National Platforms in a Globalized World: Competitive Strategies and the Role of the State in the Case of Russian Digital Platforms

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Acknowledgments

The idea to choose digital platforms and their geography as the topic of my PhD research emerged, first, while I was at UC Davis during my Fulbright fellowship. Close proximity to Silicon Valley, and the pervasiveness of West Coast internet services, made me interested in these internet firms, which have an enormous scope and scale. The second impetus came from the Berkeley Roundtable for the International Economy (BRIE), whose research on US and Chinese platforms inspired me to expand prior studies on platform economies to include Russian digital platforms. The University of Oslo (UiO) offered me an independent scholarship stipend to support this research. The Wisconsin Russia Project at the University of Wisconsin-Madison supported me while this dissertation was written. I am grateful to both institutions and hope that this PhD research will offer insights for scholars and practitioners who navigate digital competition in this rapidly changing and increasingly polarized world.

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Contents

Summary

Digital platforms are data-driven, software-based firms that mediate transactions online. Effectively, platform markets are monopolies driven by network effects and "winner-take-all" outcomes. Only a few countries, such as China and the United States, have developed large numbers of competitive national firms. US platforms dominate national consumer markets and what is called the "platform economy" in many countries, except China. This dissertation poses the question: *How can local platforms emerge and mature outside major economies and successfully compete with global competitors?* This dissertation, which primarily takes a strategic management approach, demonstrates that firms' strategies for creating and leveraging network effects may stem from a social, economic, and political context.

Our empirical setting is the Russian internet environment, which offers one of the few national internet segments that has produced domestically competitive platforms in key functions, such as search, social media networking, and e-commerce. The study explores Russia's success in breeding domestically competitive and technologically advanced platforms.

Drawing upon archival research, interviews, company reports, and case studies of Russian platforms, this qualitative study examines empirical and theoretical issues in three articles. The first one investigates the role of the national environment in fostering a group of competitive platforms. Through an analysis of case studies of Yandex, VKontakte, Odnoklassniki, and Ozon, the article explores how Russia developed platform companies that survived the entry to the local market of the US firms. The second article gives an in-depth analysis of Yandex's long-term strategy and the evolution of competitive dynamics against Google. The third article investigates the role of national policy and politics in fostering the indigenous platform industry and protecting firms in networked markets.

The in-depth analysis of the Russian case demonstrates the conditions in which national platforms emerge outside the major economies and makes several contributions to existing platform research, primarily focused on US and Chinese platforms. First, the case offers a more nuanced understanding of network effects that stem from the social, political, economic, and regulatory environment and comments on a niche platform strategy. Second, the dissertation comments on the industry conditions that underlie the development of groups of platforms, such as access to technology and capital, access to a homogeneous internet user base, and the need for institutional entrepreneurship that will transform and adapt existing institutions and create demand for platform services. Third, this study elaborates on the role of policy and politics in fostering domestic firms and explains the economic and political considerations in policy instruments.

Overall, studying Russian platforms extends academic research on digital platforms and contributes to the emerging studies on platform capitalism and its country-specific variations. Although Russian platforms stem from a particular social, political, and market environment, the research demonstrates the conventional character of the platform organizational form, which spans different economic and political systems. Further analysis of platforms as the dominant organizational form and their consequences is necessary for understanding capitalism as a socioeconomic system.

Articles in the Dissertation

Article 1. **National Markets in a World of Global Platform Giants: The Persistence of Russian Domestic Competitors** (co-authored with Martin Kenney). Revised and resubmitted to an academic journal.

Article 2. **Defending the Motherland: How Russia's Yandex Competes with Google**

Article 3. **Protecting Domestic Platform Economy: How Russia Mitigated Dependence on Western Platforms.**

Part I. Introductory Article

1. INTRODUCTION

1.1. Platforms and Platform Geography

Online digital platforms are a new type of firm that was first established in the late 1990s because of increased digitization and extensive adoption of the internet for economic and social activities (Greenstein, 2015; Srnicek, 2017; Steinberg, 2019). Platforms mediate transactions between users and businesses online and benefit from network effects or network externalities that arise from this mediation (Hagiu & Wright, 2015; Rochet & Tirole, 2003; Rysman, 2009).

