ABSTRACT

The Soviet Digital Frontier: A Study on the Digital Policy of Former Soviet States

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With today's rise of the internet, former Soviet states must address practical and ethical questions surrounding digitization and the internet's use. Unlike other countries throughout the world, former Soviet states must balance their controversial past of strict censorship and underdevelopment with aspirations for a digital future. This thesis compares the digital policies of Ukraine, Kazakhstan, and Estonia to determine what factors foster an expansive digital infrastructure in the former Soviet Union. As a chapter, each case study is divided into subsections, focusing on political, economic, and cultural elements of each nation's respective digital policy. Qualitative evidence, such as governmental statements, initiatives, digital business developments, and online cultural movements are all discussed in their respective subsections. An additional subsection examines each country's relationship with Russia and a Soviet past manifests itself in the digital realm. This thesis comprehensively examines domestic policy, economics, national history, and communications in a comparative framework. While each component of digital policy plays an important role in the national digitization of former Soviet states, this thesis ultimately concludes that cultural components of digital policy drive successful digitization.

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THE SOVIET DIGITAL FRONTIER:

A STUDY ON THE DIGITAL POLICY OF FORMER SOVIET STATES

Thesis Submitted to the Faculty of

Baylor University

In Partial Fulfillment of the Requirements for the

Honors Program

By

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Waco, Texas

May 2019

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ACKNOWLEDGEMENTS

CHAPTER ONE

The Digital Age in the Former Soviet Union

"The new freedom of expression brought by the Internet goes far beyond politics. People relate to each other in new ways, posing questions about how we should respond to people when all that we know about them is what we have learned through a medium that permits all kinds of anonymity and deception. We discover new things about what people want to do and how they want to connect with each other." — Peter Singer[1]

Introduction

When someone lists the most significant inventions of mankind, the Internet

undoubtedly comes to mind. While the wheel, vaccines, and gunpowder have all

influenced the world in their own important ways, the Internet is the most recent

invention that has left a significant mark on human societies. Since its informal

conception in the 1990s, the Internet has amassed over four billion users across the

globe.[2] In fully developed, western countries, it is easy for one to understand the effects

the digital realm has on society. Today, Americans spend, on average, a full day online

each week, as the Internet serves as an extension of entertainment, education, and

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[1] Singer, Peter. "The Unknown Promise of Internet Freedom." *The Guardian.* (2010).

[2] Kemp, Simon. "Digital in 2018: World's internet users pass the 4 billion mark." *We are Social* (2018).

The above statistic should be taken with a grain of salt because it records number of Internet users based on activity. Users may have multiple accounts and devices, thus inflating the numbers to some degree.

business.[3] As the number of Internet uses continues to grow and users invest more time online, national governments must create and address a newfound digital policy. Digital policies complicate fundamental issues governments have traditionally had to grapple with, such as privacy, censorship and assembly.

<p style="text-align:center">What is a Flourishing Digital Society?</p>

Longstanding liberal democracies largely praise the development of the Internet, as it works seamlessly to promote liberal values, such as freedom of expression and free enterprise. A liberal democratic culture and facets of the digital realm largely complement one another.[4] For example, the Internet enables users to participate in public society more readily than ever before. This sort of public participation is something that citizens in a democracy, a regime which champions public participation and active citizenship, are likely to gravitate toward.[5] The Internet minimizes transaction costs for businesses and increases the scope of advertising, which perfectly corresponds with a democracy's goals of preserving private property and free enterprise.[6] Just like other revolutionary information technologies, such as the codex, or the printing press, the Internet has radically transformed the way mankind interacts with one another. Naturally, regimes will respond to this change in different ways. While western democracies, with

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[3] Cole, Jeffrey. "Surveying the digital future." *UCLA Center for Communication Policy, University of California–Los Angeles* (2000).

[4] Gimmler, Antje. "Deliberative democracy, the public sphere and the Internet." *Philosophy & Social Criticism* 27, no. 4 (2001): 21-39.

[5] Ibid, 35.

[6] Ibid, 39.

their traditional liberal values, have no reservations about the relatively new technology, other regimes or regions of the world may hold a bit more skepticism.

This thesis examines the digital policies of states that previously were a part of the Soviet Union. Traditionally, scholars have explored the digital policies of Eastern Asia[7] and the Middle East.[8] This makes perfect sense, seeing as China is famous for its strict censorship laws and the recent events of Arab Spring heavily involved online activity. Yet, major political scientists and scholars have largely ignored the digital policy of the former Soviet Union. This is surprising considering, today, many individuals remember 1990s as the end of the Cold War and the dawn of the Digital Age. These newly independent states emerged in an era of high speed transfer of information, the rise of globalism and multiculturalism, and the unprecedented economic growth. At the heart of all these changes was the Internet. Combining this radical change in Information Communications Technologies (ICT) technology with the Soviet Union's controversial past regarding media and communications censorship makes the former Soviet Union an important region to examine when discussing national digital policy.

Of course, many countries in the Middle East, Central Asia, and Eastern Europe have all struggled to wholeheartedly adopt the Internet and its corresponding technologies for a variety of reasons. As recent scholarship has shown, the Internet can be

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[7] Park, H. W., Kim, C. S., & Barnett, G. A. (2004). Socio-communicational structure among political actors on the web in South Korea: The dynamics of digital presence in cyberspace. *New Media & Society*, *6*(3), 403-423; Jiang, Min. "Authoritarian deliberation on Chinese Internet." (2009).

[8] Robertson, Jordan. "The day part of the Internet died: Egypt goes dark." *The Washington Times* 28 (2011).

used as a tool for modernization.[9] In his comparison of modernization theories and theories on the digital divide, Mark Graham poignantly argues, "The idea that the Internet and other ICTs will transform places into 'information societies' and 'knowledge economies' and people into participants in the 'Internet revolution' mirrors the desire of modernization theories to both bring places forward into industrial society and move people from being observers to being participants."[10] As a tool of modernization, the Internet causes ethical, political, economic and cultural questions to arise in policy discussions. How could Internet access compromise a country's national identity or values? Does prevalent Internet use make countries more reliant on foreign economic powers? Can the Internet allow national dissent groups to rally together? These are all questions that countries may face when deciding how to develop digital infrastructure.

This thesis critically examines the ways in which former Soviet states address these questions surrounding digitization, using the digital policy of Ukraine, Kazakhstan, and Estonia as examples. Each of these countries has developed its own unique digital policy and addressed these questions in their own unique way. Of course, some national governments are more successful than others in expanding digital infrastructure and ICTs. The purpose of this thesis is to assess these case studies and determine precisely what causes some former Soviet states to successful expand digital infrastructure, while others do not. Simply put, what allows former Soviet republics to digitize successfully?

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[9] Graham, Mark. "Warped geographies of development: The Internet and theories of economic development." *Geography compass* 2, no. 3 (2008): 783.

[10] Ibid, 781

In order to determine how former Soviet states successfully digitize, one must first understand why the relationship between the Soviet Union and the Internet is so important. Individuals are skeptical of the true freedoms many former Soviet states promote using the Internet. While some of these presuppositions are well founded, they do not represent the entire picture.[11] One can certainly refute these misconceptions today, as every state has had nearly thirty years to shed the yoke of Soviet influence, despite significant Russian influence. In order to understand the digital future of former Soviet states, one must first understand Soviet mass media policy. After all, a major role the Internet plays in the public realm is the transfer of news, art, and other forms of entertainment to individual users. The Internet improves one's access to these forms of media, as well as increases the variety of media someone may access. "In the former Soviet Union, the mass media constituted a vital element of the Communist Party power mechanism, used as the most efficient means for developing and spreading the Communist ideology.[12]" Various records exist concerning the scope of this censorship. In 1940, Soviet censorship authorities reported that the Soviets destroyed around 200,000 copies of Estonian books that year.[13] While this statistic is staggering, it does not represent the entire picture. It is impossible to know the exact magnitude and scope of

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[11] Horvath, Robert. *The legacy of Soviet dissent: dissidents, democratisation and radical nationalism in Russia.* Routledge (2013).

[12] Lauk, E. "Practice of Soviet censorship in the press." *The case of Estonia* 31 (1999), 27.

[13] Ibid, 29.

Soviet censorship, but one can conclude that this sort of heavy-handed censorship became a hallmark of a westerner's perception of the Soviet Union.

Westerners should be careful to remember that the Soviet Union dissipated nearly thirty years ago. While Russia continues to bolster that same heavy-handed censorship online,[14] former Soviet states are free to develop their own media policy. This is easier said than done, however. Former Soviet states largely struggle to remedy the wounds of their past. States may face these struggles because of an outright refusal to relinquish a glorious Soviet past or the continual influence of Russia. Regardless, former Soviet states must carefully grapple with their controversial past and hopes for the future. The Internet can bring about widespread economic development which, for many of these nations, would be a welcomed sight. However, the Internet can also destabilize regimes and compromise traditional values that the Soviet Union once protected.

In the end, the digital policy of former Soviet states is a balancing act of sorts. As the Internet helps facilitate globalization and expand markets overseas, many of these former Soviet states are undergoing a new wave of modernization, taking place at unprecedented rates.[15] This thesis examines what these changes might mean for their outlook on their Soviet past and their hopes for a digital future. In some instances, states

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[14] Bowles, Anna. "The changing face of the RuNet." *Control+ Shift. Public and private usages of the Russian Internet* (2006): 23.

[15] Kasenov, Umirserik. "Post-Soviet modernization in Central Asia: realities and prospects." In *Central Asia: Challenges of Independence*, Routledge (2017): 32.

I will be taking a closer look at Kazakhstan in Chapter III. While this reference only focuses on central Asia, the same can be said for elsewhere in the former Soviet Union and elsewhere in the world.

are quick to maintain their Soviet past and risk digital underdevelopment, while others jumble the two together to create ineffective digital policy. Still, some rise to the occasion and forge their own digital identity despite a controversial Soviet past.

<p style="text-align: center;">*The Conversation Today*</p>

The study of digital policy is a relatively new discipline for both political scientists and political historians to explore. After all, the Internet has only existed in the public sphere for around thirty years, which gives scholars precious little qualitative or quantitative data to work with. As such, there is fairly little scholarship on digital policy. Of the scholarship that exists, some authors argue that the Internet will bring about a wave of liberalism and democracy in developing nations. Some, such as Peter Golding, argue this process is economic in nature, as the Internet provides more opportunities for social mobility and, subsequently, equality, which leads to democratization.[16] Others believe the Internet naturally encourages civic participation, which instils democratic values in the public.[17] However, many of the scholars that championed this digital democratization theory wrote in the 1990s or early 2000s. At the time, the Internet was in its infancy and, with that infancy, it offered unlimited possibility.

However, today, individuals have a better understanding of the true political power of the Internet. While there are examples of the Internet being used to forward

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[16] Golding, Peter. "World wide wedge: division and contradiction in the global information infrastructure." *Monthly review* 48, no. 3 (1996): 70.

[17] Servon, Lisa J., and Marla K. Nelson. "Community technology centers: narrowing the digital divide in low-income, urban communities." *Journal of Urban Affairs* 23, no. 3-4 (2001): 279-290.

democratic movements in Egypt and Syria, there are also plenty of examples where that is not the case.[18] In fact, some authors argue that authoritarian regimes may use the Internet to expand their power and ensure national stability. In his work on Chinese digital policy, Min Jiang argues that the Internet is merely a tool for regimes to use.[19] The nature of its use is entirely dependent on the nature of the political culture. While early digital policy scholars argued the Internet affects regimes, later scholars argue that regimes shape the nature of the Internet. This thesis favors the latter argument, as it explores how a former Soviet state's political, economic, and cultural climates shape its respective digital policy.

The relative lack of scholarship on the digital policy of former Soviet states makes discussions fairly limited. Scholars tend to focus on more famous case studies, such authoritarian China or Saudi Arabia. These authoritarian countries are famous for their strict censorship policies online.[20] On the flip side, other scholars explore case studies in Western Europe and East Asia. South Korea is famous for its advancements in digital technology and ICT, making it a popular topic for discussion.[21]

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[18] Khondker, Habibul Haque. "Role of the new media in the Arab Spring." *Globalizations* 8, no. 5 (2011): 675-679.

[19] Jiang, Min. "Authoritarian informationalism: China's approach to internet sovereignty." *SAIS Review of International Affairs,* 30, no. 2 (2010): 71-89.

[20] Verkamp, J. P., & Gupta, M. Inferring Mechanics of Web Censorship Around the World. *FOCI,* (2012).

[21] Park, Han Woo, Chun-Sik Kim, and George A. Barnett. "Socio-communicational structure among political actors on the web in South Korea: The dynamics of digital presence in cyberspace." *New Media & Society* 6, no. 3 (2004): 403-423.

Yet, the digital policies of former Soviet Republics get comparatively little attention from scholars. Perhaps this neglect is simply because many individuals disregard them as Russian puppets or backwater countries with no digital infrastructure. Most of the works on the digital policy of former Soviet states are scholarly articles that discuss a specific aspect of a country's respective digital policy. Some scholars explore Estonian banking in great depth, discussing the rudimentary mechanics of online banking, risks, security measures, and public usage.[22] Other scholars choose to focus on Ukraine's digital journalism industry and the profound role its played in political revolution.[23] Naturally, these focused essays are only small pieces of the puzzle. Very few scholars have sought to study all aspects of a country's digital policy. This thesis will comprehensively analyze the political, cultural, and economic digital policies of Ukraine, Kazakhstan, and Estonia.

The one major work that does thoroughly examine the digital policy of former Soviet states is William Schreiber and Marcin Kosienkowski's *Digital Eastern Europe.* The book contains a compilation of case studies on various aspects of digital policy in the former Soviet Union, though it primarily focuses on Ukraine and Russia.[24] Interestingly, the authors take an approach similar to early digital policy scholars. They argue that

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[22] Kattai, Rasmus. *Credit risk model for the Estonian banking sector*. Eesti Pank, (2010).

[23] Dyczok, M. Do the media matter? Focus on Ukraine. *Media, Democracy and Freedom. The Post-Communist Experience*, (2009) 17-43.

[24] Schreiber, William and Marcin Kosienkowski. *Digital Eastern Europe.* KEW Publishing. Amazon Books (2015).

former Soviet countries, most notably Ukraine, are rejecting Russian digital influences.[25] The authors attribute this change to the inherent nature of the Internet, as it forwards national freedoms and independent identities. Like early digital policy scholars, Schreiber and Kosienkowski portray the Internet as a compelling democratizing force. While digital infrastructure, as mentioned before, does flourish in society that champions democratic virtues, it does not necessary pave the way for democratization.

Contrary to early scholarly work on digital policy, this thesis presumes the Internet is not a tool for democratization. The Internet is merely a tool for regimes to use and expand as they see fit. The Internet is a valuable tool for national economics, international relations, and other functions of the state. Its usefulness does not necessarily mean the Internet paves the way for democracy. Digital infrastructure, can, in some instances, flourish under a democratic regime.

In his work, *The Internet, Democracy, and Democratization,* Peter Ferdinand examines the various ways a national government may pursue digital policy. Countries may use the Internet to spread democratic values or retain an authoritarian rule.[26] While the author understands how the Internet can, in the wrong hands, be used for authoritarian purposes, he overwhelmingly sees the democratic benefits the Internet has to offer. Ferdinand examines various cases in his study, including regional studies on West Africa and the United States.

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[25] Ibid., Location 1426

[26] Ferdinand, Peter. The Internet, democracy and democratization. Routledge, 2013.

Ferdinand seemingly argues that, while it is not a tool for democratization, the Internet and digital infrastructure expands under democratic rule. This thesis argues Ferdinand's claim is true, not because of the regime type, but because of the culture and values the regime perpetuates. After all, some authoritarian regimes, such as Russia, China, and Saudi Arabia have digital infrastructures that are more expansive than their democratic counterparts. In another study on Chinese digital policy, Min Jiang argues cultural influences drive the character and successes of a country's digital policy. [27]

Much like Jiang, this thesis argues that national culture within states drives digital policy in former Soviet states. Of course, there are economic and political incentives that may drive policy, but these influences are ultimately nominal. Digital policy is a relatively new area of topic, and many scholars that focus on digital policy do not focus on the former Soviet Union. Using national laws, official speeches, scholarly articles and data, this thesis is a qualitative comprehensive study of Ukraine, Kazakhstan, and Estonia's respective digital policies.

Introducing the Case Studies

The digital policies of Ukraine, Kazakhstan, and Estonia each provide a different perspective regarding digital policy of the former Soviet Union. In choosing my three case studies it was important to find (1) countries with enough literature regarding digital policy, (2) select countries from different geographic regions of the Soviet Union, in

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[27] Jiang, Min. "Authoritarian deliberation on Chinese Internet." (2009). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1439354

order to provide breadth and (3) ensure that each case provided a different example of digital policy.[28]

Naturally, for substantial literature to exist about a country's digital policy, there needs to be enough digital activity within the borders for scholars to deem it noteworthy. Well under 40% of the populations in countries, such as Kyrgyzstan, Tajikistan and Georgia use the Internet.[29] Other countries do not present significantly unique examples of former Soviet digital policy. For example, while Lithuania has recently developed new Internet banking processes,[30] Estonia developed them earlier and implements them on a wider scale.[31] While many of the Baltics share similar features in their digital policy and infrastructure, Estonia pioneers them, and has found the most success. Moreover, Estonia has made significantly more developments in digital policy and is, overall, more well known for their progressive digital policy.

Ukraine was an obvious choice to study, as it stands at the center of the former Soviet Union in Eastern Europe. Ukraine is the largest of the former Soviet states in

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[28] I wanted to examine the digital policies from each of the four geographic regions of the Soviet Union: Eastern Europe, the Baltics, Central Asia, and the Caucuses. After doing research I found that the Caucuses had little to offer in this discussion. I could find little to no scholarship on the digital policy of Azerbaijan, Armenia or Georgia.

[29] International Telecommunications Union. "Percentage of Individuals Using the Internet 2000-2012. ITU (2013): Geneva.

[30] Brige, Andra. "Building relationship with customers by using technological solutions in commercial banks of Latvia." *Baltic Journal of Management* 1, no. 1 (2006): 24-33. https://www.emeraldinsight.com/doi/abs/10.1108/17465260610640859

[31] Eriksson, Kent, Katri Kerem, and Daniel Nilsson. "The adoption of commercial innovations in the former Central and Eastern European markets: The case of Internet banking in Estonia." *International Journal of Bank Marketing* 26, no. 3 (2008): 154-169.

Eastern Europe and certainly has an important historical role in Soviet politics. Even today the country routinely makes national headlines for its tenuous relationship with Russia and the West. In the chapter on Ukraine, I will discuss further the ways in which the Internet has specifically affected the political structure of the Country, playing an important role in the Orange Revolution in the early 2000s and Euromaidan in 2014.

Unlike the other two cases, Kazakhstan is comparatively underdeveloped and does not receive substantial international media attention. Kazakhstan is situated in the middle of Asia and maintains a culture that fairly alienated compared to the likes of Ukraine and Estonia. Known for its blossoming oil and natural gas industries, Kazakhstan has rapidly undergone modernization processes.[32] Rising digital markets and international business investment accompany the modernization process in Kazakhstan.[33] It stands as the second major player in the Eurasian Economic Union, behind Russia. Kazakhstan showcases the economic incentives of a progressive digital policy.

While Ukraine and Kazakhstan illustrate the respective political and economic incentives of a comprehensive digital policy, their Soviet past still restricts them from adopting a western digital policy. Estonia, on the other hand, is a digital pioneer of the former Soviet Union and, even more surprising, most of the world. They have an increasingly progressive digital policy and have expanded the number of Internet users

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[32] Berdykulova, Galiya Mertai Kyzy, Azat Ismagul Uly Sailov, Shynar Ydyrysh Kyzy Kaliazhdarova, and Erlan Baglan Uly Berdykulov. "The emerging digital economy: case of Kazakhstan." *Procedia-Social and Behavioral Sciences* 109 (2014): 1287-1291. https://core.ac.uk/download/pdf/82596758.pdf.

[33] Ibid., 1291.

exponentially.[34] Estonia is where applications, such as Skype and Kazaa were developed and the government has firmly placed the digital age at the forefront of the public conscience. Estonia's digital innovation can largely be attributed to the country's prevailing liberal culture.

