country. The outlined cultural challenges will be most noticeable at this point, but the intentional nationalism as discussed by de Vries and Sobis as well as Karin and Chebotarev further suggests that an internationally-connected institution like Nazarbayev University will have a positive impact on the fair depiction of Kazakhstan's cultural heritage in digital collections. While Behles suggests that "when funding for projects comes from foreign institutions the definition of what is and is not culturally significant is effectively determined by international perceptions of the region," in this case it could combat state-driven bias. Also, as a state-funded research institution with a large English-speaking faculty, Nazarbayev University seeks to exceed the nation's publication records (according to Sharman. 2012, "[o]nly 439 articles have been published so far in peer-reviewed journals by Kazakhstani researchers"), and is on a trajectory to do so. This potential for visibility will further allow the NU Library Digital Center to justify the creation of more cultural heritage projects that do not necessarily serve the government's byline.

Another step leading to the success of digital cultural heritage preservation is the development of an open dialogue with the government about copyright in order to move past the current state of mindful ignorance. In order to effectively and legally create collections that are openly accessible, there must be a determination of what is acceptable, and that determination must be put into writing. Nazarbayev University Library must also act as an outspoken advocate for open access materials, which would require the university to oppose the strict security measures currently being self-imposed both through Information Technology staff and the administration. A large, autonomous institution like NU is situated to dramatically improve the country's access to information. According to Donabedian and Carey (2011), the "socioeconomic restructuring and [...] introduction of private enterprise" after the fall of the Soviet Union left many CIS nations with little money for library resources, and so the authors assert that "[t]he development of new models of scholarly communication plays an important role in addressing a lack of research library materials as a result of escalating costs" (p. 202); however, as of 2010, open access was not supported by the library association in Kazakhstan (IFLA, 2010). In this case, Nazarbayev University has the resources and power to challenge this lack of support. To return to the university's connection to the state, the large amounts of funding coming directly from taxpayers suggests that NU and the government could work together in order to follow the example of the US National Institutes of Health (NIH) and "consider mandating open access for articles drawn from taxpayer-funded research" (Donabedian and Carey, 2011, p. 220). Further, connections to other research libraries are also valuable in

creating sustainable digital practices. At Nazarbayev University, affiliations with other academic libraries such as Eurasia National University would help to minimize issues of duplication of digitization and lack of access. These local partnerships could work to create a consortium of digital collections, providing access through a variety of institutions.

Nazarbayev University must also engage its researchers and students in order to further the development of the technological landscape. In this case, a large university with an active computer science department may be well positioned to advocate for the development of the ICT landscape without the direct intervention of the government; experiments with cheap server support could lead to privatized storage of digital collections, removing the issue of government censorship. Further, student projects could solve some of the specific technical issues, such as a lack of OCR support for various languages. Also, while the university does not have a library science program, engaging students in the humanities and social sciences to assist in multilingual metadata creation for the digital collections would also help to overcome issues of access that may be created in poor translations or lack of language support.

### **Conclusions: implications for other developing nations**

By effectively mediating the government's control over the preservation of cultural heritage materials, a national university can provide unbiased, universal access to digital cultural heritage. While especially applicable to countries in the same region, this conclusion is appropriate for many developing or transitional countries as they move into the digital realm. As many face issues of access to a lack of ICT development, restrictive copyright, and access to quality scholarly publication, they are in a similar position as Kazakhstan.

In terms of ICT development, librarians working in Kazakhstan are relatively lucky compared to other countries in the region, and to other areas of the world; access to ICT is still a great challenge worldwide. In this realm, librarians must be able to sustainably store large amounts of digital material, and patrons must also be able to access it. The emergence of cheaper technology like the Raspberry Pi and the proliferation of cellular phone usage in developing countries will hopefully enable libraries and other institutions to find creative solutions. The initiative of scholars and computer enthusiasts in various countries makes the author quite hopeful that more and more cultural heritage collections will continue to show up in more countries. The challenge lies in supporting projects that are fully realized within the culture that they seek to preserve.

Copyright legislation for library collections is onerous, requiring a flexible framework so that access and preservation can be shared widely, while the author of a work is still protected. In order to reach suitable copyright legislation, Okediji (2006) argues that "[d]eveloping countries must expend effort in training domestic policymakers and personnel of institutions that deal with copyright about the importance of limitations and exceptions to ensure that the copyright system benefits the local economy and encourages protection, use, and dissemination" (p. 31). International organizations like the United Nations' World Intellectual Property Organization (WIPO) provide a strong framework and support for countries as they strive to align their legislation with economic and preservation goals. Institutions and organizations also offer solutions specific to the needs of libraries and librarians; the



International Federation of Library Associations and Institutions (IFLA) provides a toolkit with international librarians in mind ([www.ifla.org/node/5871](http://www.ifla.org/node/5871)), while Electronic Information for Libraries (EIFL) also offers a variety of internationally-focused resources ([www.eifl.net/eifl-ip-resources](http://www.eifl.net/eifl-ip-resources)). While the uniqueness of copyright challenges within different countries requires different solutions, these sorts of resources can at the very least assist international librarians in working most effectively with the laws of their country.

According to Alperin *et al.* (2008), “[r]esearchers throughout the world should consider the ethical implications and scientific potential of making their research publicly available” (p. 184); often facing the challenge of access themselves, scholars in developing nations should be leading the way in terms of open access. As “information sources and information-seeking behavior of scholarly urban dwellers in developing countries have consistently been analogous to the information behavior of scholars in developed countries,” university collections will be of the greatest value at an international level (Brown, 1999; Duff and Johnson, 2002; Siegfried *et al.*, 1993, as cited by Dutta (2009, p. 49). Whereas local collections would likely garner the interest of a smaller population within the country, cross-cultural research needs suggest that state institutions in developing nations could draw the attention of researchers from a variety of local and global institutions. These connections can overcome the problem of paywalls, a particularly daunting challenge in developing nations. Speaking of Latin America and the Carribean, Alperin *et al.* (2008) said of their scholars that they are “well positioned to take advantage of the increasing information and communication technology (ICT) infrastructure and of the growing open access (OA) movement so that the research produced within the region is circulated and shared broadly” (p. 173). While OA is emerging in all areas of the world, it presents a firm solution for growing nations and their scholars; however, the issue of quality still needs to be addressed.

All in all, digitization of cultural heritage information provides great potential to developing nations as they seek to preserve and share both the tangible and intangible. While Kazakhstan has a great distance to go before digital projects in this area can be seen as sustainable, there is a way forward through Nazarbayev University and its surrounding network of libraries and cultural institutions. This is also true for so many other countries as they move into the digital realm; by engaging many stakeholders, national institutions will be able to create solutions to problems similar to those outlined here.

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Digital cultural  
heritage projects

**About the author**

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**61**

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