Over time, the scope and scale of platforms have increased dramatically (van Dijck, 2013; van Dijck, Poell, & de Waal, 2018). Platforms now span various markets and have become key firms in capitalist economies (Kenney & Zysman, 2020). They have transformed entrepreneurship (Cutolo & Kenney, 2021), employment (Vallas & Schor, 2020; van Doorn, Ferrari, & Graham, 2022), and competitive dynamics across markets (Kenney, Rouvinen, Seppälä, & Zysman, 2019).

Compared to traditional industries, platform-organized markets are highly concentrated. The network effects dynamics create a "winner-take-all-or-most" market condition in which the platform with the most users eventually dominates the market (Besen & Farell, 1994; Rysman, 2009; Shapiro & Varian, 1999). These dynamics made it possible for American platforms to become leaders in most national markets, except that of China, where national policy eliminated foreign firms (Mueller & Farhat, 2022). The dominance of the American platforms extends to critical internet services: search (Google), e-commerce (Amazon), social media (Facebook, Instagram, YouTube), and app marketplaces (Google Play Store and App Store).

Although today most platforms originate in China and the US (Evans & Gawer, 2016; Kenney & Zysman, 2020), this uneven global distribution of platforms creates challenges

at various levels. Platforms have become a means of accumulating wealth and power (Kenney, Bearson, & Zysman, 2021; Langley & Leyshon, 2017) and sources of political and social influence (Steinberg & Li, 2017; Zuboff, 2019). It also results in an uneven distribution of platform economies (Kenney & Zysman, 2016), limited growth for local digital innovators (Evans & Gawer, 2016), and sources of geopolitical tensions, as countries become increasingly dependent on the strategic platform infrastructure (Plantin Lagoze, Edwards, & Sandvig, 2018; Plantin & Punathambekar, 2019).

Because American platforms dominate most markets, not surprisingly, the literature predominantly analyzes the US-based platform giants, most notably the GAFAM (Google, Amazon, Facebook, Apple, and Microsoft) firms. The few exceptions are studies on Japan's iMode mobile telephony (Funk, 2009; Steinberg, 2019; Tee & Gawer, 2009) and China's BAT (Baidu, Alibaba, and Tencent; Fannin, 2019; Jia, Kenney, & Zysman, 2018). The prevalence of US-based platform research, contrasted with Chinese platforms as "the default for non-US platform studies" (Steinberg, 2020), neglects the rise of platforms in other national markets. The "one size fits all" approach of the strategic management literature omits institutional, regulatory, geopolitical, and economic contexts in other countries and markets.

This dissertation explores how platforms emerge outside major economies and successfully compete with global platforms. Using the existing research on digital platforms, it addresses the theoretical problem of how platforms emerge and compete in markets that are open to winner-take-all-or-most outcomes. The articles elaborate on existing research on the role of network effects in platform businesses by explaining the conditions that allow a platform with a limited user base to compete with global firms that have similar functionality. The results obtained in this study might apply to other national settings, particularly in emerging economies with domestic digital platforms.

1.2. Russian Platforms as a Case Study

This dissertation expands existing research on internet firms and markets by introducing Russian platforms to the academic debate. Russia has Europe's largest internet market, with over 110 million users (Statista, 2021), and one of a few countries that has developed domestically competitive platform firms in key platform segments (search, social media networking, and e-commerce). The timeframe for the study is predominantly from the late 1990s, when internet technology was first employed for commercial activities, followed by the emergence of the Russian platform leaders, until the beginning of 2020. This period omits the effect of the COVID-19 pandemic on platform services in Russia and the war in Ukraine — two recent events that significantly affected internet competition in the Russian market. The period from the late 1990s to 2020 offers insight into the emergence of Russian platforms and their evolution in a market environment that was relatively open to international competitors.

The Russian internet has been the subject of social, cultural, and historical studies, from the origins of Soviet cybernetics (Gerovitch, 2004; Peters, 2016) to more recent issues, such as the emigration of Russian engineers (Biagioli & Lépinay, 2019; Bychkova, 2019) and internet censorship (Asmolov & Kolozaridi, 2020; Glazunova, 2022). Existing cultural and historical studies generally omit the commercial logic in which internet firms and markets operate. With a few exceptions (Eferin, Hohlov, & Rossotto, 2019; Shevchuk, Strebkov, & Tyulyupo, 2021), Russian internet firms have not been considered digital platforms.

Russia is an emerging market economy, another aspect in which our focus on it makes a significant conceptual and theoretical contribution to the research on platforms. Emerging market economies have "a rapid pace of development and government policies that favor economic liberalization" (Wright, Filatotchev, Hoskisson, & Peng, 2005).