Structure, Research, and Terms

In its examination of Ukraine, Kazakhstan and Estonia, this studies the political, economic, and cultural aspects of each country's digital policy. As mentioned, each country exemplifies one of these three aspects. Digital media has dramatically impacted Ukraine's political environment. Digital economics make it easier for Kazakhstan to modernize and expand its market base. Estonia has become a model for progressive digital policy because of the prevailing liberal and, more importantly, anti-Soviet culture. While all three countries best exemplify a different facet of digital policy, I will still examine the other two aspects, in efforts to create a thorough analysis of the digital policy of Eastern Europe.

Moreover, another important consideration in examining the digital policy of the three case studies is their unique relationships with Russia. Although the Soviet Union no longer exists, Russia still routinely extends its influence and expresses traditional interest in many former Soviet states. This influence can be political, economic, or cultural in nature. After all, there is a reason that many westerners believe countries belonging to the

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[34] International Telecommunications Union. "Percentage of Individuals Using the Internet 2000-2012. ITU (2013): Geneva. PDF File.

According to the statistic, roughly 87% of the Estonian population has access to the Internet.

former Soviet Union heavily censor the Internet. In many respects, each country's relationship with Russia also plays an important role in the path their respective digital policies take.

As a qualitative research project, this thesis draws primarily on the laws, speeches, and data from each of the countries in question, as well as a plethora of secondary sources on the matter. As previously mentioned, many of these secondary sources discuss only one aspect of Ukrainian, Kazakhstani, or Estonian digital policy. This thesis comprehensively synthesizes all political, economic, and cultural facets of each country's digital policy.

Naturally, there are certain terms used throughout the work that merit some explanation or definition. The terms "digital economy," "digital politics," and "digital culture" each correspond to the digital aspects of the respective categories. Discussions of a digital economy include components of banking, investment, and electronic businesses. Likewise, digital politics focus on things, such as Internet voting, the spread of political information, or comprehensive laws covering digital policy. Digital culture refers to content creation, social media, linguistic make up of the online world, or online education. All three of these categories fall under the umbrella term, "digital realm," which is simply digital society as a whole.

It is worth mentioning that digital culture and general culture overlap. Commonly held norms, practices, beliefs, and values within a nation comprise a national culture. This thesis will primarily use evidence that refers to values or commonly held sentiments to illustrate the role of national culture. One may qualitatively measure culture in the various secondary sources and surveys referenced throughout this thesis. Culture exists in

various art forms or mediums for scholars to identify and interpret. If this culture is represented online, then it qualifies a digital culture. Therefore, one can assume a digital culture reflects a national culture in most respects. A country with minimal online usage and content creation may occur because cultural norms do not reinforce the internet's use. This thesis will examine the ways in which a national culture, reflected online as a digital culture, spurs digital development.

One might assume that national culture exists as a product of governmental policy. Does a national culture arise because of specific policy decisions aimed at emphasizing culture or does policy arise because of a national culture that popularizes the issue? This thesis argues that a national culture ultimately determines the direction of digital policy. This is not to say that the government does not influence popular sentiments at all. In the case of Kazakhstan, President Nazarbayev's administration strictly oversees art that espouses particular national sentiments. Yet, restricting content creation severely limits online activity and slows Kazakhstan's digital development.[35] Political action and legislation can only forward digital growth so far. A more direct example of this comes from Ukraine, where rural communities fail to see the value of the Internet and, as a result, government initiatives to expand Information and Communications Technologies (ICT) fall short.[36]

Another term worth defining is the "digital divide." The "digital divide" refers to the disparity in access between individuals in a given nation. In many developing

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[35] For a more detailed discussion on this topic, see Chapter III

[36] See Chapter II

countries, there is a dramatic digital divide, as the wealthy urban elite have easy access to Information Communication Technologies, while many poor and rural citizens lack this accessibility.[37] This divide can be attributed to a lack of government resources or Internet educational programs.

The "Digital Age" is synonymous with the Information Age, which began in the 1990s with the introduction of the Internet in the public sphere. A "digital nation" showcases digital policy in its fullest. A digital nation incorporates the Internet and ICT into every aspect of everyday life, including politics, economic, and culture. In this study, Estonia represents this digital nation, as it fully embraces the Internet in all aspects of society.

Overview

Of the three facets of digital policy, cultural incentives are the most impactful in determining the digital policy of former Soviet States. Estonia, as a pioneer of digital freedoms and accessibility, has deeply rooted cultural norms that allow an expansive digital policy to flourish. While the economic and political incentives of Kazakhstan and Ukraine are encouraging, both countries still remain caught at a crossroads between their Soviet past and digital future. Closer ties with Russia contribute to a weakening of a digital infrastructure for both countries, making a corresponding policy difficult for officials to enact voluntarily.[38]

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[37] Norris, Pippa. *Digital divide: Civic engagement, information poverty, and the Internet worldwide*. Cambridge University Press, 2001.

[38] Digital Infrastructure refers to the physical components of the Internet. This includes servers, hardware, computers, among others things.

This study allows the reader to better understand the complexities and nuances of digital policy in relation to the former Soviet Union and that cultural norms are the primary driving force behind the character of a country's digital policy. The Internet is neither a benevolent or malevolent tool. Its nature depends on the nature of those who use it. All too often that nature involves complex histories and cultural values, making the Internet a mere vessel for preexisting culture to extend itself. Discussions on digitization mirror discussions on the emergence of democracy, modernization, and state ethics. These discussions are not merely limited to the Soviet Union. Because of these similarities, my hope is that this work may extend beyond the former Soviet Union. One can apply the framework of this thesis to any number of case studies throughout the world, which may yield similar or different results, leading scholars to a greater understanding of the true nature of the Internet in state building.

CHAPTER TWO

Ukraine — Digital Revolutionaries

"Because primarily of the power of the Internet, people of modest means can band together and amass vast sums of money that can change the world for some public good if they all agree." — Bill Clinton[39]

The aforementioned quote by Clinton perfectly illustrates the political power the digital realm exercises. Ukrainians can certainly attest to this powerful "change" Clinton speaks of in his speech. However, the caveat to this change is that the people must "all agree." While Ukraine has routinely demonstrated to the world the power of the Internet in the political sphere, it also showcases its volatility. Ukraine has certainly undergone tremendous change since its independence in 1991, but not all these changes have been for the better. Once an essential member of the Soviet Union, Ukraine now sees itself at odds with its former Soviet ally, Russia. Today, Ukraine is seemingly at a crossroads when it comes to its political identity. While some members of Ukraine's political old guard seek to strengthen the weakening ties with Russia, others vehemently oppose this in favor of outreach with the West. As the nation is caught between these two paths, the ability to "agree" is even more doubtful. Even though Ukraine's digital policy is rooted in pivotal political movements of the past, it lacks a distinct direction. The one thing Ukrainians agree on, however, is that the Internet has tremendous political power. The

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[39] Clinton, Bill. "My Wish: Rebuilding Rwanda." *TED Conferences*: (2007) https://en.tiny.ted.com/talks/bill_clinton_on_rebuilding_rwanda.

Internet has demonstrated its power to force regime change within Ukraine. This change, of course, something that both the public and politicians praise and fear.

Introduction

This chapter will examine the political, economic, and cultural factors that contribute to the breadth and character of Ukraine's digital policy. In this regard, Ukraine's major problem is a lack of concrete direction for national digital policy to strive toward. This is largely because of the country's precarious geopolitical situation. Ukraine stands at the convergent point between Western Europe and Russia, giving it a certain strategic importance for both. Moreover, the country has one of the largest populations of Russians outside of Russia itself. Around 18% of the country's population identifies as ethnically Russian.[40] This creates an incredibly tenuous political and cultural environments.

The political parties are largely divided along pro-Russian and anti-Russian lines. Since the early 2000s, members of anti-Russian parties, such Our Ukraine Blocs and Ukrainian Democratic Alliance for Reform, clash bitterly with pro-Russian parties, such as Opposition Bloc or Labour Ukraine. This struggle culminated into revolution on several occasions. The Orange Revolution and the subsequent Euromaidan succeeded, in large part due to online journalism and organization.[41] Although divisive, these protests

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[40] "Europe: Ukraine." *The World Factbook 2016-2017*. Washington, DC: *Central Intelligence Agency*: (2017). https://www.cia.gov/library/publications/the-world-factbook/geos/up.html

[41] Goldstein, Joshua. "The role of digital networked technologies in the Ukrainian Orange Revolution." *Berkman Center Research Publication* 2007-14 (2007).

showcase the popular want for Ukrainians to have a political voice. Politically speaking, Ukraine should be ripe for digitization as the Internet not only propelled revolution but also supports these democratic values.

Unfortunately, Ukraine has little economic or cultural incentives for adopting an expansive digital policy. The country's predominantly rural population is slow to adopt the modern technologies for a variety of reasons, ranging from ethical questions to digital education deficiencies. This makes governmental programs that invest in digitally improving Ukraine's economic sectors largely fall short. Moreover, while journalism spurred on political revolutions, the national government still imposes strict online censorship laws which limit the ability for personal expression and content creation online.

Ukraine's respective relationship with Russia is perhaps the most important of the case studies. The country is seemingly caught at a crossroads. While some hold on to Ukraine's glorious Soviet past, others vehemently oppose it. Of course, the Russian government is displeased with this growing opposition. In more recent years, Russia has used digital channels to undermine this opposition or, in extreme instances, directly attack the country using cyber warfare. This interference limits the expansion of Ukrainian digital infrastructure even further, leaving the country in a digital purgatory of sorts.

Political Rebellion on a Digital Front

Since its introduction, the Internet has traditionally played an important political role within Ukraine. The Internet acts as an orator, organizer and, in many cases, dissident for political discourse within the country. It is worth noting that Ukraine largely

did not exist without the Internet. Ukraine did not achieve independence until August 1991 and the Internet, in its modern form, was created only a few years prior. This makes Ukraine, politically speaking, a nation of the digital age, despite the country's digital underdevelopment.[42] While other countries throughout the world maintained their own political and cultural identity prior to the creation of the Internet, Ukraine, for the most part, never had that opportunity.

The idea of Ukraine as a "digital nation" is best exemplified in the proceedings of the Orange Revolution, in 2004. Not even fifteen years after the country's formal creation, Ukraine became enveloped in a massive political scandal and widespread protests erupted throughout the country. The conflict originated after the results of the 2004 presidential election, which pitted the two political titans, Viktor Yanukovych against Viktor Yushchenko, against one another. Running as an independent, Yushchenko narrowly lost a runoff vote for the presidency. Yushchenko's popular appeal was unprecedented, as millions of Ukrainians supported his campaign for greater European integration and a loosening of ties with Russia. After news of his defeat reached the rest of the nation, numerous protests arose throughout the country and, notably, in the capital of Ukraine, Kiev. These protestors accused the Ukrainian national

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[42] Poushter, Jacob. "Smartphone ownership and Internet usage continues to climb in emerging economies." *Pew Research Center* 22 (2016): 9, 11.

The author discusses the large digital divide in Ukraine as well as relationship between per capital income and Internet access, showing that Ukraine is digitally underdeveloped compared to other countries.

government of committing voter fraud and government officials of poisoning Yushchenko.[43]

The cries of protesters were amplified online, as they formed underground news networks and protestors flooded digital channels with their dissent. Pro-democracy groups, such as Pora, were able to mobilize large groups of Ukrainian people and keep the populous updated on the events of the election and the subsequent protests.[44] The contentious political environment in Ukraine proved to be an impressive breeding ground for digitally based grassroots protestors to spread their message. In 2002, Ukraine had around a million Internet users.[45] This number is strikingly small compared to Western nations at that time. Despite the small number, organized Internet users could easily spread information via the Internet and relay it to local groups, inflating these numbers. Websites such as Pora, Miadain, and ProUA all rose to prominence during this time, as primary avenues for news of the presidential election to circulate. Many of these anti-Yanukovych platforms circulated critiques from campaign inconsistencies to his early run-ins with the law as a young man.[46] A side effect of this political activism online was

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[43] Kuzio, Taras. "From Kuchma to Yushchenko Ukraine's 2004 presidential elections and the Orange revolution." *Problems of post-communism* 52, no. 2 (2005): 29-44.

[44] Goldstein, Joshua. "The role of digital networked technologies in the Ukrainian Orange Revolution." *Berkman Center Research Publication* 2007-14 (2007).

[45] Kyj, Myroslaw J. "Internet use in Ukraine's Orange Revolution." *Business Horizons* 49, no. 1 (2006): 71-80. https://alumni.reed.edu/images/AC_2010/pdfs/Internet%20Use%20in%20Orange%20Revolution.pdf

[46] Ibid, 76.

that foreign media outlets were able to cover the protests in impressive detail, creating more pressure on Yanukovych's administration.[47]

This sort of online news created a precedent in Ukrainian journalism, making governmental regulation difficult because of the natural decentralization of Ukrainian online journalism. "In a politically charged environment, any technology that promises to organize people and resources may be seen by authorities as a threat[48]". Curiously, however, the Ukrainian government chose to ignore online protest media, not considering it a legitimate form of journalism.[49] Instead, the central government chose to pursue physical protestors taking up arms in Kiev and elsewhere. Once again, foreign media outlets used evidence of this brutality to chastise Yanukovych's administration.[50] Ultimately, the scope and organization of these protests proved to be too much for the national government, as the national court called for a second run-off vote, which Yushchenko won by a slim margin.

The lack of governmental crackdown on these digital protest groups is likely due to the relative novelty of the Internet itself. Prior to the Orange Revolution, there were virtually no examples of digital protests gaining traction. The Orange Revolution

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[47] Schipani-Adúriz, Andrés. "Through an orange-colored lens: Western media, constructed imagery, and color revolutions." *Demokratizatsiya* 15, no. 1 (2007): 87.

[48] Goldstein, Joshua. "The role of digital networked technologies in the Ukrainian Orange Revolution." (2007). https://cyber.harvard.edu/sites/cyber.harvard.edu/files/Goldstein_Ukraine_2007.pdf. PDF File. 9.

[49] Ibid, 9.

[50] Schipani-Adúriz, Andrés. "Through an orange-colored lens: Western media, constructed imagery, and color revolutions." *Demokratizatsiya* 15, no. 1 (2007): 89.

seemingly set a precedent for the use of the Internet in political regime change. "These events marked an important crossroads where the emergence of open networks and rapid political change converge"[51]. Surely, if the Ukrainian government had known of the power of the Internet, it would have cracked down on these digital protestors. Other countries seemingly learned from Ukraine's example. Most notably, Egypt, in wake of the 2011 Arab Spring protests, shut down various social media platforms and eventually, the undersea cable that connected Egyptian devices to the Internet[52]. These countries clearly had the benefit of using Ukraine as an example of the digital realms potency. Ukraine was the first country to truly understand the political volatility of the Internet, cementing the digital realm into later political affairs.

The online events of the Orange Revolution certainly set a strong precedent for the future of the Internet in Ukraine. Against all odds, a comparatively small group of Internet users were able to enact profound change within the Ukrainian government. A decade later, the effects of digital journalism are still evident in Ukraine as Euromaidan is in full swing. Under Viktor Yanukoyvch, Ukraine suspended an agreement with the European Union and, once again, turned to Russia for closer ties. Compared to the Orange Revolution, Euromaidan was an increasingly violent affair and prolonged. These protests culminated into the 2014 Hrushevskoho riots in February 2014, where 94 people

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[51] Goldstein, Joshua. "The role of digital networked technologies in the Ukrainian Orange Revolution." *Berkman Center Research Publication* 2007-14 (2007).

[52] Robertson, Jordan. "The day part of the Internet died: Egypt goes dark." *The Washington Times* 28 (2011).

were killed.[53] Like the Orange Revolution, digital journalism flourished during

Euromaidan. At the time, "control of the Ukrainian media environment still suffered from

three important weaknesses. Dissent and activism was common among professional

journalist community. Online communication was both accessible and autonomous; and

media-owning oligarchs were far from indifferent about their public international

reputation."[54] While digital media amplified the voices of small, freelance journalists and

small media sources during the Orange Revolution, it was clearly more centralized during

Euromaidan, as media "oligarchs" helped to undermine Yanukovych's administration.[55]

The difference between the two movements largely has to do with the changes in

digital technologies and digital journalism. Expansion of social media platforms made it

easier for protestors to spread their messages even more than before.[56] Instead of simply

using the Internet to organize protest, the Internet directly fueled protests. Protestor

deaths at physical confrontations, such as Hrushevkoho, were met with even more

publicity which, in turn, increased the demands and accusations against Yanukovych.

History repeated itself and Yanukovych withdrew and was forced into exile. Whilst the

2004 Orange Revolution set a precedent for Ukrainian online political discourse, the

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[53] Sviatnenko, Sviatoslav, and Alexander Vinogradov. "Euromaidan values from a comparative perspective." *Social, Health, and Communication Studies Journal* 1, no. 1 (2014): 44. Print.

[54] Szostek, Joanna. "The media battles of Ukraine's EuroMaidan." *Digital Icons* 11 (2014): 13.

[55] Dickinson, Jennifer. "Prosymo maksymal'nyi perepost! Tactical and discursive uses of social media in Ukraine's Euromaidan." *Ab Imperio* 2014, no. 3 (2014): 82. http://net.abimperio.net/files/articles_for_net/08_15.3dickinson.pdf.

[56] Ibid, 82.

effects were ultimately inconclusive. Euromaidan, on the other hand, benefitted from this

precedence and used the political power of the Internet to the extreme, permanently

pushing Yanukovych out of office.

Today, the political power of the Internet is still evident. With the upcoming

Presidential election looming, the Ukrainian Internet is abuzz with information on the

various candidates, predictions and campaign statistics. Of the candidates, comedian

Volodymyr Zelensky stands out as a surprising frontrunner. With little to no political

experience, Zelensky finds himself in a runoff with incumbent, Petro Poroshenko.[57] What

the reformist Zelensky lacks in political experience, he makes up for in media

management, as he has built a multimillion dollar entertainment industry.[58] Zelensky

seemingly embodies the political power of the Internet. Once a strong supporter of

Euromaidan, Zelensky calls for more liberal reforms in government and, as any national

celebrity in the digital age, he has an impressive following online.

While the prospects of the upcoming election are inconclusive, Ukraine is bound

to experience political conflict one way or another. Zelensky's camp warns of impending

voting fraud for the upcoming run-off election, which, like the Orange Revolution, could

spark outage online.[59] Even if Zelensky emerges victorious, questions still remain on his

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[57] "Widespread fraud by Poroshenko expected in Runoff, Zelensky's team warns." *TASS Russian News Agency:* (2019). http://tass.com/world/1053243

[58] Hodge, Nathan. "Comedian Volodymyr Zelensky takes big lead in Ukraine elections." *CNN News:* (2019) https://www.cnn.com/2019/04/01/europe/ukraine-election-first-round-intl/index.html

[59] "Widespread fraud by Poroshenko expected in Runoff, Zelensky's team warns." *TASS Russian News Agency:* (2019). http://tass.com/world/1053243

efficacy as the leader of a nation. Still, Zelensky's peculiar emergence stands as a testament to the political importance of the Internet in Ukrainian society.

<p style="text-align:center">A Cultural Crossroads</p>

Ukraine seems to be stuck at a cultural crossroads when it comes to digital policy. Ukraine is tragically torn between the West and Russia, causing much of the aforementioned political turmoil. While Ukraine, as a whole, has been trending toward greater relations with the West, something keeps Ukraine tethered to its neighbor and former Soviet confidant.

Ukraine's contemporary digital policy and prospects seemingly reflect this cultural crossroads. Since the outbreak of the Orange Revolution, Ukraine is caught between Russian and western cultural ideals when it comes to the Internet, making the role of digital media rather ambiguous. Russian groups inside and outside of the country have been able to successfully use the Internet to undermine anti-Russian sentiment or Ukrainian nationalism.[60] The Internet seems to act simultaneously as a tool for Ukrainians to enact political change and a tool Russia can use to infringe on the country's sovereignty.