Despite their significant heterogeneity,[1] emerging economies have a rising middle class, increasing personal income, and expanding rates of consumption of goods and services (Roztocki & Weistroffer, 2008). At the same time, these countries often have politically and economically unpredictable environments (Hoskisson, Eden, Lau, & Wright, 2000; Meyer & Peng, 2016; Peng, 2003), with varying degrees of government involvement in business activities (Bruton, Peng, Ahlstrom, Stan, & Xu, 2015), blurred boundaries between public and private governance structures (Filatotchev, Buck, & Zhukov, 2000), and inconsistent policies (Krasniqi & Desai, 2016). All these characteristics require firms to maintain flexible operations in these environments (Bruton et al., 2015).

The Russian empirical setting sheds light on how a platform firm may be formed by a national environment different from the ones described in the literature. Thus, scholars can approach platforms and platform capitalism as part of "historical and geographical diversity" (Steinberg, 2019, p. 7). The results from the Russian case are relevant for other emerging and developing markets, particularly for Brazil, India, China, and South Africa (together called the BRICS countries). By setting Russia as its empirical setting, this project does not aim to develop another "one size fits all" for emerging markets. Some of the results obtained in this study might not be generalizable to other settings precisely because of the significant variations across emerging economies, which make cross-country comparisons challenging (Hoskisson et al., 2000).

1.3. Existing Research and Positioning of This Study

Academic literature on platforms is a rapidly emerging field of research, in which various disciplines demonstrate growing interest in studying platforms. The bourgeoning

[1] Emerging economies include countries in Central and Eastern Europe, transitioning from socialism to market capitalism after the breakup of the Soviet Union, and high-growth developing countries in Asia, Latin America, Africa, and the Middle East (Arnold & Quelch, 1998; Hoskisson et al., 2000).

academic fields include media studies (Gillespie, 2010; Nieborg & Poell, 2018), political economy (Srnicek, 2017; van Dijck et al., 2018), infrastructure (Gerlitz, Helmond, Nieborg, & van der Vlist, 2019; Helmond, Nieborg, & van der Vlist, 2019), engineering (Pauli, Fielt, & Matzner, 2021), and international business (Autio, Nambisan, Thomas, & Wright, 2018; Banalieva & Dhanaraj, 2019; Hennart, 2014). Because of this disciplinary variety, use of a "platform" as a unit of analysis still requires conceptual clarity (Cusumano, 2022; de Reuver, Sørensen, & Basole, 2018). The variety in the definitions of a "platform" results in multiple classifications of platform firms (see, e.g., Evans & Gawer, 2016; Gawer, 2009; Srnicek, 2017; Steinberg, 2019).

This dissertation primarily fits within the academic literature on how platform firms create and capture value. Three approaches exist: industrial organization (see, e.g., Evans, 2003; Rochet & Tirole, 2003; Rysman, 2009), technology management (Krishnan & Gupta, 2001; Meyer & Lehnerd, 1997), and strategic management (McIntyre & Srinivasan, 2017). This body of literature includes a significant number of studies on the platform organization of industries (Cusumano & Gawer, 2002; Garud & Kumaraswamy, 1993), platforms as a new organizational form (Jacobides, Cennamo, & Gawer, 2018; McIntyre, Srinivasan, Afuah, Gawer, & Kretschmer, 2021), and digital platforms (Tiwana, 2013). A subfield of work analyzes the platform organization of the telecom and information technologies industry, which experienced significant changes between the 1980s and 2000 (Kenney & Pon, 2011; Yoo, Henfridsson, & Lyytinen, 2010). This dissertation employs the existing theoretical literature on platforms and emerging studies on platform regulations (Gorwa, 2019; Jacobides & Lianos, 2021).

The existing platform literature demonstrates the need for more attention to the context in which platform firms and markets function. A few studies have shown that a firm's exogenous environment influences the network effects and the growth of modules and ecosystems (Tiwana, Konsynski, & Bush, 2010; Tee & Gawer, 2009). Recently, more

attention has been paid to the institutional and regulatory context, which plays a role in the success or failure of a platform business (Coe & Yang, 2022; Kenney et al., 2019; Rahman & Thelen, 2019). This dissertation expands this literature and demonstrates that platform strategies for creating and leveraging network effects might stem from their social, economic, and political context.