The memory of Euromaidan and the Orange Revolution remain in the minds of Ukrainians, serving as an example of the Internet's volatility. While many Ukrainians will agree, these changes were largely positive, they are certainly a testament to the Internet's ability to destabilize already fragile regimes. Who is to say another digital

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[60] Dyczok, Marta. "Do the media matter? Focus on Ukraine." *Media, Democracy and Freedom. The Post-Communist Experience* (2009): 37.

revolution will not occur in the near future? The upcoming presidential election certainly points in this direction. Ironically, Ukrainians are skeptical of the very tool that they used for change.

The real problem lies in the fact that Ukraine has not fully embraced the digital age. While it played an important role in revolutions before, usage rates in the country are surprisingly low. While Internet usage continues to grow worldwide at a rate of 50% per year, Ukraine's digital growth stands at 40% per year.[61] This figure illustrates the fact that, digital policy simply is not a priority for Ukrainian officials because it does not affect a large number of people. Of course, Ukraine's chaotic political environment certainly does not support effective policy making in general. Nonetheless, the small amount of digital growth makes digital expansion through policy an unimportant matter for an already questionable government. "The main obstacle to faster Internet growth in Ukraine is undervaluation by consumers of benefits" of the Internet."[62] Ukraine's current national culture is not quite compatible with digital expansion. The Ukrainians may undervalue the Internet for any variety of reasons. Ukraine's resistance to digitalization may very well be because, as it stands, the Internet is not compatible with Ukrainian culture.

Ideally, the Ukrainian government would initiate programs to promote digital education, and bring the Internet into the lives of the country's large rural population.

[61] Alekseychick, Sergey P. "Stimulating Internet development in Ukraine." PhD diss., National University, (2001), 1.
http://www.kse.org.ua/uploads/file/library/2001/Alekseychick.pdf.

[62] Ibid, 31.

One study showcases that the government can successfully implement a variety of computer programs for education in even the most remote areas of Ukraine. According to the study, in 2002, "ten computer networking infrastructure grants have been made to develop networking infrastructure for the academic community of Ukraine," specifically, in the Donetsk region.[63] The results of these programs were largely successful as the Internet provided these rural areas with access to digital libraries, accessible news, and cross-community conferences online.[64] Here, use of digital technologies in rural areas directly improves the education in these traditionally undereducated areas.

Unfortunately, the government subsequently abandoned this project during the political turmoil of 2014. Whilst Euromaidan was in full swing and Russia seized Crimea, a group of Russian nationalists seized Donetsk's government building and established Donetsk People's Republic. The Ukrainian government has struggled to subdue this rebellion and, for the moment, Donetsk remains in the hands of the rebels. The Ukrainian government has placed all the promises of bridging the digital divide in Donetsk by the wayside, in order to deal with this insurrection. More importantly, however, this conflict showcases the intense urban-rural conflict in Ukraine and lack of strong government authority. This sort of unregulated cultural tension will likely make bridging this digital divide in Ukraine even more difficult than ever before.

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[63] Minaev, Alexander, Evgeny Bashkov, Alexander Anopriyenko, Anatoly Kargin, Valeriy Teslia, and Andrey Babasyuk. "Development of Internet Infrastructure for Higher Education in Donetsk Region of the Ukraine." *ICEE 2002 Manchester International Conference on Engineering Education,* (2002): 1.

[64] Ibid, 3.

An important determining factor of this compatibility is Ukraine's acceptance of free speech. .[65] Only within the past thirty years, Ukraine has been able to experiment with freedom of speech. Under the Soviet Union, full acceptance was no easy task and largely impossible. Despite the existence of strong journalism industries, Ukraine has largely struggled to shed strict policies of censorship. State controlled media and strict censorship policies made it virtually impossible for individuals to use free speech within Ukraine. While many Western countries, such as the United States, Britain, or France, have had centuries to ingrain the importance of freedom of expression and press, Ukraine has had precious little time to develop these cultural values.

The most glaring example of strict Ukrainian censorship laws comes from a 2009 proposed bill that criminalized the possession and distribution of pornographic material. "On Amendments to Article 301 of Ukraine's Criminal Code" created quite a stir within both the Ukrainian and International community. Ukrainian journalists, businessmen, and commoners alike condemned this act as blatantly violating an individual's "inner freedoms."[66] While this act does not explicitly deal with the Internet and digital media, it is commonplace today for pornographic material to circulate online. As a result, this policy heavily influences digital culture in Ukraine. Unfortunately, digital freedom in

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[65] Belyakov, Alexander. "The Influence of 'Censorship by Money' on Freedom of Speech in Ukraine." *Critique* 37, no. 4 (2009): 604. https://www.researchgate.net/profile/Alexander_Belyakov2/publication/243457346_The_Influence_of_'Censorship_by_Money'_on_Freedom_of_Speech_in_Ukraine/links/0c960 51d07cdf2fa8e000000.pdf

[66] Ibid, 616.

Ukraine is severely lacking compared to other nations.[67] However, this act is a glaring imperfection and greatly limits freedom of expression and, subsequently, Internet usage.

Another major component of Internet's cultural compatibility with Ukraine lies in the nature of journalism within the country. At first glance one may assume that, given the Orange Revolution and Euromaidan, journalism would not present itself a serious obstacle to expanding digital policy. Why should it? Online news agencies gain more revenue and notoriety through expanding their audiences. There is no better way to do this than on the Internet. However, "the problem of transparency regarding the ownership of mass media remained unsolved after the Orange Revolution.[68]" As mentioned before, small freelance, journalists fueled the Orange Revolution, while media elites fueled Euromaidan's online movement. Part of the reason the press is not strictly monitored in Ukraine is because these media tycoons simply stand outside the grasp of the national government.[69] Some news agencies have significant ties to Russia and, combined with Russia's pervasive use of bots to distort political realities online, make press regulation a futile ordeal for the national government.[70] While the Ukrainian government cracks down

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[67] Faris, Robert, and Nart Villeneuve. "Measuring global Internet filtering." *Access denied: The practice and policy of global Internet filtering* 5 (2008). 23, 24.

[68] Belyakov, Alexander. "The Influence of 'Censorship by Money' on Freedom of Speech in Ukraine." *Critique* 37, no. 4 (2009): 602. https://www.researchgate.net/profile/Alexander_Belyakov2/publication/243457346_The_Influence_of_'Censorship_by_Money'_on_Freedom_of_Speech_in_Ukraine/links/0c960 51d07cdf2fa8e000000.pdf.

[69] Ibid, 617.

[70] Mejias, Ulises A., and Nikolai E. Vokuev. "Disinformation and the media: the case of Russia and Ukraine." *Media, Culture & Society* 39, no. 7 (2017): 1027-1042.

on individual use of digital media, as exemplified in the 2009 pornography laws, it ignores press coverage that one might consider suspect or insincere. This leave Ukrainian digital culture and rights as ambiguous as ever, limiting the country's potential for digital growth.

More importantly, these media tycoons and famous journalists hold some resentment toward the current Ukrainian government. After glasnost was instituted throughout the Soviet Union, journalists lost the prestige they once had maintained under the Soviet Union. While the journalism industries maintain an intangible role in the newly independent country, they are a shadow of their former selves under Soviet rule.[71] Without control from the Ukrainian government, some of these "old guard" journalism industries are able to flood digital channels with their news stories, distorting political realities and changing perceptions of the Ukrainian government. This old guard's resistance to Ukrainian independence, combined with Russia's pervasive digital strategies within Ukraine, make journalism ambiguous, volatile, and untrustworthy. Because journalism is a major component of the Internet, the complications between the journalists and the Ukrainian government make expansive digital policy difficult to enact.

Another detrimental effect of this strange role of journalism online is user confusion. Users cannot successfully create content or initiate discussions online if they

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[71] Belyakov, Alexander. "The Influence of 'Censorship by Money' on Freedom of Speech in Ukraine." *Critique* 37, no. 4 (2009): 602. https://www.researchgate.net/profile/Alexander_Belyakov2/publication/243457346_The_ Influence_of_'Censorship_by_Money'_on_Freedom_of_Speech_in_Ukraine/links/0c960 51d07cdf2fa8e000000.pdf.

do not have an adequate picture of topics they read online. An Internet fraught with

misinformation and suspect levels of censorship is one which users would likely avoid.

This is reflected in the country's Internet usage numbers and growth rates. Whilst

journalism plays important roles in the nature of a country's digital policy, another key

aspect of it is digital education and the digital divide. As of 2004, only 3.4% of the

country's population had regular access to the Internet, concentrated solely in urban

areas.[72] These numbers have climbed since then, and, as of 2016, 44% of the country's

population has ready access to the Internet.[73] Over the course of twelve years, Internet

penetration in the country has grown at a sluggish rate of 1.08% per year. Of course, the

national government has other priorities, namely stabilizing the country as a whole but, in

an age of supposedly rapid digital growth and expansion, these numbers do not bode well

for Ukraine's digital policy.

A way the country could improves these numbers is through outreach programs

that seek to bridge the digital divide. While many urban areas have ready access to the

Internet, rural areas usually cannot afford that luxury. Most of Ukraine's rural population

is uneducated or uninterested in Internet use. Moreover, how could authorities even begin

to bridge such a large digital divide if they cannot even maintain the stability of their

country? While the project in Donetsk showed promise it was ultimately inconclusive.

With a government predisposed, Ukraine's only hope to digitally expand is for the

people to initiate this expansion. This is no easy task, however, as strict censorship laws

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[72] Ukraine Internet Users." *Internet Live Stats*. 2005.
http://www.Internetlivestats.com/Internet-users/ukraine.

[73] "Ukraine Internet Users." *Internet Live Stats*. 2016.
http://www.Internetlivestats.com/Internet-users/ukraine.

and suspect online journalism make everyday use of the Internet a precarious and chaotic affair. Without natural popular support, however, Ukraine has a long way to go if they are to digitally expand.

Incentivizing Expansion

With political and cultural incentives in mind, one must now examine how economic incentives play a role in the digitization of Ukraine. In many ways, economic incentives play the most important role in establishing a sustainable and innovative digital policy. Of course, funding is essential for organizers to carry out any sort of policy, including digital policy. The absence or abundance of funding largely rests in whether or not the policy meets state interests. Politically, the country is too divided to implement a cohesive digital policy. Culturally, the population of Ukraine does not naturally gravitate toward the Internet, spurring the need for policy. So what about economic profit? In many ways, Ukraine may not see digital policy as a lucrative or productive enough endeavor for the national government to examine. With a small number of users and slow expansion of the Internet, there may not necessarily be an immediate need to address the variety of issues that comes with the Internet.

As previously mentioned, the Donetsk digital education, while short lived, provided a cost effective way for Ukraine to expand their educational infrastructure.[74] The ends of such programs were never determined and the resources used were

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[74] Minaev, Alexander, Evgeny Bashkov, Alexander Anopriyenko, Anatoly Kargin, Valeriy Teslia, and Andrey Babasyuk. "Development of Internet Infrastructure for Higher Education in Donetsk Region of the Ukraine." *ICEE 2002 Manchester International Conference on Engineering Education,* (2002): 33.

exhausted. Ukraine has experimented the the digitization of their agricultural market and

manufacturing industries. This is a major economic incentive for any developing nation

to consider digitization. A major talking point of the 2000 G-8 summit was digitization,

committing themselves to the Global Digital Divide Initiative of the World Economic

Forum and its task force.[75] The task force's goal was to achieve "e-readiness" for

developing nations, which included initiating and expanding digital economy.[76] The

emergence of digital economies worldwide has naturally placed some amount of pressure

on Ukraine to expand their digital policy. Ukrainian call for western connections

exacerbate these pressures, as much interaction between the two occurs in economics and

commerce.

One of the best ways to prepare underdeveloped nations for "e-readiness" is

through integrating the agricultural markets onto a digital platform. Obviously, this

requires a certain amount of infrastructure to achieve. These "agri-sites" have arisen

throughout Ukraine, though there are few in number.[77] The two major agri-sites are e-

center.com.ua and agrimarket.info.[78] The e-center site is a government portal that handles

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[75] Brown, Cheryl L. "G-8 collaborative initiatives and the digital divide: readiness for e-government." In *System Sciences, 2002. HICSS. Proceedings of the 35th Annual Hawaii International Conference on*,. IEEE (2002):1. https://ieeexplore.ieee.org/abstract/document/994085

[76] Ibid, 8.

[77] Nedyalkov, Anton and Victoria Borisova. "Internet penetration in agricultural markets: the pattern of bulgaria and ukraine." In *IAMO Forum*, (2005): 7. https://www.researchgate.net/profile/Anton_Nedyalkov/publication/233962354 The fact that this article is over a decade old is a testament to the underdevelopment, or overall abandonment of the agri-sites. It is likely that little scholarship exists past 2005 because no developments have been made since then.

[78] Ibid, 16.

finance, market and commercial information in the agricultural industry. The agrimarket

site is dedicated primarily for foreign investment, as an independent agency operates it

and translates information into English for simple foreign accessibility. These sites help

minimize transaction cost, make the agricultural market more accessible, and have an

overall increase of agricultural production. Ukraine, and other developing countries can

become more incentivized to expand their Internet infrastructure and digital policy

because of these benefits. Ukrainian agri-sites not only showcase the ways in which a

country can merge traditional markets with digital markets, but they also showcase

Ukraine's desire for foreign investment and industrial expansion.

While agri-sites initially presented promise for Ukraine's digital growth, they

yielded little to no results. Two of the main issues are rural agricultural areas do not have

thorough access to physical devices for digital connectivity and farmers exhibit low

levels of digital literacy.[79] Moreover, a majority of existing agri-sites are not published in

English.[80] This is a major issue because it severely limits foreign business investment

opportunities. Furthermore, the online integration does not adequately incentivize an

expansive digital policy. Taking into account the aforementioned drawbacks of agri-sites,

the major deterrent in digitizing Ukraine is the significant digital divide in the country. In

2002, the Economist Intelligence Unit surveyed 60 countries in an e-readiness

assessment. According to the results, Ukraine ranked 52 and was considered "in the

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[79] Ibid, 16.

[80] Ibid, 17.

group of e-business laggards."[81] This is alarming considering the survey also assessed the e-readiness of countries such as Bulgaria, Kosovo, and Azerbaijan, all of which ranked higher than Ukraine.[82]

As noted in prior sections, the Internet usage in Ukraine is considerably low and there remains a significant digital divide between the urban and rural areas. While the Internet played an important role in the country's recent political past, simply too few people use it to make it a major talking point for Ukrainian authorities. Moreover, most of the existing information technology is outdated or too expensive to maintain.[83] These expenses make expanding digital markets lack short-term promise. However, some scholars note, "[Ukraine's] issues can be overcome by managing IT well and by persistence."[84] Perhaps, with this "persistence" Ukraine can finally reap the long-term rewards of a digital economy. For now, however, those benefits remain to be seen outside of the small urban uses.

Living in the Shadow of Russia

Ukraine's political environment is a main force in the development of the country's digital policy. As mentioned previously, Ukraine's political environment is

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[81] Petrick, Martin, and Peter Weingarten. "The Impact of Information Society on Agriculture and Rural Areas Development." *The role of agriculture in Central and Eastern European rural development: engine of change or social buffer?* (2004): 336. http://www.iamo.de/fileadmin/documents/sr_vol25.pdf#page=336.

[82] Ibid, 338

[83] Kamel, Sherif, ed. *Electronic business in developing countries: opportunities and challenges*. IGI Global, (2006): 383.

[84] Ibid, 389.

deeply divided between pro-Russian and anti-Russian factions. Naturally, Russia plays a major role in the political environment and, subsequently, the country's digital policy. Although Russia formally left Ukraine in the early 1990s, the country routinely makes international headlines for meddling in Ukrainian affairs. Russia and Ukraine have an incredibly contentious and complex relationship, as a deep cultural resentment combines with a shared history and, new national interests. After all, resentment toward Russia and Russia sympathizers led to both the Orange Revolution and Euromaidan. They continue to meddle in Ukrainian affairs, notably disputes over Crimea and Donetsk to this day.

If the events of the Orange Revolution and Euromaidan are any indication, Ukraine has largely opposed closer ties with Russia. Even before then, however, Ukrainian nationalism was already set in motion. The Soviet Union's glasnost policy, implemented near the end of its power, seemingly upended strict Soviet censorship over the region, making dissent groups more likely to popularize their messages against the Soviet Union. Like social media, glasnost effectively opened up channels for dissent groups to operate, organize, and spread their message[85]. Advocates for independence shared a concern for censorship, corruption, and nationalist movements like their contemporary peers protesting in the twenty-first century.

While there is a notable pattern of Ukrainian skepticism of Russia, it is not as critical as it seems. Russia has largely been able to effectively combat serious anti-Russian sentiment in the country. Russia successfully maintains popular pro-Russian support amidst Ukrainian dissent using various methods. One way they maintain a

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[85] Dyczok, Marta. "Do the Media Matter? Focus on Ukraine." *Media, Democracy and Freedom: The Post-Communist Experience* (2009): 22.

Russian presence within the country is through mobilizing and strengthening comparatively small groups of pro-Russian Ukrainians.[86] While members of this demographic are Ukrainian citizens, they largely identify ethnically as Russian. Yet, even more impressive, is Russia's ability to emphasize a common nationality and mythos with Ukraine. This is done through diplomatic channels, state sponsored journalism and other means.[87] Russia seeks to reinforce their presence in Ukraine by emphasizing their common Slavic heritage. For example, Russian President Dmitry Medvedev noted that Russians and Ukrainians are "a brotherly people."[88] The media spreads this sort of statement which, in turn, perpetuates a common heritage between the two countries.

Another method of maintaining a pro-Russian faction within Ukraine is through, cyber warfare against Ukraine. Russia already exercises significant influence over Ukraine, using various economic and cultural tools to coerce the nation. However, with the Internet, Russia is able to meddle in Ukrainian affairs in an even more pervasive manner. As mentioned in the section on political incentives, Russian affiliates notoriously flood social media and journalist sites with pro-Russian articles and sentiments, which distort the political reality.

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[86] Bohomolov, Oleksandr, and Oleksandr Valeriĭovych Lytvynenko. *A ghost in the mirror: Russian soft power in Ukraine*. London: Chatham House, (2012): 11. https://www.researchgate.net/profile/Alexander_Bogomolov/publication/263853878_A_Ghost_in_the_Mirror_Russian_Soft_Power_in_Ukraine_The_Aims_and_Means_of_Russian_Influence.

[87] Ibid, 3.

[88] Ibid, 2.

Sometimes, Russian cyber warfare against Ukraine takes a more direct approach. The best example of this comes from the Annexation of Crimea, which took place during Euromaidan and the beginning of Yanukovych's exile. Russia infamously occupied the strategic region from Ukraine using military personnel. Yet, this annexation would not have been as nearly as effective without Russia's unique brand of cyber warfare. It is reported that, during the standoff, "cell phones of Ukrainian parliamentarians were hacked and the main Ukrainian government website was shut down for 72 hours after Russian troops entered Crimea."[89] Even after the conflict, Russian officials continued their digital assault, mobilizing pro-Russian campaigns in Ukraine and flooding the web with information discrediting the Ukrainian government's claim to Crimea.

Still, the Internet is one of the most important obstacles the Russians face when reasserting its influence over Ukraine. Simply put, Russia's greatest tool is also its greatest enemy. The results of the Orange Revolution and Euromaidan testify to this fact. However, Russia has been able to implement a variety of strategies to specifically combat the power of Ukrainian digital media. Most notably, "Russian authorities have reacted to [Ukrainian Internet] in sever ways, including state sponsorship of bloggers, websites designed to promote ideas critical of liberal democracy and cyber warfare."[90]

Despite tensions with Russia, something still keeps Ukraine hesitant to leave Russia's protection. Part of it may very well be because of Russian distortion of

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[89] Maurer, Tim, and Scott Janz. "The Russia-Ukraine conflict: cyber and information warfare in a regional context." *The International Relations and Security Network* 17 (2014): 2.

[90] Ibid, 9.

Ukrainian news and Internet-based communication networks. However, some scholars believe there is something else keeping the two entwined with one another. Many believe the three centuries of Russian rule make the two culturally and ethnically inseparable.[91] While Ukraine seeks independence, the ideal Ukrainian independence is one of Russian tolerance.[92] Others take a more pragmatic approach, and believe Ukraine, after years of economic hardship, is still dependent on Russia.[93] Without staunch European Union support, Ukraine must turn to their Slavic brothers in Russia.[94] Whatever the reasons may be, Ukraine cautiously associates itself with Russia, today.

Conclusion

After examining the political, cultural, and economic factors surrounding Ukraine's digital policy, one finds that the country's digital policy and promise is underdeveloped. From an economic standpoint, there are few incentives for Ukraine to expand its national digital policy. The major issues confronting the country, like many underdeveloped nations, are the gross digital divide and a general lack of public interest. Digital innovation is simply not lucrative enough for the government, and, more importantly, existing businesses to explore and improve.

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[91] Lieven, Anatol. *Ukraine & Russia: a fraternal rivalry*. Vol. 31. United States Inst of Peace Press, (1999).

[92] Ibid, 78.

[93] Velychenko, Stephen, ed. *Ukraine, the EU and Russia: history, culture and international relations*. Springer, (2007).

[94] Ibid, 156.

Culturally, Ukraine's position on values that compliment digital development is rather ambiguous. While the online journalism industry has played an important role in national affairs thus far, there is still widespread censorship and lack of use. Moreover, notions of censorship and media misconduct loom large over Ukraine as the scars of the country's Soviet past still linger. This is, of course, in part due to the coercive stance Russia has taken in regards to Ukrainian activities. Russia has been able to successfully penetrate Ukrainian political affairs through the Internet and digital channels. While rapid digitization draws in the attention of the west to Ukraine, it also tethers the country to its Russian neighbors.

Still, the small silver-lining in this assessment is the role the Internet plays in Ukraine's political affairs. The Internet and online journalism played a profound role in the country's recent political history. The Internet seemingly amplified the voices of concerned citizens during both the Orange Revolution and, later, Euromaidan. The active role the Internet played in creating these changes may encourage Ukrainian citizens to actively use it for political discourse and acquiring information, causing authorities to address the importance of the Internet and digital policy. However, there is also an issue with the Internet's political importance in Ukraine. While it largely initiated positive change in Ukraine, both revolutions serve as warning signs to the Ukrainian officials. The Internet is a powerful tool. In the right hands, it can create constructive political change. However, in the wrong hands, it can easily overthrow regimes, regardless of their standing.

As the Digital Age makes its way into Ukraine, the country operates, once again, as a borderland. While the country is still seemingly tied to Russia, the Internet makes

improving connections with the west even more simple and enticing for Ukraine. Today, Ukraine has largely left the digital realm untouched, for better or for worse. However, the country could decide to adopt a strict, authoritarian digital policy or a westernized, liberal digital policy in the near future. When this day comes, the nature of Ukraine's digital policy could not only reshape the country's identity, but also the nature of western relations with Russia.

CHAPTER THREE

Kazakhstan — Emerging E-Markets

"We should not forget that we would be able to adequately respond to the challenges of the times only if we preserve our cultural code: language, spirituality, traditions and values. I say this in a clear way, especially for our youth, terms. When does the bug happen in the computer program? The bug happens when the program coding is broken."
— Nursultan Nazarbayev, President of Kazakhstan[95]

President Nazarbayev's statement on the future of Kazakhstan is certainly loaded with politically charged rhetoric that is relevant for discussion. For the sake of brevity, however, I want to take a look only at the analogy he uses to describe the future of Kazakhstan. He clearly uses the "computer program" to describe Kazakhstani society, hoping to guide Kazakhstan into the digital age. At first glance, this might seem like an admirable goal. As a developing nation, Kazakhstan shows incredible economic potential because of the rich oil and natural gas reserves within the country. This promise might encourage, as President Nazarbayev does, digital expansion. However, one must still ask if the "cultural code" and political environment is compatible with emerging digital policies.

Introduction

This chapter will examine political, cultural, and economic incentives of that play a role in Kazakhstan's digital policy and expansion. While Ukraine has not yet committed

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[95] Nazarbayev, Nursultan. "Address: Strategy Kazakhstan 2050 New Political Course of the Established State." Speech, Astana, (2012). https://www.kazakhembus.com/kazakhstan-president-nursultan-nazarbayev-strategy-kazakhstan-2050

to a digital identity, Kazakhstan's national government has taken the steps develop a digital identity. However, as mentioned in the introduction, this identity may not necessarily be conducive to digital development. The Internet works best within a society where privacy rights, freedom of expression, and education are all highly valued. The value Nazarbayev's regime places on these ideas are dubious.

However, one silver-lining of Kazakhstan's digital environment is the incredible promise Kazakhstan's economy has in expanding the Internet and digital policy. "Kazakhstan has huge oil and natural gas reserves, rich unmined veins of copper, chrome, and aluminum and substantial gold deposits, as well; as enough developed farm and pasture land to feed itself."[96] In an age where natural resources— especially oil and gas— are in high demand, Kazakhstan has drawn the attention of international investors, including states and businesses alike. The Internet and e-commerce is the perfect way for the country to meet the demands of newfound business opportunities these investors provide. The Internet can also compliment existing lucrative industries within the Kazakhstan, making it an invaluable economic tool.

Of course, Kazakhstan's economy is intimately linked with the economy of Russia. Both are leading members of the Eurasian Economic Union.[97] In addition to their economic ties, Russia and Kazakhstan share a similar cultural and political past, which

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[96] Pomfret, Richard. "Kazakhstan's economy since independence: Does the oil boom offer a second chance for sustainable development?." *Europe-Asia Studies* 57, no. 6 (2005): 859-876.

[97] Vinokurov, Evgeny. "Eurasian Economic Union: Current state and preliminary results." *Russian Journal of Economics* 3, no. 1 (2017). https://www.sciencedirect.com/science/article/pii/S2405473917300041

play a role in contemporary relations between the two countries. Unlike Ukraine, Kazakhstan has still largely held on to its Soviet heritage. The area which is now modern day Kazakhstan had enjoyed almost three centuries of Russian or Soviet rule, with a brief stint of nominal independence during the Alash Autonomy in 1917.[98]

The root of Kazakhstani-Russian relations lies in their Soviet heritage. Once Kazakhstan formally joined the Soviet Union in 1918, the state wholly took on an important function in the Soviet Union. Kazakhstan was a popular destination for Soviet exiles, as well as nuclear testing sites, and massive agriculture projects.[99] As one of the first to join the Soviet Union and the last to leave, Kazakhstan largely reminisces of its Soviet past. Not only do the two countries share a common history, they also share many military, economic, and political interests which are worth taking into account when examining the country's digital policy.

<center>E-Governance or E-Authoritarianism?</center>

In order to understand how Kazakhstan's political climate shapes its digital policy, one must first look at the country's political environment in closer detail. The most important thing to keep in mind is that Kazakhstan's president, Nursultan Nazarbayev, has remained in office since the country's conception. In 2015, Nazarbayev

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[98] Sabol, Steven. "The creation of Soviet Central Asia: the 1924 national delimitation." *Central Asian Survey* 14, no. 2 (1995): 233. https://www.tandfonline.com/doi/abs/10.1080/02634939508400901?journalCode=ccas20

[99] Ibid, 235.

won the presidential election for a fifth time, winning 97.7% of the vote.[100] Although it

has taken on a variety of names throughout the years, Nazarbayev's political party, Nur

Otan, contains strong Soviet and communist background. Many political critics and

international organizations accuse Nazarbayev's regime of classic authoritarian crimes,

including censorship, corruption, and oppression.[101] One can assume, therefore, that

Nazarbayev controls all aspects of digital policy within Kazakhstan, including any

changes in scope or character. Unlike in Ukraine, where political officials were at the

mercy of critics and journalists online, Nazarbayev's administration controls the digital

realm.

This control is evident in Kazakhstan's severe censorship policies, particularly

involving political dissent. As previously mentioned, many organizations have publicly

condemned Nazarbayev as an authoritarian and criticize his administration's continual

violation of human rights. The most notable example of this violation occurred in

Zhanaozen in 2011.[102] The town's large oil industry was brought to a halt when workers

began protesting poor conditions and pay. Nazarbayev's administration responded

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[100] "Kazakhstan strongman leader re-elected with 97% amid record voter turnout." *Russia Today*, (2015). https://www.rt.com/news/253157-kazakhstan-president-election-turnout.

[101] Ibid.

It is worth noting that this Russian-based news outlet describes openly notes that Nazarbayev "is often accused of suppressing opposition and freedom of speech." This fact underscores how blatancy of Nazarbayev's authoritarian rule.

[102] "Kazakhstan: Crackdown on Human Rights" *Amnesty International Submission to the UN Universal Periodic Review, October- November 2014*, (2014). https://www.amnesty.org/en/documents/eur57/001/2014/en/

quickly, using local police to remove the striking workers on Kazakhstan's Independence

Day, resulting in the deaths of fourteen workers. Interestingly, the national government

blocked telephone and Internet communications around the city "in order to avoid the

diffusion of independent accounts of the government-sanctioned violence through social

media."[103] This was not the last time Nazarbayev's regime implemented strict control

over digital communications. In 2014, Nazarbayev's administration cracked down on

social media, limiting the sites social media platforms political dissidents and activists

could potentially access.[104] This crackdown serves as an example to how Nazarbayev can

limit Kazakhstanis' digital growth. If his administration can control user activity, it can

also discriminately control distribution of hardware, online efficiency, and data. Some

scholars conclude that, amidst this 2014 regulation, "the elite in Astana had ultimately

concluded that new media had come to represent a potentially destabilizing force within

the Kazakhstani domestic landscape."[105] This is a reasonable assumption to make,

considering how many other regimes, including Egypt, Syria, and even Ukraine, faced

destabilization around the same time.

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[103] Anceschi, Luca. "The persistence of media control under consolidated authoritarianism: containing Kazakhstan's digital media." *Demokratizatsiya: The Journal of Post-Soviet Democratization* 23, no. 3 (2015): 278.

[104] Dahlgren, Peter. 2005. "The Internet, Public Spheres, and Political Communication: Dispersion and Deliberation". *Political Communication* 22: 2: 147-62

Peter Van Aelst & Stefaan Walgrave."New media, new movements? The role of the Internet in shaping the 'anti-globalization' movement". *Information, Communication & Society* 5, (2002): 465-93.

[105] Anceschi, Luca. "The persistence of media control under consolidated authoritarianism: containing Kazakhstan's digital media." *Demokratizatsiya: The Journal of Post-Soviet Democratization* 23, no. 3 (2015): 278.

These are only a few examples of Nazarbayev's administrative control of the digital realm. With this control in mind, one must now examine how these events reflect greater political difficulties Kazakhstan has in developing a comprehensive digital policy. Nazarbayev's control ironically hinders Kazakhstan's development of a safe and innovative e-government. Countries with the proper infrastructure can use the Internet to improve government services, public awareness of policies, and even elections.[106] The authoritarian national government could use e-government to improve government efficiency within Kazakhstan. Yet, this requires an expansion of Internet accessibility which, in wake of political dissent, Nazarbayev is not willing to adopt.

While Ukraine's unstable political climate and poor infrastructure make e-government a low priority, Kazakhstan is, comparatively, more developed and stable. However, many scholars and politicians note that Kazakhstan "is still marked by widespread corruption, abject poverty, digital divide, lack of infrastructural development and human resources," making potential e-government prospects bleak.[107] On one hand, this is entirely part of Nazarbayev's authoritarian design. On the other hand, the lack of e-government platforms makes running and controlling the country incredibly arduous. Despite having incredibly different regimes, both Ukraine and Kazakhstan do not foster the environment necessary to develop e-governance.

Most of Kazakhstan's digital policy lies in Nazarbayev's aforementioned policy,

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[106] Bhuiyan, Shahjahan H. "E-government in Kazakhstan: Challenges and its role to development." *Public Organization Review* 10, no. 1 (2010): 31. https://link.springer.com/article/10.1007/s11115-009-0087-6.

[107] Ibid, 44.

"Kazakhstan 2050." Introduced in 2012, this policy is a comprehensive modernization strategy rooted primarily in an economic focus. While modernization is the primary goal of "Kazakhstan 2050," a large part of that modernization involves expanding digital infrastructure. The program is dedicated to expanding Kazakhstani digital infrastructure in all manner of institutions, including schools, private and public businesses, and social welfare programs.[108] The program also seeks to improve state planning, creating electronic platforms for states to interact with businesses more efficiently.[109]

Questions remain on whether or not Kazakhstan's current political climate is conducive to the e-governance the country seeks to achieve. Most of the promises of "Kazakhstan 2050" have not yet come to fruition and may never be met.[110] There is certainly widespread censorship and authoritarian influence in digital Kazakhstan, like all of these cases, the condition is more complex. In 2000, the number of Internet users in Kazakhstan was estimated to be around 70,000, while, as of June 2018, the number increased exponentially to around 14,000,000.[111] This is roughly 76% of Kazakhstan's population which is impressive considering the average percentage for other Asian

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[108] Aitzhanova, Aktoty, Shigeo Katsu, Johannes F. Linn, and Vladislav Yezhov. *Kazakhstan 2050: Toward a modern society for all*. Oxford University Press, (2014).

[109] Ibid, 55.

[110] Ibid.

[111] "Internet Usage in Asia." *Internet World Stats: Usage and Population Statistics*. 7 (2018). https://www.Internetworldstats.com/stats3.htm#asia

countries is around 49% of each country's population.[112] The digital growth Kazakhstan

has experienced has affected the political environment of the country. Numerous

Kazakhstani journalism programs have emerged, including the Union of Journalists and

the Confederation of Associate Journalists of Kazakhstan, with help from non-

governmental organizations such as Legal Media Center, MediaNet and Adil Soz.[113]

These agencies "proved most active in protecting journalists' rights."[114] It seems that,

despite the hardship the online journalism industry faces in Kazakhstan, journalists and

organizations can still make significant efforts to maintain their political voices within the

country. Most of this success tends to occur on the local level rather than the national

level. Compared to the national government, local Kazakhstani governments and officials

are more lenient with online journalism.[115] While journals and articles may become

popular at the local level, that popularity is ultimately limited if the work does not reflect

the desired image of the current regime.

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[112] Ibid.

Obviously, there are certain outliers that are either digitally underdeveloped, like Timor-Leste, or overdeveloped, like South Korea. While this number should be taken with a grain of salt, the fact that Kazakhstan's online population in 2018 is 200 times more than it was in 2000 is impressive. However, there are other questions to this survey, which was taken from local sources, like what constitutes an Internet user? Do they have to have regular access to a computer? Regardless of the discrepancies, this is an impressive statistic nonetheless.

[113] Bertelsmann Transformation Index. "Kazakhstan." *World* 80, no. 100 (2006): 120. https://www.irex.org/sites/default/files/pdf/media-sustainability-index-europe-eurasia-2018-kazakhstan.pdf.

[114] Ibid, 12.

[115] Ibid, 6.

Upon looking at the political environment of Kazakhstan, one can conclude that the country's authoritarian digital policy is not necessarily conducive toward expanding digital infrastructure and online presence. Nazarbayev's control over the government, and specifically communication channels, remains unchallenged. In wake of growing usage numbers within Kazakhstan, the national government has passed countless laws that restrict Kazakhstani access to social media, online news outlets, and access to the Internet. The Kazakhstani Ministry of Information and Communication reported that there are 2,973 official media outlets in the country, with only nine percent of which are digitally based.[116] This figure perfectly sums up Kazakhstan's digital condition. Despite exhibiting surprising usage numbers and dedicating policy towards expanding digital infrastructure in the future, the Kazakhstani government simply does not allow for the independent spread of information online. Of course, one of the primary functions the Internet serves is to spread information, making the future of Kazakhstani digital policy questionable.

Kazakhstani Nationalism in the Digital Age

One will find that, like the political incentives, the cultural incentives that drive Kazakhstani digital policy suffer from similar shortcomings. In fact, much of the country's digital culture is controlled by the national government and President Nazarbayev. The term "fabricated digital culture" perfectly exemplifies the status of Kazakhstan's online environment. Kazakhstani citizens are able to spread media referring to their beliefs, behaviors, and values insofar as they align with Nazarbayev's regime.

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[116] Ibid, 7.

While this does not bode well for the potential of compatibility between Kazakhstani culture and the digital realm, it still warrants some examination. While Ukraine has largely not committed to a national identity, the Kazakhstani government has decided this identity for the people, using the Internet to promote a strong sense of nationalism online.

Using the web to promote political agendas or a national identity is not unique to Kazakhstan. There is a common misconception that the Internet acts as a democratizing force.[117] Several authors have argued that Internet inherently acts a tool of democracy.[118] However, these ideals largely existed when the digital realm and the Internet was in its infancy. Decades have passed and many authoritarian regimes, like China, Saudi Arabia, and Kazakhstan, have remained authoritarian..[119] In fact, the Internet has actually allowed these authoritarian regimes to tighten their control on the people. It is important to remember that, at the end of the day, the Internet is merely a tool which can be used for democratization or authoritarianism.[120] The strict censorship Nazarbayev's government imposes on Kazakhstan creates digital borders which, in turn, closes Kazakhstan off to a

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[117] Dahlberg, Lincoln. "The Internet, deliberative democracy, and power: Radicalizing the public sphere." *International Journal of Media & Cultural Politics* 3, no. 1 (2007): 47-64.

[118] Trippi, Joe. *The revolution will not be televised: Democracy, the Internet, and the overthrow of everything*. New York: ReganBooks, (2004). Print.

[119] Jiang, Min. "Authoritarian informationalism: China's approach to Internet sovereignty." *SAIS Review of International Affairs* 30, no. 2 (2010): 71-89. PDF File.

[120] Ibid, 86.

specific kind of digital culture and nationalism.[121]

This isolation works in two ways to promote nationalism.[122] The most obvious is how the national government spreads state propaganda within the country using digital channels. In addition to blocking many foreign websites, the national government has instituted a systematic distribution of domain extension, typically denoted as ".kz." This subtle demarcation has a profound impact on the digital culture of Kazakhstan. Kazakhstan's domain extension signifies, to Internet users, that these cites are reputable, legitimate, and intrinsically part of Kazakhstan.[123] Of course, the distribution of these domain extensions is controlled by the government, implying "official" Kazakhstani websites largely conform the the national government's agenda.

The second, less obvious way digital borders promote Kazakhstani nationalism is more surprising. An unintended consequence of Kazakhstani digital isolation is that Kazakhstani citizens have adopted the digital realm as their own. "Users in Kazakhstan viewed kaz-net as a manifestation of the nation to which they felt they belonged and in which they were invested."[124] Many younger individuals in Kazakhstan have used the

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[121] Shklovski, Irina, and David M. Struthers. "Of states and borders on the Internet: The role of domain name extensions in expressions of nationalism online in Kazakhstan." *Policy & Internet* 2, no. 4 (2010): 107-129. https://onlinelibrary.wiley.com/doi/abs/10.2202/1944-2866.1075

[122] To clarify, the Kazakhstan people are not entirely shut off from the worldwide web. As with any form of isolation, digital or otherwise, foreign influence always finds a way into the country. In this case, the influence comes from western technology, business and, most notably, Russian servers and digital infrastructure. Simply speaking, the sense of globalism online within Kazakhstan is not nearly as strong as with other, more digitally open countries.

[123] Ibid, 118.

[124] Ibid, 126.

Internet to express their cultural identity and uniqueness. Younger generations do this in order to develop a Kazakhstani identity, separated from Russia.[125] This identity is important for all Kazakhstani citizens to foster because it can help determine the character of the country's digital policy. The fact that citizens are developing this identity online is important for one to consider when looking at the cultural compatibility for an innovative digital policy.

Evidently, Kazakhstan's digital isolation has detrimental effects on its fabricated digital culture in the long term. The Internet inherently operates as a globalizing tool, connecting individuals and ideas around the world.[126] While governments can use it for authoritarian and restrictive purposes, the online realm flourishes with minimal barriers of accessibility. The Kazakhstani government seemingly closes the Internet off to the rest of the world, allowing Kazakhstan to own their unique portion of the Internet.[127] This cultural entitlement to the worldwide web goes directly against the worldwide aspect of it. Kazakhstan's digital isolation is parallel to that of China. While economic incentives

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[125] The specific ethnic tensions between Kazakhstan and Russia regarding national identity will be discussed in a later section on Kazakhstani-Russian relations.

[126] Akca, Hasan, Murat Sayili, and Kemal Esengun. "Challenge of rural people to reduce digital divide in the globalized world: Theory and practice." *Government Information Quarterly* 24, no. 2 (2007): 404-413. PDF File.