1.4. Overview of the Dissertation

This dissertation consists of three articles, each of which addresses a specific empirical and theoretical puzzle (Table 1). Using an in-depth analysis of a single national context, this dissertation examines the following:

1. the role of the national environment in fostering a population of competitive platforms,
2. the long-term competitive strategies available to indigenous platforms,
3. the role of policy and politics on platform firms and platform markets.

The articles investigate the same overall topic and question but approach them from different perspectives and provide complementary information and evidence.

Table 1. Overview of the articles and research questions

	Article 1	**Article 2**	**Article 3**
Topic (Empirical Puzzle)	Conditions that lead to the emergence of a population of national platform leaders.	Competitive strategies of indigenous platforms when faced with global competitors with similar functionality.	The role of policy and politics in the growth of national platform leaders.
Research Question(s)	Why does a national market converge on local leaders?	How does a local platform leader prevent the migration of its users to a global competitor? Which strategies are available for indigenous market leaders?	How does state policy foster indigenous platforms? What are the political and economic considerations behind platform policy?

Main Contributions and Findings	Indigenous platforms build capabilities by using different kinds of proximities to its users and creating within-country network effects. Early market entry of indigenous platforms and late foreign entry, as well as a homogeneous user base of domestic market, were important in the success of indigenous firms. Indigenous platforms may seek state protection in selected segments.	A smaller platform can compete with a global market leader by creating and occupying a niche, in which it continually reinforces local network effects, and leverages state protection.	The Russian state protected its digital platforms by directly controlling mergers and acquisitions, selectively preventing the foreign takeover of domestic firms, and implementing antitrust regulations to protect national champions against foreign competitors. The article opens up the discussion on the policy measures that can keep the platform infrastructure open to competition and innovation but, at the same time, create a protective environment from foreign takeover.

The remainder of this introduction outlines the relevant empirical, theoretical, and methodological foundations of this study. Section 2 reviews the extant literature on digital platforms used in the articles in the dissertation. Section 3 introduces the variety of platforms and the Russian context. Section 4 describes the design and methodology of this research project, and Section 5 summarizes the articles of the dissertation. Section 6 presents our findings, and Section 7 concludes, describing the implications for platform literature and comments on further extensions of this research.

2. LITERATURE ON DIGITAL PLATFORMS

This section reviews relevant platform research, mainly focusing on strategic management literature and digital platforms. The section explains the characteristics of the platform business model, the types of digital platforms, and comments on platform expansion strategies, with a review of the literature on platform policy and regulation.

2.1. The Platform Business Model

Platforms are multisided markets that facilitate transactions online between actors on different sides (Rochet & Tirole, 2003; Rysman, 2009) and connect supply and demand through "innovative forms of value creation, delivery, and capture" (Tauscher & Laudien, 2018, p. 319). By functioning as market intermediaries, platforms benefit from network effects, a dynamic in which the value of a product/service for an individual user increases as the number of users increases (Hagiu & Wright, 2015). Some platforms mediate between users and advertisers, while others directly connect supply and demand (e.g., Uber, Airbnb, and Booking.com).

In contrast to traditional markets that may also exhibit network effects, the internet significantly reduced distance-related costs and replaced inefficient intermediaries with data and algorithms (Parker, Van Alstyne, & Choudary, 2016). These changes enabled online platforms to scale up and achieve economies of scope more rapidly than firms in traditional industries (de Reuver et al., 2017; McIntyre & Srinivasan, 2017). The network effect dynamics, in which demand creates demand, often result in "winner-take-all/or-most" outcomes when the platform with the highest number of users eventually dominates the market (Besen & Farell, 1994; Cennamo & Santalo, 2013; Rysman, 2009; Shapiro & Varian, 1999). These dynamics explain the high concentration of platform-organized markets and the difficulty for new entrants in dislodging incumbents after network markets converge to one or two market leaders.