[127] Shklovski, Irina, and David M. Struthers. "Of states and borders on the Internet: The role of domain name extensions in expressions of nationalism online in Kazakhstan." *Policy & Internet* 2, no. 4 (2010): 126. https://onlinelibrary.wiley.com/doi/abs/10.2202/1944-2866.1075.

This references Shklovski's survey responses in which Kazakhstani Internet users frequently used the words "our" and "we" to refer to the Internet and online activities.

drive the country's digital expansion, the Chinese government notably isolates its people from the outside world and online information, just like Kazakhstan.[128] This isolation and sense of digital ownership, creates a resurgence of nationalism in both China and Kazakhstan.[129] Kazakhstani cultural entitlement to the worldwide web goes directly against its very purpose and many of the values the Internet espouses.

Citizens of Kazakhstan are certainly more active on the Internet than those in Ukraine, bolstering impressive usage numbers and expressing their national identity on social networks or online news outlets. This, in turn, creates a unique brand of civic engagement between Kazakhstani across the country. The Internet has allowed various groups, both mundane and political, to share goods and information with one another.[130] It is worth noting that, while there is certainly a digital divide within the country, it is not as prominent as Ukraine's digital divide. Individuals living in both rural and urban areas are able to digitally spread goods, services, and information between one another without much difficulty.[131]

The downside to this increase in civic engagement online is that the national government regulates nearly all civic engagement online. All reported instances of civic engagement online are those that the government permits. The tragic part is, if

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[128] Jiang, Min. "Authoritarian informationalism: China's approach to Internet sovereignty." *SAIS Review of International Affairs*30, no. 2 (2010): 71-89. PDF File.

[129] Breslin, Shaun, and Simon Shen. "Online Chinese nationalism." *Asia Programme Paper: ASP* 3 (2010).

[130] Shklovski, Irina, and Bjarki Valtysson. "Secretly political: Civic engagement in online publics in Kazakhstan." *Journal of Broadcasting & Electronic Media* 56, no. 3 (2012): 424. https://www.tandfonline.com/doi/abs/10.1080/08838151.2012.705196.

[131] Ibid, 418.

Kazakhstan exhibits these subtle hints of digital civic engagement even amidst an authoritarian digital policy, then it would likely flourish under less restrictive digital policy.

As Nazarbayev's quote at the beginning of this chapter indicates, the national government is taking an active role in preserving its particular Kazakhstani culture and attempting to propel the nation into the digital age. The government has instituted a number of long-term plans to enhance Kazakhstani digital culture. In 2017 the government instituted the "Digital Kazakhstan" program to help drive the promises of "Kazakhstan 2050." This program consists of four objectives: developing extensive online business transaction within the country, increasing digital literacy and creativity, making industries digitally competitive, and improving Internet accessibility.[132] In sum, "Digital Kazakhstan" does aspire to develop an expansive digital culture, but only to the point of profitability, within the country. Most of the program's minimal success occurred in the economic sector, which I will discuss in the next section. The program's slow implementation and lofty goals made "Digital Kazakhstan" achieve mixed success.

Another area of "Digital Kazakhstan's" success comes from educational reforms. Since 2010, with the creation of Nazarbayev University in Astana, Kazakhstan has transitioned from a national education system to a globally competitive model.[133]

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[132] Bertelsmann Transformation Index. "Kazakhstan." *World* 80, no. 100 (2006): 120. https://www.irex.org/sites/default/files/pdf/media-sustainability-index-europe-eurasia-2018-kazakhstan.pdf.

[133] Koch, Natalie. "The shifting geopolitics of higher education: Inter nationalizing elite universities in Kazakhstan, Saudi Arabia, and beyond." *Geoforum* 56 (2014): 49. PDF.

Nazarbayev sought to enhance Kazakhstani education and develop a national university that is internationally competitive. In order to compete with other top global universities, Nazarbayev University naturally had to modernize its curriculum and facilities.[134] Many of these competitive improvements entailed the Internet and computers in one way or another. The web gives students access to unlimited information for their studies, as well as directly provides avenues into numerous professions, such as graphic design and computer science. This new digital culture on campus naturally affects the greater growth of digital culture in Kazakhstan. Of course, it is important to remember that Nazarbayev University received its name for a reason, and while there is cultural promise, Nazarbayev's administration controls all this promise. If Kazakhstan is to achieve a successful digital future, the national government cannot unconditionally control the country's culture online. While central control is important for the literal expansion of infrastructure and policy, central control of the fabricated digital culture that is pervasive limits the success and popularity of such expansion. As active and promising as it may be, at the end of the day, the national government limits Kazakhstan's digital culture.

Resources, Revenue, and Reboots

As is the case with most policy, a major proponent of digital policy's success is money. Money allows lobbyists to advertise the policy to the public, improving its popularity, and invest in projects surrounding the policy. Kazakhstan's digital policy is no different. While the cultural and political incentives not clearly forward Kazakhstani digital policy and expansion, economics are the driving forces behind the country's

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[134] Ibid, 50.

digital growth. Since independence, Kazakhstan's economy has improved tremendously

over the past few years. In 2016, Kazakhstan exported around $37.26 billion dollars

worth of goods, compared to $49.29 billion in 2017.[135] Of course, in a resource rich

country, such as Kazakhstan, many of these exports are natural resources, notably oil,

minerals, and metals. In addition, Kazakhstan's GDP per capita stands at around $26,300,

which is far more than Ukraine's GDP per capita and is seven-thousand dollars short of

Estonia's GDP per capita, which is a small difference.[136] As an emerging market,

Kazakhstan, and central Asia as a whole, has gathered international attention.

This drive for business has subsequently driven Kazakhstani digital policy. The

highly lucrative oil and gas industries have drawn many international businesses to the

region, many of which had Russian origins. Today, Russia is still a major investor in

Kazakhstan, making up around 39% of Kazakhstan's imports, as of 2017.[137] Russia, in

turn, is primarily responsible for exporting Kazakhstan's oil throughout the world, most

notably in Europe.[138] However, the other major players in Kazakhstani's oil industry,

China and the United States, are gradually increasing their business with Kazakhstan. In

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[135] "Central Asia: Kazakhstan."*The World Factbook 2016-2017*. Washington, DC: *Central Intelligence Agency,* (2017). https://www.cia.gov/library/publications/the-world-factbook/index.html.

[136] Ibid.

It also should be noted that Kazakhstan has a substantially larger population than Estonia's population, standing at around 18 million whereas Estonia has a population of around 1.2 million.

[137] Ibid.

[138] İpek, Pinar. "The role of oil and gas in Kazakhstan's foreign policy: Looking east or west?." *Europe-Asia Studies* 59, no. 7 (2007): 1180. PDF File.

the early years of Kazakhstan, "Nazarbayev turned to major Western oil companies. His main strategy was to diversify sources of funding to safeguard economic stability."[139] As a result of these diversifications, Kazakhstan has maintained a stable balance of economic power between Russia, America, and China within the country.

Of course, this economic diversification is only possible through efficient data processing and communication which the Internet, under state owned enterprises, helps facilitate. Today, Russian and English are the most popular languages online, behind native Kazakh.[140] One is the language of Kazakhstan's closest business investor and the other language is the language of global commerce. The linguistic character of digital Kazakhstan showcases how Kazakhstani economic interests directly affect the online environment.

Moreover, Kazakhstan has experienced a widespread increase in Information and Communication Technologies (ICT). The growth of these technologies seems to correlate with economic development and investment in Kazakhstan.[141] While the country still lags behind in digital infrastructure overall, Kazakhstan's digital commerce and ICT has improved tremendously over the past fifteen years.[142] It is also interesting to note, that

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[139] Ibid, 1184.

[140] Shklovski, Irina, and David M. Struthers. "Of states and borders on the Internet: The role of domain name extensions in expressions of nationalism online in Kazakhstan." *Policy & Internet* 2, no. 4 (2010): 107-129.

[141] Berdykulova, Galiya Mertai Kyzy, Azat Ismagul Uly Sailov, Shynar Ydyrysh Kyzy Kaliazhdarova, and Erlan Baglan Uly Berdykulov. "The emerging digital economy: case of Kazakhstan." *Procedia-Social and Behavioral Sciences* 109 (2014): 1287-1291.

[142] Ibid 1290.

This excludes data from 2015 onward.

while ICT has expanded significantly within Kazakhstan, general Information

Technology (IT) growth rates are comparatively slower.[143] The difference lies in the fact

that ICT specifically involves communications technology, which IT does not necessarily

focus on as general information technology. This is likely because the communications

technology is necessary for various business transactions as well as personal use, which is

marketable. The purposes of ICT directly correlate with Nazarbayev's strong emphasis

on economic digitization. It is worth noting that this focus on ICT might limit

Kazakhstani digital growth in the long run, as the national government prioritizes

business and communication technology ahead of other technologies. Ideally, the country

would balance the need for all kinds of technology, including business, social, industrial,

and political technology. The Kazakhstani national government might be skeptical to

developing technologies because they potentially go against the government's agenda,

while business technologies offer pure economy benefits.

Despite this, some scholars theorize that the economic pressures foreign nations

place on Kazakhstan might be strong enough to alter the central administration's stance

on the culture and politics of the Internet.[144] The United States, Russia, and China are no

strangers to using economic coercion for social change. For the time being, Russia and

China are not necessarily concerned with Kazakhstan's domestic politics. The United

States, and other western investors, however, are keeping a watchful eye on

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[143] Ibid, 1289.

[144] Almadiyev, B. B. "Kazakhstan and America: the Frontiers of Energy Diplomacy." *European Researcher* 94, no. 5 (2015): 356-364. Print.

Kazakhstan.[145] While Russia is still Kazakhstan's primary business partner, the United

States has played an instrumental role in the country's ascension to the World Trade

Organization (WTO) and invested heavily in Kazakhstan's oil industry.[146] As the United

States invest in Kazakhstan, Kazakhstan becomes more invested in the United States,

making questions over human rights and authoritarianism even more important for the

country to address.

Presently, the United States are working closely with Kazakhstan on developing

the digital business sector. In 2017, Kazakhstani Prime Minister, Bakhytzhan Sagintayev

visited Silicon Valley with American officials to develop digital cooperation in business

with some of the United States most influential businesses, including Tesla and

Chevron.[147] The Prime Minister even signed memoranda with some of these companies

so that they will assist in Kazakhstan's digital development. To underscore this desire for

economic development online, the two countries agreed on opening the Representative

Office of Kazakhstan in the Silicon Valley to better facilitate the government's business

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[145] Rywkin, Michael. "Stability and Security in Central Asia: Engaging
Kazakhstan." *American Foreign Policy Interests* 28, no. 6 (2006): 451-458. Print.

It's worth noting that starting in the early 2010s, American has reached out to Kazakhstan
regarding diplomatic relations and, most notably, economic agreements. It seems as if the
initial "watchful eye" has taken up a more active role in Kazakhstani relations.

[146] Nichol, Jim. "Kazakhstan: Recent Developments and US Interests. *Library of
Congress Congressional Research Service.* Washington D.C: E, (2013).
https://apps.dtic.mil/docs/citations/ADA589533

[147] Orazgaliyeva, Malika. "Kazakh PM promotes IT cooperation during U.S.
visit." *Astana Times*. Astana, KZ: (2019). https://astanatimes.com/2017/04/kazakh-pm-
promotes-it-cooperation-during-u-s-visit/.

transactions with the aforementioned companies.[148]

The United States have seemingly moved beyond a mere trading partner with Kazakhstan and has now began to closely facilitate Kazakhstani digital development. Some scholars surmise that this is enough for Kazakhstan to move beyond an authoritarian digital policy and develop an open data policy.[149] While this supposition remains to be seen, the expansion of Kazakhstani markets online, specifically in the oil and mineral industry, have radically changed the country's foreign relations. The Internet has made it easier for Kazakhstan to conduct business beyond central Asia. As a result, Kazakhstan is highly interested in developing the digital sector. Of course, these economic incentives may not necessarily be enough to radically change Kazakhstani digital policy for the better. Another question to consider is what kind of implications the digital economic growth has on of Kazakhstan-Russian relations and if Russia will allow that development to continue.

Russia's Little Brother

With these political, cultural and economic factors in mind, one must examine how Kazakhstan's relationship with Russia shapes Kazakhstani digital policy. As previously noted, Russia plays an important role in Kazakhstan's economy, the status of which determines the country's digital policy. The same holds true for Russia's role in

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[148] Ibid.

[149] Kassen, Maxat. "Open data in Kazakhstan: incentives, implementation and challenges." *Information Technology & People* 30, no. 2 (2017): 321. https://www.researchgate.net/profile/Maxat_Kassen/publication/316338740_Open_data_i n_Kazakhstan_incentives_implementation_and_challenges/links/5ac7603d0f7e9bcd5193 3e43/Open-data-in-Kazakhstan-incentives-implementation-and-challenges.pdf

Kazakhstani politics and culture. While Ukraine's relations with Russia are highly

volatile and tenuous, Kazakhstan has maintained an overall amicable relationship with its

former Soviet brother. Nazarbayev largely perpetuates these friendly ties to Russia and

Kazakhstani people do not easily forget their Soviet past. After all, the current

Kazakhstani president served as the First Secretary of the Communist Party in Soviet

Kazakhstan and the two are the major movers of the Eurasian Economic Union and its

respective policy.[150] These strong administrative ties to the former Soviet Union

understandably play a role in Kazakhstan's relations with Russia.

The long history of Russian-Kazakhstani fellowship irreparably links the two

cultures. Kazakhstan was one of the first states to join the Soviet Union and the last to

declare independence. Russian culture is already irreparably linked with Kazakhstan.[151]

Even before the Soviet Union, Kazakhstan was under the Russian Empire's control in the

eighteenth century.[152] Today, Russians make up nearly 24% of the country's population

and they are the second largest demographic in the country.[153] Their presence, as with

any minority, is magnified online along with the power of native Russian networks and

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[150] Isaacs, Rico. "'Papa'–Nursultan Nazarbayev and the Discourse of Charismatic Leadership and Nation-Building in Post-Soviet Kazakhstan." *Studies in Ethnicity and Nationalism* 10, no. 3 (2010): 435-452.

[151] Surucu, Cengiz. "Modernity, nationalism, resistance: identity politics in post-Soviet Kazakhstan." *Central Asian Survey* 21, no. 4 (2002): 385. https://www.tandfonline.com/doi/pdf/10.1080/0263493032000053208

[152] Kappeler, Andreas. *The Russian empire: A multi-ethnic history*. Routledge, (2014): 44.

[153] "Central Asia: Kazakhstan."*The World Factbook 2016-2017*. Washington, DC: Central Intelligence Agency, (2017). https://www.cia.gov/library/publications/the-world-factbook/index.html.

those living in Russia.[154] They seemingly undermine any sort of distinction between Russian and Kazakhstani borders, both literally and digitally.

As a result, Kazakhstan's digital policy takes on a character eerily similar to its neighbor. It is no coincidence that, since independence, Nazarbayev's regime has maintained steady power over the country. Nor is it a coincidence that his digital policy is strikingly similar to Russia's digital policy under Putin. Both prioritize strict political censorship, fostering a fabricated digital culture forged in nationalism, and economic benefits digital development has to offer.[155] The two countries share similar models of governance and a similar history, making relations relatively cordial between the two.

A major component of these strong relations is rooted in economic ties. While Kazakhstan is making an effort to diversify its economy and foreign investments, Russia is still the country's primary trading partner.[156] Kazakhstan and Russia are both two of the five members of the Eurasian Economic Union. Established in 2014, the Eurasian Economic Union operates similar to the European Union. The economic coalition provides for the free movement of goods, people, and capital, creating a single market

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[154] Saunders, R. A. "A Marooned Diaspora: Ethnic Russians in the near abroad and their impact on Russia's foreign policy and domestic politics." In R. Koslowski (Ed.) *Internationa migration and globalization of domestic politics*. London: Routledge (2013): 188

[155] Gehlbach, Scott. "Reflections on Putin and the Media." *Post-Soviet Affairs* 26, no. 1 (2010): 85.

As the title assumes, this is a focus on Putin and the digital media, not Nazarbayev. Though Nazarbayev's digital policy has already been discussed in depth this chapter.

[156] "Central Asia: Kazakhstan."*The World Factbook 2016-2017*. Washington, DC: Central Intelligence Agency, (2017). https://www.cia.gov/library/publications/the-world-factbook/index.html.

structure for the five member states.[157] This intrinsically links the economies of Russia and Kazakhstan. Moreover, this union establishes political and cultural links, as the two countries must coordinate policy and deregulate interstate travel. The Russian economy dominates this coalition and, as a result, has an implicit say in Kazakhstan domestic economic policy, including digital policy.

Moreover, Russia influences Kazakhstani digital policy directly through channels outside of economic power. Russia simply dominates the digital infrastructure of Kazakhstan. Not only do they provide a significant cultural and linguistic influence online, Russians are also responsible for supplying Kazakhstan with hardware, funding, and applications.[158] This naturally gives Russia leverage over Kazakhstani digital policy. Kazakhstani digital expansion is, in many ways, dictated by Russia's willingness to provide hardware and necessary funding.

While Russia and Kazakhstan remain, overall, cordial with one another, they still conflict over certain foreign relations. Evidently, the Internet and digital policy both exacerbate these small tensions. The most obvious point of tension is Kazakhstan's increasing cooperation with the United States and the country's market expansion.[159] For many years, Russia enjoyed largely exclusive access to the wealth of natural resources

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[157] Vinokurov, Evgeny. "Eurasian Economic Union: Current state and preliminary results." *Russian Journal of Economics* 3, no. 1 (2017). https://www.sciencedirect.com/science/article/pii/S2405473917300041

[158] Shklovski, Irina, and David M. Struthers. "Of states and borders on the Internet: The role of domain name extensions in expressions of nationalism online in Kazakhstan." *Policy & Internet* 2, no. 4 (2010): 118.

[159] İpek, Pinar. "The role of oil and gas in Kazakhstan's foreign policy: Looking east or west?." *Europe-Asia Studies* 59, no. 7 (2007): 1182.

contained within Kazakhstan. However, Nazarbayev has deliberately sought to foster

relations with other economically competitive nations, thus limited Russia's exclusive

access.[160] While there have not been any consequences of this relationship yet, Russia is

certainly keeping a watchful eye on Kazakhstan.

Even more importantly, however, is Kazakhstan's unique brand of nationalism

that has arisen online. While Nazarbayev promotes a Kazakhstani national identity

online, younger generations are beginning to express strong ethnic pride using the

Internet. This newfound nationalism takes the form of content creation that either

promotes Kazakhstani values or undermines a Kazakhstani-Russian identity. Younger

generations tend to solely post in native Kazakh rather than Russian, which is much more

popular worldwide. Part of this may be an unintended consequence of the country's

digital isolation under Nazarbayev. These two forces are gradually weakening a Russian

call for common "Eurasianism."[161] As Kazakhstan gradually develops its own digital

infrastructure, Russia has less control over online culture. While Russia seeks to

informally destroy barriers between the two countries, Kazakhstani citizens are beginning

to claim their own digital sovereignty.[162] The digital realm is rapidly changing the

relations between Kazakhstan and Russia. While Ukraine has already experienced the

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[160] Ibid, 1180.

[161] Saunders, R. A. "A Marooned Diaspora: Ethnic Russians in the near abroad and their impact on Russia's foreign policy and domestic politics." In R. Koslowski (Ed.) *Internationa migration and globalization of domestic politics* London: Routledge, (2004). 122.

[162] Shklovski, Irina, and David M. Struthers. "Of states and borders on the Internet: The role of domain name extensions in expressions of nationalism online in Kazakhstan." *Policy & Internet* 2, no. 4 (2010): 126. https://onlinelibrary.wiley.com/doi/abs/10.2202/1944-2866.1075.

monumental effects the Internet has on its relation with Russia, Kazakhstan is only just

beginning to discover these effects.

Conclusion

Upon examining the political, cultural, and economic incentives surrounding

Kazakhstani digital policy, one finds that, in its current state, Kazakhstani digital policy is

rather underdeveloped and limited. The primary barrier to its growth is Nazarbayev's

strict authoritarian oversight of the digital world. Political censorship and fabricated

nationalism cut off digital Kazakhstan from the outside world. The Internet is best used to

establish plurality and internationalism, yet, the Kazakhstani government uses it for the

opposite effects. Simply put, as long as Nazarbayev controls the Kazakhstani Internet, the

country will not reach its digital potential. Economics can only propel digital expansion

so far. Politically, Kazakhstani digital policy is far from impressive.

Culturally, the picture is a bit more complicated. Through online channels,

Kazakhstan has developed a newfound national identity and pride. Linguistically, the

number of websites in native Kazakh have increased and younger generations are

identifying more with a Kazakh national culture. These younger generations also play an

integral role in forwarding Kazakhstani digital policy, as educational opportunities which

promote online use increase. This new national culture online occurs in wake of a strange

breaking point between Russia and Kazakhstan. As the two countries share significant

historical ties, Russia largely seeks to maintain "Eurasianism" between the two. This is

best achieved online. As both Russia and Nazarbayev forward their own forms of digital

environment, one must ask if the environment is genuine. The fabricated digital culture of

Kazakhstan means digital policy is not reacting to the needs of the country and, instead,

is reacting to the preferences of the Russian and Kazakhstani national governments.

Economics are the clear driving force for Kazakhstani digital policy. Unlike politics and culture, there is little moral ambiguity to business, as profit is the primary goal. Either an individual gains or loses wealth. The Internet undoubtedly increases profit, minimizing transaction costs and expanding the market. Today, countries around the world seek a share of Kazakhstan's many valuable resources and the central government hopes to use the Internet to capitalize on this demand. The country focuses on developing digital infrastructure insofar as it improves the Kazakhstani economy. Kazakhstani eagerly desires economic modernization and even works with political and economic rivals of Russia to achieve this.

Unlike Ukraine, Kazakhstan has already committed to the character of its digital policy. The problem is that this commitment inherently limits development. While money certainly makes digital policy expansion incentivizing, Nazarbayev's administration has firmly committed to an underdeveloped authoritarian digital policy, showing no signs of changing. The Internet is far more than an economic tool, it is an artistic and political tool. Kazakhstan simply cannot maintain a desirable level of digital expansion if it solely adopts an economic digital policy.

CHAPTER FOUR

Estonia — Standing at the Forefront of Digital Policy

"I've come here today because Estonia is one of the greatest success stories among the nations that reclaimed their independence after the Cold War. You've built a vibrant democracy and new prosperity, and you've become a model for how citizens can interact with their government in the 21st century, something President Ilves has championed. With their digital IDs, Estonians can use their smart phones to get just about anything done online—from their children's grades to their health records. I should've called the Estonians when we were setting up our health care website" — Barack Obama[163]

President Obama's remarks certainly underscore the importance of Estonia's

digital identity. As one of the first Soviet republics to declare independence, Estonia

clearly yearned for sovereignty and the creation of a national identity. Today, this identity

is one forged in the Digital Age, rooted in ideas of efficiency, globalization, and

expression, all of which the Internet promotes. The development of this digital identity is

a key difference between Estonia and the other two case studies. While Ukraine and

Kazakhstan hesitate to adopt a digital identity, Estonia commits wholeheartedly. The very

fact that an American President praises the advances of this former Soviet State is, in

itself, indicative of Estonia's success in combining the online world with a national

culture. However, as this chapter will examine, Estonia's rapid digitization was not a

miracle, but a result of calculated and, more importantly, enthusiastic efforts to become

digital society. These efforts include creating a successful and comprehensive digital

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[163] Obama, Barack. "Remarks by President Obama and President Ilves of Estonia in Joint Press Conference." *Whitehouse Archives*. Washington DC, (September 2014). https://obamawhitehouse.archives.gov/the-press-office/2014/09/03/remarks-president-obama-and-president-ilves-estonia-joint-press-confer-0

policy which perfectly integrates itself into nearly all aspects of every day life in Estonia.

Introduction

This chapter on Estonia will examine the political, cultural, and economic incentives that play a role in Estonia's digital policy. Estonia successfully answers questions on political participation online, digital banking, and the value of Internet access. The Baltic state stands out as a radical outlier regarding the digital policy of former Soviet states. Estonia has already shown impressive digital growth, competing with the likes of South Korea, Sweden, and the United States for digital dominance. Not only does the country's online usage and growth numbers far exceed those of its former Soviet brothers, Estonia competes with countries that many consider to be at the forefront of technological development. Estonia singlehandedly destroys the preconceived notion of a digitally underdeveloped Eastern Europe. Estonia has readily adopted digital policy and Internet Communications Technology (ICT) expansion "as a symbol for leaving the Soviet past behind, and as an indicator of Estonian society and economy opening up towards the West."[164] For Estonians, the Internet constitutes an important part of their cultural identity. This cultural valuing of the Internet is precisely what allows Estonia to develop a well-rounded and thorough digital infrastructure.

While Ukraine lacks any sort of digital identity and Kazakhstan adopted a controlled digital identity, Estonia has wholeheartedly adopted one rooted in liberal

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[164] Kattel, Rainer, and Ines Mergel. "Estonia's digital transformation: Mission mystique and the hiding hand." *UCL Institute for Innovation and Public Purpose working Paper Series (IIPP WP 2018-09)* (2018). https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp-wp-2018-09_estonias_digital_transformation.pdf

ideals. This liberal character helps the country bolster impressive usage numbers and activity.[165] The vibrant online community Estonia promotes, in turns, affects the political and economic facets of digital society. The country has made significant developments in Internet banking and electronic ballot casting which are revolutionary, even by global standards.[166] These revolutionary developments are rooted in the unique digital culture of the country.

Of course, one cannot ignore the role Russia and, more importantly, a Soviet past, plays in Estonia's digital development. Upon examination, one discovers that Estonia has entirely cast aside its Soviet past, marred with censorship, oppression, and tragedy, in efforts to freely forge the country's future.[167] While this rejection of Soviet and, by extension, Russian heritage is certainly favorable to the growth of Estonian digital policy, Russia still plays an important role in the developments. Most notably, Russia has conducted a number of attempts to undermine Estonia's digital infrastructure using digital warfare tactics. Initially struggling to combat these threats, digital security is of paramount importance for the national government. Even through these attacks, Estonia has remained steadfast in its commitment to a digital culture and a national digital

[165] "Internet Usage in Europe." *Internet World Stats: Usage and Population Statistics*. (2018). https://www.Internetworldstats.com/stats4.htm

[166] Kalvet, Tarmo. "Innovation: a factor explaining e-government success in Estonia." *Electronic Government, an International Journal* 9, no. 2 (2012): 156.

[167] Galbreath, David J. *Nation-building and minority politics in post-socialist states: interests, influence and identities in Estonia and Latvia*. Vol. 8. Columbia University Press, (2005): 285.

identity.[168]

E-Estonia and Experiments in Online Governance

The best example of Estonia's digital development in the political realm is the

country's "E-Estonia" program. This comprehensive program represents the pinnacle of

digital policy, as it seeks to facilitate all manner of citizen interests online, from voting

and taxes to schools and business transactions.[169] Naturally, this program's sweeping

policy efforts are closely related to political, cultural, and economic incentives. This

chapter will discuss "E-Estonia" throughout each section, examining the program's

respective policy facets.

Perhaps the most important and controversial aspect of "E-Estonia" is the

electronic voting. Estonia has steadily implemented electronic voting in various elections,

taking the national stage in the 2007 parliamentary election. Estonia is one of the first

countries to consistently implement these electronic voting systems on a national scale,

although some countries have allowed digital voting at an inconsistent or local basis.[170]

Estonia's national online voting system sets a precedent for other countries to follow and

is a testament to the country's digital progressiveness. Of course, it is still possible for

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[168] Ottis, Rain. "Analysis of the 2007 cyber attacks against Estonia from the information warfare perspective." In *Proceedings of the 7th European Conference on Information Warfare* (2008): 163.

[169] Mansel, Tim. "How Estonia became E-Estonia." *BBC News.* (May 2013). https://www.bbc.com/news/business-22317297.

[170] Kohno, Tadayoshi, Adam Stubblefield, Aviel D. Rubin, and Dan S. Wallach. "Analysis of an electronic voting system." In *IEEE Symposium on Security and Privacy, 2004. Proceedings. 2004*, IEEE (2004): 27-40. https://www.cs.cornell.edu/people/egs/cornellonly/syslunch/fall03/voting.pdf

citizens to vote in person, but, as of 2015, nearly 35% of Estonians cast their votes online.[171] Online voting, though not the primary method for voting in Estonia, constitutes a major part of voter turnout and, as a result, directly improves Estonia's political participation.

Like any new technology or policy, there are still some questions critics raise about the efficacy of electronic voting. "One must nevertheless bear in mind the drawbacks of e-voting associated in particular with the security of casting and counting votes in elections and referendums."[172] All national governments must grapple with potential security ramifications that accompany online voting. Another issue to keep in mind is how these electronic voting systems might affect the digital divide. These sorts of questions dominated discussions in Estonia's national parliament and courts during the program's formative years in the early 2000s.[173] These debates took place when Estonia's desire to join the European Union was growing. The maintenance of fair and secure elections was certainly an important point of EU accession, which made discussions on the efficacy Estonia's digital voting system even more pressing.

Estonia answered questions on digital voting security and fairness with the implementation of specialized identification cards. In Estonia, every citizen has an ID

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[171] "Statistics on Internet Voting: Voting Methods in Estonia." *Estonian National Electoral Committee* (2017). http://www.vvk.ee/voting-methods-in-estonia/engindex/statistics.

[172] Vinkel, Priit, and Robert Krimmer. "The how and why to Internet voting an attempt to explain E-Estonia." In *International Joint Conference on Electronic Voting*, pp. 103. Springer, Cham, (2016).

[173] Ibid, 6.

card with an identification code and encryptions to keep users' data secure.[174] Citizens

can vote online if they have a computer with an appropriate card reader and software.

They must enter in their PIN and signature multiple times throughout the process and, at

the end of the election, the software code separates voter signatures from the ballots and

election officials tally online votes after the paper ballots have been counted.[175] This

security system complies with the United Nations Covenant on Civil and Political Rights

(ICCPR).[176] The Estonian public, as well as the international community, has seemingly

accepted Estonian security measures for online elections. This acceptance shows that

Estonia's digital voting system, in addition to being ahead of its time, is also one that

other nations can reference when expanding their respective digital voting systems,

making Estonia an impressive pioneer of online voting.

Bridging the digital divide was far more difficult for the Estonian government to

solve, as it involves broader changes in national infrastructure. The costly software and

hardware one needs to vote online makes it difficult for those of lower socioeconomic

statuses unlikely to vote using Estonia's online system. On the other hand, wealthy

individuals, who have easy access to the costly computers and software, may vote at any

hour during the election. This is a special convenience that those who vote in person

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[174] Meagher, Sutton. "When personal computers are transformed into ballot boxes: How Internet elections in Estonia comply with the United Nations international covenant on civil and political rights." *Am. U. Int'l L. Rev.* 23 (2007): 357.

[175] Ibid, 358.

It is worth keeping in mind that the software does keep track of who voted using the online database but it cannot connect a particular voter to a particular ballot.

[176] Ibid, 367.

cannot afford.

As a relatively new nation, Estonia naturally grappled with this divide. However, since 2001, the country has implemented a national training program for Internet use and the "Village Road" project which expands Estonia's public digital infrastructure.[177] This elevates accessibility for those who cannot afford it.

Estonia has also tackled the digital voting divide from the other side, minimizing the advantages and conveniences of electronic voting. Online voters are only allowed to vote from the fourth through sixth days of the election, giving them no substantial time advantage.[178] Moreover, the digital divide is not as large as it is in the likes of Ukraine and Kazakhstan, as over 97% of Estonians have access to the Internet and computers as of 2018.[179] The country has clearly made Internet access a priority for its people and the digital divide largely does not exist within the country. The country has instituted a number of programs that develop public spaces where citizens can access the Internet, making questions over voting accessibility nonexistent.[180]

Of course, digital voting is predicated upon Estonian citizenship, which is

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[177] Maaten, Epp. "Towards remote e-voting: Estonian case." *Electronic Voting in Europe-Technology, Law, Politics and Society* 47 (2004): 89.

[178] Meagher, Sutton. "When personal computers are transformed into ballot boxes: How Internet elections in Estonia comply with the United Nations international covenant on civil and political rights." *Am. U. Int'l L. Rev.* 23 (2007): 375. PDF File.

[179] "Internet Usage in Europe." *Internet World Stats: Usage and Population Statistics*. 7 Jul. 2018. 15 Feb. 2019. https://www.Internetworldstats.com/stats4.htm

[180] Meagher, Sutton. "When personal computers are transformed into ballot boxes: How Internet elections in Estonia comply with the United Nations international covenant on civil and political rights." *Am. U. Int'l L. Rev.* 23 (2007): 378.

something else the "E-Estonia" program addresses. The "E-Estonia" project is committed to e-residency, in addition to voting.[181] E-residency grants Estonian citizens the ability to access nearly all public services online, regardless of their location in the world. E-residents receive the aforementioned digital identification card which "enables commercial activities with the public and private sectors. It does not provide citizenship in its traditional sense, and the e-ID provided to e-Residents is not a travel document."[182] This e-residency program has several political implications. Firstly, the idea of e-residency, though not technically citizenship, effectively tears down conventional ideas borders and the physical limitations of a country. Estonians are residents in their home country even if they are not currently there.

In their work on the implications of e-residency, political theorist, Clare Sullivan, and Federal Communications Officer, Eric Burger, argue that Estonia's e-residency is precisely the kind of digital policy the European Union should seek to implement.[183] Accordingly, e-residency provides a decentralized means of accessing national services. E-residency in the European Union is perfectly compatible with the diverse European Union. Conceptually speaking, e-residency makes perfect sense in the European Union, as it is an institution that largely tears down border distinctions in efforts to create a broad European identity. E-residency fits within this narrative, as citizens are no longer required to be within their country's borders to access services.

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[181] "Success Stories." *E-Estonia*. https://e-estonia.com.

[182] Sullivan, Clare, and Eric Burger. "E-residency and blockchain." *Computer Law & Security Review* 33, no. 4 (2017): 470. http://www.arifsari.net/isma500course/project/19.pdf

[183] Ibid, 481.

Furthermore, e-residency and, by extension, "E-Estonia" drastically increases national online activity and the subsequent need for digitization of governmental services. E-residency allows individuals to pay their taxes and bills and to have access to medical resources or governmental information from anywhere in the world. Naturally, websites that provide such services must adjust and improve platform accessibility and keep the site up to date. While Kazakhstan and Ukraine both have governmental sites that are outdated and underused, Estonia's e-residency forces businesses or services to improve their digital infrastructure, in order to meet the demands of these e-residents. Moreover, a third and final consequence of this e-residency program is the effect it has on national identity. However, this will be discussed in a later section.

Overall, Estonia's digital policy's political effects are remarkably progressive and thorough. The "E-Estonia" project covers many aspects of digitization, including voting, banking, education and residency. Of these, the political parts of this policy, residency and voting, are revolutionary, even by global standards. As the first country to use digital voting on a national scale, Estonia answered many of the questions on security and fairness with relative success. Estonia is one of the first countries in the world to exhibit true e-governance, making the former Soviet state an unlikely pioneer of the digital age, setting itself apart from the rest of the world.[184]

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[184] Kitsing, Meelis. "Explaining the e-government success in Estonia." In *Proceedings of the 2008 international conference on Digital government research*, pp. 429-430. Digital Government Society of North America, (2008).

Cultural and Constitutional Rights to the Estonian Internet

The political successes of "E-Estonia" are only successes insofar as the public

readily uses these new online services. On the surface, this program seems very similar to

Nazarbayev's "Kazakhstan 2050."[185] Both projects are sweeping reforms that integrate

the Internet and the digital realm into the daily lives of citizens. Yet "E-Estonia"

triumphed where "Kazakhstan 2050" failed. Social enthusiasm and tradition dictated the

triumph of "E-Estonia." This section will examine how Estonia's standing culture drove

digital expansion and consider the role of social activity and expression presents itself

online.

Firstly, one must understand how Estonia's present culture is compatible with

digital expansion and encourages online activity and innovation. Estonia routinely ranks

high in NGO assessments of privacy rights,[186] freedom of the press, [187] and education,[188]

showcasing the high cultural value the Estonian community places on these subjects. All

of these values are conducive toward digital development. The Internet serves as an

efficient communications tool, allowing the press to easily distribute source material or

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[185] See previous chapter.

[186] Privacy International. "The 2007 International Privacy Rankings." *Privacy International.* (2008).

[187] Reporters without Borders. "Press Freedom Index 2008." *Reporters without Borders for Press Freedom.* (2008).
https://web.archive.org/web/20090607100340/http://www.rsf.org/en-classement794-2008.html

[188] United Nations Human Development Programme. "Statistics on the Human Development Report." United Nations Human Developent Programme. (2008). Accessed 14 Mar. 2019. http://hdr.undp.org/en/data.

citizens to educate themselves. Championing privacy rights also means online security is a paramount concern for Estonia.

Estonian culture and digital policy became intertwined in 2000, as the Estonian government declared Internet access a human right, as citizens had already begun to flock toward online channels.[189] The first thing that one should note is how early Estonia adopted this act. In the year 2000, social media was in its infancy, AOL was the largest Internet service provider, and Estonia had only just celebrated a decade of independence from the Soviet Union. Estonia proclaiming Internet access as a constitutional right was a never before seen action and is still a revolutionary idea even today.[190]

This radical policy has had a profound impact on Estonian culture and pride. Because the Internet was declared a human right in the country, citizens have gravitated to the digital realm even more so than before. This is reflected in the percentage of Internet users in Estonia, and the country ranks among the highest in the world.[191] Moreover the country has very little censorship and limits to user access. In 2018, Freedomhouse gave Estonia an Internet Freedom Score of six on a one hundred-point

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[189] Tăbușcă, Silvia. "The Internet access as a fundamental right." *Journal of Information Systems and Operations Management*4, no. 2 (2010): 208. ftp://ftp.repec.org/opt/ReDIF/RePEc/rau/jisomg/WI10/JISOM-WI10-A21.pdf.

[190] Ibid, 209.

Other countries to proclaim Internet as a human right include Finland, Spain and France. Its worth noting that, after Estonia, France's Constitutional Council was the next country to proclaim the Internet as a right in 2009, almost a decade after Estonia had done so.

[191] "Internet Usage in Europe." *Internet World Stats: Usage and Population Statistics*. (2018). https://www.Internetworldstats.com/stats4.htm

scale (a score of zero is the most free and a score of one-hundred is the least free).[192] As this score indicates, Estonians are able to access and upload digital content without virtually any restrictions. In fact, Estonia's digital environment flourishes, as Estonians use the Internet more than the average citizen of the European Union.[193] The fact that the public adopted a digital identity pushed the Internet's popularity to new heights. Without this popularity, digital development would not be an immediate issue for states to acknowledge, as is the case with Ukraine.

The effects of this public enthusiasm is already becoming evident from online behavior of Estonia's younger generations. Younger generations are increasingly more active in both using the Internet and also content creation.[194] Moreover, Estonian school children use the Internet to "ask for advice in homework-related issues while communicating with their peers on the web. A considerable number of students also downloads and uploads their homework, term papers and other study materials."[195] School children between the ages of eleven to eighteen display high levels of digital literacy in both their social and educational pursuits. Of course, this sort of trend goes

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[192] "Freedom of on the Net 2018: Estonia Country Report." *Freedomhouse* (2018)*.* Washington DC. https://freedomhouse.org/report/freedom-net/2018/estonia.

[193] "Individuals Using the Internet for Uploading Self-Created Content." *Eurostat* (2018). https://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1 &pcode=tin00030&language=en

[194] Kalmus, Veronika, Pille Pruulmann-Vengerfeldt, Pille Runnel, and Andra Siibak. "Mapping the terrain of "Generation C": Places and practices of online content creation among Estonian teenagers." *Journal of Computer-Mediated Communication* 14, no. 4 (2009): 1260.