2.2. Types of Digital Platforms

In the strategic management literature, platform leadership stems from a firm's strategic decisions to maximize network effects (Cusumano, Gawer, & Yoffie, 2019; Gawer, 2014; Tiwana, 2013). Three types of platform business models exist, depending on how platforms arrange combinations of network effects and create and capture value (Cusumano et al., 2019). Transaction platforms, such as Twitter, Uber, and Airbnb, are "matchmakers" (Evans & Schmalensee, 2016) that mediate transactions among two or more sides of the market. Because a large user base is an important condition that increases the chances of market domination (Farell & Saloner, 1986), a significant academic corpus examines users' technology adoption and the process of technology standardization (Arthur, 1989; Brynjolfsson & Kemerer, 1996; Schilling, 2002). Strategies for enrolling a user base include early market entry (Tiwana, 2014), pricing policies (Evans, 2003; Farrell & Saloner, 1986; Rochet & Tirole, 2003), distinctive positioning (Cennamo & Santalo, 2013; Rysman, 2009), and the quality of internet services (Dowell & Swaminathan, 2006; Zhu & Iansiti, 2012). For some digital firms, the quality of a user base matters more than the user quantity, as users can form strong ties with one another (Eocman, Jeho, & Jongseok, 2006; Shankar & Bayus, 2003).

Innovation platforms create value by providing a foundation on which third-party firms develop complementary services and products (Boudreau & Hagiu, 2009; Nalebuff & Brandenburger, 1997). Innovation platforms are often referred to as "industry platforms" because they organize industry-level partnerships (Gawer & Cusumano, 2002; Grabher & König, 2017) and function as a "captain" (Evans & Gawer, 2016) or "orchestrator" for innovators located outside a firm (Tiwana, 2013; Nambisan & Sawhney, 2011). A platform ecosystem comprising a core platform and its modules represent a new organizational or meta-organizational form (Gawer, 2014). A few examples of digital platform ecosystems are app marketplaces (App Store and Google Play), cloud computing services (Microsoft

Azure and Amazon AWS), and mobile operating systems (iOS and Android), in which complex cross-group network effects are present.

A hybrid platform combines the characteristics of innovation and transaction platforms. In 2022, the most successful platforms — Amazon, Apple, Google, Facebook, Tencent, and a few Russian platforms described in this study — are hybrid platforms. Each platform type implements strategies to enroll and retain users on different sides of a platform.

2.3. Platform Expansion Strategies

A long-term platform strategy requires strengthening network effects, eliminating existing competitors that weaken network externalities, and erecting high barriers to new market entrants (Cusumano et al., 2019). Platforms make strategic moves regarding their user base and the architecture of the entire platform (Tiwana, 2013) that will differentiate them from competitors, reduce user multihoming (Armstrong, 2006; Armstrong & Wright, 2007), and increase user lock-in (McIntyre & Srinivasan, 2017).

Several platform expansion strategies exist. Because platforms accumulate user data, they can employ it to extend functionality to various market segments in a way that supplements user demand (Etzion & Pang, 2014). New services and products can redirect user traffic from competitors and create additional user lock-in (Tiwana, 2013; Kenney et al., 2019).

A platform can expand “organically” by creating an innovation platform on which other parties can innovate. Platform firms achieve this strategy by opening digital resources, such as application programming interfaces (APIs), software development kit (SDK), and technical documentation to enable other firms to create their products (Plantin et al., 2018). In fact, the openness of digital resources, first in e-commerce and later in social media, was an important factor in the transition from websites to platforms (Helmond, 2015; Lane, 2012). Innovation platform governance must combine openness

and the ability to generate innovations (McIntyre & Srinivasan, 2017) and the logic of infrastructural control (Eaton, Elaluf-Calderwood, Sørensen, & Yoo, 2015; Jacobides, Knudsen, & Augier, 2006; Pon, Seppälä, & Kenney, 2015). A platform owner decides to make the platform open or closed (Gawer & Cusumano, 2014; Eisenmann, Parker, & Van Alstyne, 2006).

Integration of software with hardware is another strategic move for capturing market share. The transition from personal computers to smartphones significantly transformed firms' strategies (Kenney & Pon, 2011; Pon, Seppälä, & Kenney, 2014). When platforms expand vertically, they strengthen their position in the value chain with hardware suppliers and infrastructure providers (Tiwana, 2013). Firms decide whether to rely on third-party suppliers or develop components in-house and make strategic choices over the compatibility of their products with rival hardware (Eisenmann, Parker, & Van Alstyne, 2009; Adner, Chen, & Zhu, 2015).

Often, platforms pursue mergers, acquisitions, and partnerships to expand their user base, eliminate competitors, and acquire technical competence (Khan, 2017). Acquisitions can precede foreign market expansion when a platform attempts to eliminate potential technical and strategic bottlenecks (Ojala, Evers, & Rialp, 2018).