[195] Ibid, 1276.

without saying in a perfectly developed digital society. In the United States, no one

would blink twice at these assertions. However, it is important to remember that Estonia

has not always been the digital powerhouse it once was. Once a minor part of the Soviet

Union, Estonia has rapidly developed into a digital society to the point where it is

impossible to distinguish between Estonian and American online youth culture today. In

contrast, educational and social policies of the Internet in Kazakhstan and Ukraine have

not gained the necessary traction. Estonia has been able to develop their own digital

identity and vibrant digital culture which Estonian youths readily adopt.

  The vibrant online culture was also facilitated, in part, due to the unique linguistic

nature of Estonia. Publically, Estonia is a multilingual society, throughout the country

there are many road signs, storefronts, and informational graphics that are displayed in

native Estonian, English, Russian, Ukrainian, and Finnish.[196] Moreover, many Estonians

today are bilingual. As of 2012, roughly 69% of the population speaks more than one

language, a majority of which speak Russian.[197] This culture of multilingualism is

perfectly compatible with rising digital age and global connections online. Put simply,

because of their multilingualism, one can suppose that Estonians have an easier time

adopting the digital world than other people in society with one spoken language.

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[196] Verschik, Anna. *Emerging bilingual speech: From monolingualism to code-copying.* A&C Black, 2011. 1,952.

The author ties this bilingualism to the end of the Cold War which will be discussed in greater depth in the section on Russia and the Soviet Union.

[197] "Native Languages Spoken in Estonia*." Estonian Population and Housing Census.* 30 Aug 2012. Web. 3 Mar 2019. https://www.stat.ee/64629

Another point that underscores Estonia's digital development is that this census site has the option to display the page in English.

In addition, since its development, the Internet and native digital developments play a role in Estonian national pride. Skype and Kazaa are the first truly Estonian products to be recognized on an international stage, and Estonians praise their digital innovation. While the development of these two platforms pale in comparison with the plethora of applications developed in Silicon Valley and Seoul, for the small Baltic country, their products are invaluable.[198] Both programs were developed in the early 2000s, a time when Estonia's modernization plans were just coming into full swing.[199] These platforms were, metaphorically speaking, Estonia's first major performance on the global stage, becoming highly successful applications across the world.

Not only does the digital realm develop national pride in Estonia, it also preserves national pride against fading memory. Within Estonia, there is a trend for "memory institutions," such as museums, archives, and libraries to preserve works of historical significance online.[200] In Estonia, a number of these institutions are expanding their online databases and making these institutional experiences digital. As of 2011, the Institute of the Estonian Language, the Estonian Literary Museum, and the National Archives of Estonia have all expanded their electronic catalogues and updated their databases to modern software, something many memory institutions across the world fail

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[198] Eisermann, Richard. "Estonia: The Start-Up Country." *Design Management Review* 25, no. 2 (2014): 22. https://onlinelibrary.wiley.com/doi/pdf/10.1111/drev.10277.

[199] Ibid, 22.

[200] Pruulmann-Vengerfeldt, Pille, and Agnes Aljas. "Digital cultural heritage– challenging museums, archives and users." *Journal of Ethnology and Folkloristics* 3, no. 1 (2011): 109-127.

to do.[201] Not only do these "memory institutions" better preserve works of historical significance, but they increase business and popularity because of the platform's accessibility. Of course, the bulk of profit comes from donations and in person visits, however the online platforms advertise exhibits and bolster interest in the institutions. Estonians can both be proud of what they have created on the Internet and they can be proud of what they have preserved on the Internet, making the digital realm invaluable to the country.

Culturally speaking, Estonia has wholeheartedly adopted the Digital Age and a digital identity. By maintaining the Internet as a human right, Estonia has created a comprehensive and active digital culture. Freedom of expression and content creation is unrestrained, as the digital realm changes the way art, music, education, and culture are spread throughout the country. Digital innovations have become a point of national pride for Estonia, and the country has taken on the informal mantle as the digital pioneer of the world. This small, young nation has accomplished all of these feats against insurmountable odds and has broken the stereotype of the backwards, oppressive former Soviet state.

Treasures Won and Lost

One must also consider the economic influence of Estonian digital policy and its subsequent successes. Having culturally invested in the digital realm, Estonia also economically invests in the area, as the Internet's popularity makes the digital realm a lucrative area of investment. In addition to the economic facets of the "E-Estonia"

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[201] Ibid, 116.

program, such as electronic tax systems and banking systems, Estonian companies have also made a name for themselves in the digital security sector. Placing high value in the digital realm allows businesses to flourish. The downside of this is that these businesses and lucrative Estonian platforms become the primary targets for hacking and cyber warfare.

Of course, since the early 2000s, with the development of Kazaa and Skype, Estonia has gained international attention for its digital industries. As of 2017, over 30% of Estonia's exports are either machinery or electrical equipment.[202] While this might not be surprising compared to other developed nations, one must again remember that the country of Estonia has not even existed a full three decades. Other former Soviet states experienced serious inflation and economic pitfalls after the fall of the Soviet Union. Some, even today, still suffer from economic turmoil.

While Kazakhstan and Ukraine primarily export raw materials and agriculture, Estonia is exporting manufactured goods. Moreover, these goods are going to fully modernized countries, such as Estonia's neighbors Finland and Sweden, along with Latvia, Germany and Russia.[203] What these statistics do not include are the digital goods, like Skype and Kazaa, which have been bought by larger foreign companies. Yet, if Estonia's electronic equipment industry is any indication, these goods likely sell just as frequently.

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[202] "Europe: Estonia." *The World Factbook 206-2017*. Washington, DC: Central Intelligence Agency, (2017). https://www.cia.gov/library/publications/the-world-factbook/geos/en.html

[203] Ibid.

Before examining how Estonia combats cyber warfare, one must first examine

why hackers wish to conduct such warfare in Estonia. The answer comes from the

electronic business and economic platforms Estonia highly values. Starting in 2000,

Estonian banks heavily invested in developing digital banking systems.[204] Three years

later, Internet banking had already grown to impressive heights. At that time, the private

bank Hansabank had over 397,000 users registered in the bank's online portal.[205] This is

an impressive number because, that year the Estonian population tallied at a little over 1.3

million people.[206] This means a little under a third of the Estonian population was register

for this one bank's online portal in 2003, showcasing how pervasive the digital world was

in Estonia. Moreover, these numbers are impressive even when compared with other

developed nations, such as the United States.

This focus on digital banking has transformed the Estonian economy. A major

topic of scholarly discussion is how Estonians have accepted digital banking with open

arms because of the services and conveniences the system provides the customers, as well

as their digital business model.[207] Moreover, this digital banking system seems to achieve

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[204] Kerem, Katri. *Internet banking in Estonia*. Vol. 7. PRAXIS, (2003): 10.

[205] Ibid, 11.

[206] "Population at the Beginning of the Year and Mean Annual Population by Sex and Age." *Statistics Estonia.* (2003). http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=PO0212&ti=POPULATION+AT+THE+BEGINNING+OF+THE+YEAR+AND+MEAN+ANNUAL+POPULATION+BY+SEX+AND+AGE&path=../I_Databas/Population/01Population_indicators_and_composition/04Population_figure_and_composition/&lang=1

[207] Eriksson, Kent, Katri Kerem, and Daniel Nilsson. "Customer acceptance of Internet banking in Estonia." *International Journal of Bank Marketing* 23, no. 2 (2005): 200-216.

exactly what Nazarbayev had hoped to achieve in Kazakhstan with his digital policy

overhauls. Estonia has been able to successfully draw in foreign investors using online

banking systems. In fact, "Estonia is the only country which, in its banking laws,

explicitly assigns a role to the co-operation with foreign banking supervisors."[208] This

"co-operation" gives the national Bank of Estonia the leniency to issue foreign bank

licenses, expand private bank branches, and facilitate foreign investment.[209] Without "co-

operation," the national banking industry would remain stagnant and any foreign or

domestic banking expansions would take far too long to develop. Estonia can efficiently

expand their banking industry and increase profits from foreign investment using an

online system.

In addition to encouraging the development online portals and platforms for

Estonian banks, "E-Estonia" has made it simple for citizens to make tax claims, file

taxes, and apply for loans online.[210] Naturally, these developments are highly popular and

widespread throughout the country. From industry to banking and taxation, Estonia has

developed an impressive digital economic policy that has allowed the country to prosper

compared to its former Soviet brethren.

However, this much investment in a digital economy has made Estonia highly

vulnerable to frequent cyber attacks and hackings. The motives behind frequent cyber

attacks in Estonia vary greatly. Some hacking incidents have occurred for profit, political

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[208] Buch, Cludia M. "Opening up for foreign banks: How Central and Eastern Europe can benefit 1." *Economics of Transition* 5, no. 2 (1997): 348.

[209] Ibid, 348.

[210] "Success Stories." *E-Estonia*. https://e-estonia.com.

reasons, or simply no known reason at all. The most famous of these cyber assaults

occurred in May, 2007, when a cyber attack of unknown origin disabled the servers of the

Estonian bank, SEB Eesti Ühispank.[211] The May cyber attack was a part of a series of

attacks that an unknown source likely launched in response to Estonia's removal of the

Second World War monument of a Red Army soldier.[212] The SEB Eesti Ühispank attack

was the largest of the series as it affected many Estonian citizens who were unable to

access their accounts or make transactions. Moreover, the pure scale of the attack

affected other digital industries, as well as turning Estonia's well-oiled digital machine on

its head. Luckily, the Estonian government was able to minimize the spread in a few

short hours but, after a number of attacks, cyber security became a paramount concern for

the national government.[213]

The 2007 cyber attack showcased how easily the Estonian economy could be

unraveled, specifically the banking industry. Only one Estonian bank has come forth,

recording over $1 million in damages.[214] While the fiscal cost of the attack is not known,

it placed virtually all of Estonian society on hold. Since then, the national government has

devoted significant resources to cyber security. Immediately following the attacks, the

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[211] Terlikowski, Marcin. "Cyberattacks on Estonia. Implications for International and Polish Security." *Polish Quarterly of International Affairs* 16, no. 3 (2007): 72.

[212] The implications of this attack as it pertains to Russia-Estonia relations will be discussed in the following section. For now, this reference is focused solely on the economic impact the attack had on Estonia.

[213] Ibid, 77.

[214] Terlikowski, Marcin, "Cyber attacks on Estonia. Implications for International and Polish Security." *Polish Quarterly of International* Affairs 16:3 (2007): 75.

government approved the *Action Plan to Fight Cyber-attacks* as well as an official *Cyber Security Strategy*.[215] These acts facilitated the creation of the Estonian Cyber Security Council later that year.[216] These overhauls comprehensively assessed every aspect of Estonian cyber security, allocating a portion of the national budget to defense endeavors, updating the penal code and existing organizations, and providing annual risk management assessments.[217] The national government expects these overhauls to prevent any significant cyber attacks in the near future.

Overall, the policy changes since the 2007 cyber attacks have been met with success, as no notable cyber attack has occurred within the country. Since then, part of the *Action Plan to Fight Cyber-attacks* is to initiate a public engagement campaign that educates and empowers citizens to fight cyber attacks.[218] The successes of these grassroots campaigns are predicated upon the popularity and importance of digital banking. While banks are still frequently targeted in small scale cyber attacks, they have successfully developed strategies and the infrastructure to eliminate or minimize the damage of these attacks.[219]

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[215] Czosseck, Christian, Rain Ottis, and Anna-Maria Talihärm. "Estonia after the 2007 cyber attacks: Legal, strategic and organisational changes in cyber security." *International Journal of Cyber Warfare and Terrorism (IJCWT)* 1, no. 1 (2011): 26. ttps://www.igi-global.com/article/estonia-after-2007-cyber-attacks/61328

[216] Ibid, 60.

[217] Ibid.

[218] Ibid, 58.

[219] Czosseck, Christian, Rain Ottis, and Anna-Maria Talihärm. "Estonia after the 2007 cyber attacks: Legal, strategic and organisational changes in cyber security." *International Journal of Cyber Warfare and Terrorism (IJCWT)* 1, no. 1 (2011): 24-34.

Estonia has developed an impressive economic infrastructure online throughout the past two decades. "E-Estonia" has made business transactions for native Estonians simpler online. Moreover, Estonian banks are paving the way for digital banking, which has gained the attention of the international community. While some foreign nations, including the United States of America, Sweden and Germany, seek to invest in Estonia's digital economy, others, specifically, Russia, seek to destroy it. Placing all of a country's economic forces online puts Estonia in a fragile situation without correct cyber security. Luckily, the country has successfully overhauled its digital security policy in 2007 after the major attack that year. Still, questions over cyber security loom large in Estonia and many Estonians fear the capabilities and threats from their neighbor and former sovereign, Russia.

Breaking the Soviet Mold

Unlike the other two case studies, Estonia has maintained an antagonistic sentiment towards Russia since it was part of the Soviet Union and thereafter. This makes Estonian contemporary politics, including digital policy dramatically different from the country's former Soviet brothers. Like the others, however, what is now modern day Estonia never really existed as a unified sovereign state. For the most part Estonia was ruled by some power, either Russia, Sweden, Finland, or Denmark, usually existing as a Duchy of some sort. Estonia was the first of the Soviet Republics to become a sovereign state and, during the 1991 referendum, 95% of Estonians favored independence.[220] These

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[220] Rausing, Sigrid. *History, memory, and identity in post-Soviet Estonia: the end of a collective farm*. Oxford Studies in Social and C, (2004): 12.

facts should already reflect Estonia's staunch rejection of Soviet and, subsequently,

Russian culture. Compared to the likes of Kazakhstan and Ukraine, Estonia already had

an emerging national identity prior to Soviet independence. Historically, the country had

frequent contact and interactions with western powers prior to Soviet Independence,

making its contemporary position with Russia more complex.

Moreover, like many of the Soviet states, Estonia shared the problems associated

with the serious economic stagnation the Soviet Union started to experience in the early

1970s. "A 'look back in anger' might be the most concise way of characterizing

[Estonia's] attitude to their history of the past seventy years."[221] Other existing problems

of Soviet rule exacerbated the economic shortcomings. Mass violence, draining of

resources, internal colonization, and imprisonment occurred in all Soviet occupied states,

but the Estonians vehemently opposed these oppressions.[222] Once Estonia won its

freedom, the country immediately rejected Russian influence right from the outset and

turned its attention toward the west. Soon, Estonia became a member of NATO and the

European Union, fully transitioning away from the country's Soviet past.[223] Estonia has

completely broken away from the Soviet mold. This includes breaking away from strong

censorship policy, expanding private markets, and allowing for political freedom and

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[221] Ruutsoo, Rein. "The perception of historical identity and the restoration of Estonian national independence." *Nationalities Papers* 23, no. 1 (1995): 167.

[222] Tamm, Marek. "In search of lost time: memory politics in Estonia, 1991-2011." *Nationalities Papers* 41, no. 4 (2013): 651-674. https://www.cambridge.org/core/journals/nationalities-papers/article/in-search-of-lost-time-memory-politics-in-estonia-19912011/EAC52AC48A9DD1C00EA344B103939FB6

[223] Ibid, 172.

competition. All of these characteristics are highly compatible with the functions and purposes of the Internet, making an expansive digital policy a logical step for Estonia to take. In contrast, Kazakhstan has held on to that mold and Ukraine has not been able to shake Russian influence.

Of course, Estonia can never be completely free from Russian influence, simply because of the proximity and historical ties between the two nations. While Estonia has not experienced crises to the extent of Ukraine, there have still been a few issues which fueled antagonism toward Russia. The imprisonment of Eston Kohver is a recent example of flaring tensions. Russian officials detained the Estonian security officer near the border of the two countries and Kohver served a year in Russian prison before being released. "In this area, the border is barely marked in the forest. It is easily visible and well delimited on the map thanks to virtual technology, but it is not so obvious on the ground."[224] Kohver's imprisonment created a public outcry against Russia within Estonia and also drew the attention of the European Union, which was concerned about border security of member states.[225] This prisoner dilemma occurred amidst Russia's invasion of Crimea and the chaos of Euromaidan. Estonians were justifiably concerned with this supposed act of Russian aggression.

The Kohver imprisonment showcases both the tensions between the two countries and the need for Estonian security against Russia. This security extends to the digital realm, as well as the physical realm. Just like the border area where Kohver was captured,

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[224] Espanol, Alicia, Giuseppina Marsico, and Luca Tateo. "Maintaining borders: From border guards to diplomats." *Human Affairs* 29, no. 1 (2019): 454.

[225] Ibid, 454.

the digital realm has no concrete borders or protection from outside forces. Estonia

learned this lesson the hard way in the 2007 cyber attacks, which perfectly showcases the

relationship between Russia and Estonia.

The Red Army monument was removed after citizens violently protested the

presence of the statue, as the monument served as a painful reminder of Soviet

occupation.[226] Following protests and questions of the statue's relocation, Russia

expressed increasing anger at the prospect of removing the statue from its original place

in the center of Tallinn. Following the relocation, Estonia experienced the

aforementioned widespread cyber attacks that severely crippled the Estonian web,

including online banking, governmental services, and news outlets. [227] While there was

no definitive connection to the Russian government, Estonian officials connected the

attack to Russian servers.[228] Estonian officials were quick to accuse Russia of the attack,

showcasing the guarded animosity the country has for Russia.[229] No other incident in

Estonia-Russia relations better encapsulates the modern tensions between Russia and

Estonia. The controversial removal of the statue showcases how Estonia is not quick to

forget the atrocities the Soviet Union committed against its people. Likewise, Russia

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[226] Ottis, Rain. "Analysis of the 2007 cyber attacks against Estonia from the information warfare perspective." In *Proceedings of the 7th European Conference on Information Warfare*, (2008): 163.

This underscores the fact that the Estonian national government did not willingly remove the statue, it did so as a reaction to widespread public dissent.

[227] Ibid, 170.

[228] Clarke, Richard Alan, and Robert K. Knake. *Cyber war*. Tantor Media, Incorporated, (2014): 14.

[229] Ibid, 14.

wishes to maintain influence within Estonia, if not by cultural memories, then by force or espionage.

Russian attempts to intimidate and coerce Estonia remain futile. As a member of NATO and the EU, Estonia has, institutionally speaking, no need for Russia. While Ukraine and Kazakhstan rely on Russian institutions and funds for modernization projects and security, Estonia has become fully independent. The scars of the Soviet Union will never heal for Estonia, which is probably for the better. Estonia's bitter resentment of Soviet-era occupation fuels the country's national identity and strengthens relations with the west. Estonia has broken the Soviet mold and created its independent national identity, and that identity is uniquely digital.

Conclusion

The progress and depth of Estonian digital policy is a remarkable feat. At a glance, one could not understand how this small former Soviet republic digitally modernized at such a rapid pace. Even scholars note, "Estonia, oddly, is one of the most wired nations in the world, ranking, along with South Korea, well ahead of the United States in the extent of its broadband penetration and its utilization of the Internet applications in everyday life."[230] Upon further inspection however, there is nothing odd about Estonia's accomplishment. Through "E-Estonia" the digital realm truly does penetrate into all aspects of "everyday life."

Politically and economically, Estonia has revolutionized digital policy. In addition to extensive media outlets online, Estonia has invented new voting systems and notions

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[230] Ibid, 13.

of citizenship using online channels, improving political discourse. The country has used the Internet to expand banking systems, foreign investment, and tax systems. Of course, placing more economic trust in the digital realm makes a country more susceptible to cyber attacks but, other than the 2007 attack, Estonia has largely been able to combat hacking.

At the root of all this digital expansion, however, lies Estonian culture. Since independence from the Soviet Union, Estonia has pursued a fully independent identity. Gravitating toward western institutions and cultural values, Estonia completely reversed its society from the one that existed during the Soviet Union. Estonia encouraged private market expansion, freedom of expression, and global cooperation. These values allow the digital world to flourish. However, even more importantly, Estonia adopted a digital identity. Internet services and digital accessibility are integral parts of Estonian society. By declaring access to the Internet a constitutional right, Estonians embraced the digital realm with open arms. Estonians create digital content at unprecedented rates, changed modes of education for younger generations, and opened Estonian society up to the world wide web.

This cultural importance of the digital realm grants Estonian digital policy successes and profits. Because of the cultural acceptance and popularity of the Internet, the Estonian government prioritized expansion of digital policy and infrastructure. Government programs regarding the digital realm were met with success because the values and norms instilled in the public encouraged frequent digital activity. Without an appropriate culture and identity, a country cannot hope to adopt a flourishing digital environment through policy. If the population does not readily accept new technologies,

then this digital policy would likely not exist in the first place, as evident in Kazakhstan

and Ukraine. Cultural norms are the key to digital progress. Against all odds, a tiny,

former Soviet state shocked the worldwide web, becoming a true digital nation.

CHAPTER FIVE

Conclusion

"Overcoming the Cold War required courage from the people of Central and Eastern Europe and what was then the German Democratic Republic, but it also required the steadfastness of Western partner over many decades when many had long lost hope of integration of two Germanys and Europe. Many perhaps didn't even want this anymore."
— Angela Merkel[231]

Chancellor Merkel's statement illustrates an important point about the lasting tensions the Cold War conflict created. After decades of Soviet rule, Eastern Europe was largely left estranged by its Western neighbors. Years of political strife in former Yugoslavia and Ukraine certainly encouraged Western nations to maintain this distance. Today, many individuals who "didn't even want" integration still remain adamant on this position today. Even more startling, however, is the cultural disconnect between former Soviet states and the outside world. Years after the end of the Cold War, many westerners view former Soviet republics as stagnant backwater regions that cling to the former Soviet political order. The West has seemingly lost the sense of "steadfastness" Merkel references and has overlooked these countries as underdeveloped and unimportant. This sort of misconception is something this paper seeks to remedy. Contrary to popular belief, former Soviet states are not as stagnant as they appear. While Estonia is clearly the prime example of this newfound active development, Ukraine and Kazakhstan are, in their own unique ways, improving infrastructure and modernizing with digital policy. Of

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[231] Merkel, Angela. "Remarks by President Obama and Chancellor Merkel in a Joint Press Conference." *Whitehouse Archives*. Washington DC, (June 2011). https://obamawhitehouse.archives.gov/the-press-office/2011/06/07/remarks-president-obama-and-chancellor-merkel-joint-press-conference

course, each of the countries examined has embraced a digital future in their own unique way, with varying success. Therefore, one is left wondering; how does a country digitally modernize successfully?

Putting the Puzzle Together

This paper analyzes the political, economic, and cultural factors that play a role in state digitization and digital policy for three former Soviet states. The three states in question, Ukraine, Kazakhstan, and Estonia both utilize different factors and strategies to propel themselves into the Digital Age. While Ukraine emphasizes digital politics, Kazakhstan and Estonia emphasize digital economics and culture, respectively. This does not necessarily mean that each country relies solely on its respective category. For example, while economics primarily drive Kazakhstan's digital expansion, the country has undertaken various cultural initiatives, such as Digital Kazakhstan.[232] Likewise, Ukraine has initiated digital economic policies that enjoyed with mixed success. Even at a glance, the digital policies of these former Soviet states showcase that they are not, contrary to popular opinion, stagnant. Each country is actively attempting to modernize and develop their digital infrastructure.

So what determines this success of a country's digital policy? As previously mentioned, Ukraine, Kazakhstan, and Estonia each rely on specific factors to drive their digital policy. Ukraine's digital realm has played an important role in recent political

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[232] Bertelsmann Transformation Index. "Kazakhstan." *World* 80, no. 100 (2006): 120. https://www.irex.org/sites/default/files/pdf/media-sustainability-index-europe-eurasia-2018-kazakhstan.pdf.

events, such as Euromaidan and the Orange Revolution.[233] Digital journalism in the region is a highly important and highly volatile factor that plays a role Ukraine's political climate. Kazakhstan's authoritarian regime under Nursultan Nazarbayev completely ignores political and cultural incentives that may drive digitization. Instead, his administration hopes that digitization will lead to greater economic modernization. In sharp contrast, Estonian society has placed special emphasis on their digital cultural identity. Digitization is a point of national pride and the people have declared access to the Internet a human right.[234] Estonians are incredibly active on the Internet, creating digital content at rates comparable to many modern Western nations.

Estonia serves as an example on how a national culture, most notably cultural values, helps develop a thorough digital policy and expansive digital infrastructure. The cultural importance of the Internet in Estonia is necessary for a country to successfully adopt a modern digital infrastructure and expansive digital policy. This identity is lacking in the likes of Ukraine and Kazakhstan, which is why they both fall short in their digital policies. In Ukraine and Kazakhstan, stepping into the digital age simply does not appeal to the people. If a country's values or norms are not

A country that lacks values that are conducive to digital growth, such as privacy rights, freedom of expression, or the importance of education, still has reason to be

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[233] Dickinson, Jennifer. "Prosymo maksymal'nyi perepost! Tactical and discursive uses of social media in Ukraine's Euromaidan." *Ab Imperio* 2014, no. 3 (2014): 82. http://net.abimperio.net/files/articles_for_net/08_15.3dickinson.pdf.

[234] Tăbușcă, Silvia. "The Internet access as a fundamental right." *Journal of Information Systems and Operations Management* 4, no. 2 (2010): 208. ftp://ftp.repec.org/opt/ReDIF/RePEc/rau/jisomg/WI10/JISOM-WI10-A21.pdf.

hopeful. A country can promote a compatible national culture through education initiatives or public outreach programs. Using the E-Estonia project as an example, countries may gradually integrate digital literacy and the importance of the Internet within society. Kazakhstan implements a program like this in their university initiative, which is part of Kazakhstan 2050. As a result, Kazakhstan has considerably more activity and users than Ukraine.

In Ukraine, low usage rates almost make it difficult for digitization efforts to succeed. Residents in rural Ukraine simply have no incentive to learn the mechanisms of the Internet. Without a public concern for the digital realm, state officials do not prioritize digital policy development as a paramount concern. Part of this problem arises from Ukraine's lack of national identity or concrete set of cultural values. Today, the country is divided between pro-Ukrainian and pro-Russian sentiment. Discussions on weather or not the country's national culture is conducive to digital development are irrelevant because the country lacks a concrete national culture.

While Ukraine lacks any sort of digital or, by extension, national identity, Kazakhstan has already found its identity. Nazarbayev was quick to promote Kazakhstan's long term goals and instill values in Kazakhstani citizens. As a result, Kazakhstan has considerably more usage and a greater online presence than Ukraine, it still falls short in its promotion of a digital culture. However, Nazarbayev's administration seemingly controls all aspects of digital life and culture, severely limiting expression and content creation. Kazakhstan has a fabricated digital culture, which has limits that seriously restrict the power and expansiveness of the Internet within the country.

Digital policy development, therefore, is not primarily a question of institutions or economics, it is a question of identity. Because of the traditional values Estonians share with one another, the country could fully adopt a digital identity from the onset of independence, and Estonia has reaped the rewards of this identity. As it stands, Ukraine has not committed to a digital identity because of the historically polarizing role the Internet has played within the country. Ukraine is caught at a cultural crossroads when it comes to a digital identity.

In the meantime, Kazakhstan has fully committed to its digital identity. The problem facing Kazakhstan's digital growth is that state economics take precedence over this identity, which Nazarbayev largely controls. Even though Kazakhstan has improved usage numbers and activity compared to Ukraine, these numbers pale in comparison to Estonia. While Estonia allows a digital culture to flourish within its borders, Kazakhstan severely limits this culture's growth, which likely attributes to this disparity.

Geopolitical Tensions and Implications

A secondary purpose of this thesis is to closely examine the ways in which each country interacts with Russia using digital channels. Because cultural identity is the primary factor in determining a digital policy's success and expansiveness, one cannot ignore Russia's role in this identity. Naturally, large components of a nation's cultural identity are the nation's shared history and values. To varying degrees, Ukraine, Kazakhstan, and Estonia all lacked a coherent history or national identity prior to their integration into the Soviet Union. This makes the shared experience as Soviet republics, and the accompanying cultural, economic, and political life, an important factor in each country's identity and, subsequently, their respective digital cultures.

Each case study's respective relationship with Russia mirrors their adoption of a digital identity. Kazakhstan remains on cordial terms with Russia and the two remain staunch economic and political allies. As a country that still holds on dearly to its Soviet past, Kazakhstan's digital policy suffers from the same sort of political censorship and state subversion that existed during the Soviet regime. Of course, Kazakhstan's expanding markets reduce Russia's influence considerably. However, for the time being, the two countries seem to be on amicable terms.

Ukraine's relationship with Russia is a bit more complicated and unclear. The country divides itself between pro-Russian and anti-Russian factions. Most Ukrainians that support friendly relations with their former Soviet brothers reside in the rural southeast, whilst many who oppose Russian influence reside in urban northeastern areas.[235] Since independence Ukraine has endured countless civil strife either regarding or involving Russian influence. Ukraine has come to a geopolitical crossroads when it comes to the country's relationship with Russia. In a similar manner, the country's digital policy reflects an ambivalence of sorts. While the digital realm clearly plays an important role in political discourse within the country, the government has largely avoided questions of expanding digital infrastructure or introducing new digital policy.

In sharp contrast with the aforementioned countries, Estonia has almost completely severed ties with its former Soviet brother. Since independence, Estonia has joined the European Union and significantly opened up its doors to the West, much to Russia's chagrin. The tensions surrounding the 2007 Red Army Soldier statue removal

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[235] Shulman, Stephen. "National identity and public support for political and economic reform in Ukraine." *Slavic Review* 64, no. 1 (2005): 59-87.

showcase the deep animosity Estonians have for their Soviet past and, subsequently, contemporary Russian influence. This adamant rejection of a Soviet past occurs simultaneously amidst serious digital expansion and reformation.

So does this mean that former Soviet states can only expand their digital infrastructure if they relinquish their Soviet identity? Certainly not. While there might be a correlation between a country's digital policy and its relationship with Russia in these three case studies, a causal relationship is not universally true. Once again, the primary claim of this thesis is that cultural identity is the driving force behind the character of a nation's digital policy, as far as the former Soviet Union is concerned. Each of the three countries in question were, at one point, part of the Soviet identity. Naturally this identity plays an important role in each country's modern identity in unique ways.

However, it is entirely possible for a country to reject a Soviet identity and relationship with Russia, while also rejecting the Digital Age. Likewise, a country could theoretically wholeheartedly cling to its Soviet identity and adopt a digital identity with open arms. Kazakhstan nearly resembles this example; however, the authoritarian nature of the national government makes this adoption with open arms rather insincere in both the number of instances of online censorship and in the specifics of the country's digital policy. Russian relations may, in some instance, play a significant role in a former Soviet state's cultural identity, but it is by no means the only factor. In the end, each of the countries in question have the power to develop their own cultural identity, and this identity is either conducive or restrictive to digital policy.

One final subject worth touching on is the geopolitical implications of the expanding digital world. A common theme throughout all three case studies is the way in

which the Internet has weakened Russian influence within a region. Of course, this weakening varies in degree. In Estonia, Russian influence is virtually nonexistent, and the Internet's various news outlets, online banking systems, and social media platforms have assured this outcome. In Ukraine, the digital realm facilitated the transition of power from Yanukovych's pro-Russian administration to an anti-Russian administration, such as Yushchenko's administration. In Kazakhstan, the rise of digital economics has loosened Russia's economic power over the country. As Kazakhstan's e-markets attract more attention from businesses outside of Russia, Russia's economic influence will weaken.

Of course, this does not mean the Internet weakens authoritarian regimes, as may early scholars claimed. Kazakhstan showcases how authoritarian regimes can use the internet to secure their rule. Nazarbayev has been able to use the internet to spread propaganda and locate political dissent. Kazakhstan is not necessarily close to democratization, though it certainly has weakened ties with Russia thanks to the Internet.

All three cases reflect how the rise of the Internet has destabilized Russia's regional dominance over the former Soviet Union. Areas of the world that were once kept estranged from the outside are developing the power to freely interact with powers outside of Russia. This has a variety of implications on the regional politics. Firstly, Russia could behave more aggressively in asserting its influence over the likes of Ukraine, Kazakhstan, and even Estonia. Various cyber attacks are already strongly connected with Russian interference, such as Estonia's 2007 cyber attack or Ukraine's digital blackout during Russia's annexation of Crimea. Kazakhstan has yet to experience such aggression. However, one can argue that, if Kazakhstan's relations with western

powers, such as the United States, continue to grow, these aggressions become more probable.

Most conflicts between Russia and regional dissent involve some kind of cyber attack or aggressive digital penetration. While the annexation of Crimea was not necessarily digital in nature, it still involved an online blackout that helped facilitate the annexation. A secondary effect of the Internet's ability to weaken Russian influence is Russia may adapt to this weakness. From the aforementioned acts of aggressions, it is clear that Russia understands that the digital realm is a major lynchpin for successful Russian dissent abroad. As a result, Russian officials may revamp their own country's digital policy, as well as deliberately target online infrastructure or flood domestic media outlets.

While each examined country does control its own identity and destiny, Russia's influence and acts of aggression leave lasting marks on the people, policy makers, and country as a whole. Ukraine, Kazakhstan, Estonia, and Russia are all intrinsically tied to one another because of their common Soviet past. The current geopolitical climate in former Soviet states exists, in part, because of this past. Just as Kazakhstan has used this past to maintain a stable regime, memories of this past fuels Estonia to abandon Russia's influence.

This Soviet past certainly has its limits, however, as a greater geopolitical shift in Russian relations occurs throughout the former Soviet Union. The effects of the Soviet Union will always maintain a lasting impression in the examined nations. However, the way each nation identifies these effects is slowly changing. Once, Ukraine maintained close ties with Russia and a Soviet past under Yanukovych and his predecessors. Yet, the

events of the Orange Revolution and, later, Euromaidan, made the public view these ties with greater skepticism. Kazakhstan has employed Russia and a Soviet past to help prop up Nazarbayev's regime. Now, the country turns toward America and the West for economic development, seeing the Soviet connection with Russia as a mere memory and not a continual obligation. Currently, the former Soviet Union is undergoing a slow shift in geopolitical relations. The expansion and development of the digital realm is at the heart of this change.

Critiques

Naturally, one could raise a number of critiques and questions regarding the organization and ideas discussed in this thesis. One of the most important critiques to assess is questions over case selection and organization. Some may argue that Ukraine, Kazakhstan, and Estonia have far too little in common to make a comparative assessment. Ukraine, Kazakhstan, and Estonia all have varying cultures, political systems, and economics that, naturally, produce differing outcomes in regards to digital policy.

A response to this critique is that these different systems are exactly what this essay hopes to showcase. Some scholars argue the Internet is purely a democratizing force while others believe it is simply a tool for regimes to use.[236] This thesis shows that the Internet is a bit of both. For example, Nazarbayev's regime clearly uses the Internet to maintain the status quo within the country's borders, using it as a tool. However, in the process, the national government has opened Kazakhstan up to the international

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[236] Jiang, Min. "Authoritarian deliberation on Chinese Internet." (2009). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1439354

community through business. Each country, with its own unique environment, uses digital policy in a different way. This variety tears down any simplistic views of the Internet's role in domestic politics and misconceptions about a stagnant former Soviet Union.

Moreover, this study critically examines how former Soviet states can develop successful digital policy. While Estonia is obviously the shining example of this success, other examples are necessary to explain the pitfalls and shortcomings a nation might encounter when developing digital infrastructure. After all, the three nations in comparison are not as different as one might assume. Not even thirty years ago all three nations were part of a common polity with unified political structure, culture, and economics. Since the dissolution of the Soviet Union, Estonia, Ukraine, and Kazakhstan have all taken different approaches to modernization and independence. This thesis tracks how these differences manifested themselves within each nation's respective digital policy.

Even still, some may argue that culture is not the primary driving force behind expanding the digital realm. They may claim that economics drive modernization efforts and subsequent digital expansion. However, digital expansion requires greater efforts on the part of individuals throughout a country. Yes, modernizations in agriculture yields large, more efficient crop production for local farmers. However, digitizing in agriculture, as Ukraine sought to do, yielded mixed results. A farmer must learn a new digital language, how to operate and maintain a computer, and, most importantly, open up his life beyond his town or even country. If locals are not willing to adopt digital economic programs based on their values and educations, then economics alone cannot

be the driving force behind digital expansion.

One may also argue that political institutions play the primary role in facilitating digital expansion. They would point to Estonia and claim that its digital policy succeeded because it has a cohesive and strong democracy operating within its borders, while Ukraine and Kazakhstan do not. Democracy made possible the elevation of Internet access as basic human right in Estonia. However, if political institutions were the sole actors in forwarding digital policy, then Ukraine should be well ahead of Kazakhstan's authoritarian regime in regards to digital expansion. While Ukraine certainly is not as democratic as Estonia, the country has more fundamentally democratic institutions than Kazakhstan. However, as we have seen, Kazakhstan maintains higher usage rates and infrastructure than Ukraine.

Still some may argue that the strength and stability of political institutions determines the success of a country's digital policy. Ukraine's political institutions are clearly weaker than the likes of Estonia and Kazakhstan. If one measures strength by policy and regime consistency then, Kazakhstan, in theory, should have a more developed digital infrastructure than Estonia. Although his regime is aging, Nazarbayev has largely controlled his country since its creation. If one measures institutional strength by public support and public participation, then Ukraine would likely have a more developed digital environment than Kazakhstan. As we have seen, Ukrainians have routinely flooded the streets in support of a common cause.

A national identity and, by extension, culture can stimulate public support for digital development. Of course this culture must be rooted in ideals that the Internet flourishes under. A country with democratic values, such as Estonia is more likely to

expand its digital infrastructure than a country with non-democratic values, such as Kazakhstan. That is precisely why Estonia's digital policy succeeds. At the heart of the political and economic factors that may drive Estonian digital policy lies the people's intrinsic support for expanding digital infrastructure. The multifaceted E-Estonia program would not have been as successful as it was if it had not been for the project's broad public support. Comparable Ukrainian and Kazakhstani initiatives were met with little to no success because they lacked public support. The public takes pride in being a digital nation and, as a result, digital society and Estonian society become one in the same.

Final Remarks

While some critics may argue that the former Soviet Union is still stubbornly behind in regards to modernization, this study showcases that that is not the case. As is the case with emerging powers in southeast Asia, states that formerly belonged to the Soviet Union are dynamically and actively modernizing their digital infrastructure. Thus, this thesis ultimately disproves the preconceived notion of a backwater underdeveloped state that clings on to its Soviet past. Even if individuals are unwilling to accept the idea of a digital former Soviet Union, they must, at the very least, acknowledge the potential each state has in developing digital policy, provided they follow Estonia's model.

At the heart of this model is a public acceptance of the values and culture that a digital realm brings a country. Without this acceptance, digital policies would expand in a limited direction, as is the case with Kazakhstan, or no direction at all, as is the case with Ukraine. As we have seen, the cultural acceptance of a digital nation also influences other aspects of society, including political and economic aspects. Estonians' acceptance of the digital age and digital identity has allowed the online realm to penetrate every aspect of

their lives, from voting to banking. Where Kazakhstan and Ukraine fall short, Estonia ultimately succeeds.

So why does digitization matter in the first place? As we have seen with all three case studies, the Internet plays an important role in a state's overall modernization efforts. Thanks to the Internet, Ukrainians are not limited to the confines of their small towns. The Internet, specifically digital journalism and social media, allows Ukrainians to feel connected with the greater nation and world around them. Thanks to the Internet, the remote, landlocked country of Kazakhstan has opened up its economy to international investors. These business transactions can, in turn, fuel modernization and developmental efforts in the country. Thanks to the Internet, Estonia has remedied the problems that face other former Soviet states. Today the country stands as the prime example of redemption from a Soviet past, matching some Western powers in terns of digital development and usage. As globalization efforts increase throughout the world, the Internet becomes an increasingly important tool for states to utilize correctly.

The study of digital policy is a relatively new subject. Nonetheless, it is a subject that holds many pressing discussions on both international and domestic politics, economics, and a change in culture. This work only provides three comparable case studies on digital policy and many more have yet to be explored. While cultural identity certainly drives the expansion of digital policy of the former Soviet Union, this remains to be seen in other developing regions of the world, such as Southeast Asia, Latin America, or the Middle East. Needless to say, my hope is that these case studies may serve as foundations for others to examine digital policies of nations throughout the world. Perhaps culture is the key component for digital policies, not just within the Soviet

Union, but throughout the world. Regardless, this thesis opens up conversation on the study of digital policy throughout the world. This conversation on digital policy is one citizens and governments must address, as all nations enter the height of the Digital Age.

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