Finally, foreign market entry is a strategy for expansion beyond the home market. A platform's ability to internationalize depends on the nature of the user base and network effects. Stallkamp and Schotter (2021) take a significant step by explaining variations in network effects configuration at the local, national, and global level, delineating between within-country and cross-country network externalities. Although some platforms enroll new users in their global user base, others have to generate a user base in each new location.

2.4. Policy and Regulations

Digital platforms more often become the subject of regulatory debates. A growing body of academic literature examines how platforms obtain legitimacy within existing

institutional arrangements (Frenken, Vaskelainen, Fünfschilling, & Piscicelli, 2020; Hinings, Gegenhuber, & Greenwood, 2018; Pelzer, Frenken, & Boon, 2019; Thelen, 2018) and navigate evolving regulatory environments (Gorwa, 2019; Jacobides & Lianos, 2021; van Dijck, Nieborg, & Poell, 2019).

Because their organizational form is new, platforms disrupt existing regulatory regimes (Seidl, 2022) and raise legal concerns, especially regarding antitrust and competition laws (Evans & Schmalensee, 2014; Parker, Petropoulos, & Van Alstyne, 2020). Preventing and regulating anticompetitive behavior create debates over government involvement in regulating data companies (Dunleavy, Margetts, Tinkler, & Bastow, 2006; Pasquale, 2016). Drawing on historical examples from other industries, some scholars propose the use of a "self-regulation" approach to platforms (Cusumano, Gawer, & Yoffie, 2021), but others insist on more controlled governance of platforms (Khan, 2017; Pasquale, 2018).

As platforms have become important to society, the polity, and the economy, national authorities have paid more attention to platforms and internet governance, not only in the US but also in Europe, China, and elsewhere in the world (Gorwa, 2019; McKnight, Kenney, & Breznitz, 2021). As platforms take up a larger share of the economy, having domestic platforms becomes significant regarding issues such as taxation, as platforms actually exist in the "cloud" (Tang & Bussink, 2017). More recently, national regulators have started to confront the monopoly of US firms in digital markets in an attempt to foster digital innovations locally and retain the value captured by these foreign platforms. Regulatory efforts target anticompetitive practices and the "gatekeeper" function played by global platforms, as they construct high technological barriers to newcomers. At the same time, regulators often support domestic platform leaders. The regulatory environment, to some extent, explains the success of the US (Gawer, 2014; Jacobides & Lianos, 2021), Chinese (Coe & Yang, 2022; Jia & Kenney, 2022), and Japanese (Tee &

Gawer, 2009) platforms. Government regulations can increasingly be seen as part of domestic platforms' competitive strategy for confronting US monopolists (Cioffi, Kenney, & Zysman, 2022).

2.5. Summary

Existing research on management and economics explains the success of digital platforms as being due to their ability to accumulate a user base and generate network effects. This literature is often based on case studies of the US and Chinese platforms, which achieved their scope by accessing an enormous user base, either in their home market or globally. This dissertation extends the literature on digital platforms by studying competitive platforms in market segments with a global leader (search, e-commerce, and social media) that are significantly limited in their international expansion and user base. This study of the Russian platform market contributes to this stream of research by offering a more nuanced understanding of network effects and how social, political, economic, and regulatory forces shape platform functioning at the local level.

3. EMPIRICAL CONTEXT

This section introduces the reasons for the uneven geographical distribution of platforms and explains the rise of platforms in developing countries, mainly focusing on the BRICS countries: Brazil, Russia, India, China, and South Africa. Then, this section describes our case study of Russia, highlighting its political context as its most important characteristic.

3.1. Platforms in Developed Economies

Digital platforms are not evenly distributed in global terms (Evans & Gawer, 2016; Kenney & Zysman, 2020). The existing research on the internet industry and digital entrepreneurship explains why platforms emerged in the US earlier than elsewhere (Greenstein, 2015; Schiller, 1999; Srnicek, 2017). The rapid development of the internet infrastructure and increased internet connectivity (Greenstein, 2020), access to highly skilled labor, including software engineers and managers (Cusumano & Yoffie, 1998; Doz & Wilson, 2017), and the availability of venture capital (Florida & Kenney, 1988) facilitated the emergence of US-based platforms, particularly in Silicon Valley. Enhanced internet navigation (Cusumano & Yoffie, 1998) and internet pioneers such as Yahoo (1994), America Online (1993), Lycos (1994), and AltaVista (1995) created network effects that drove internet development.

In the 1990s, American platforms entered foreign markets by translating their services into local languages and acquiring local firms. After firms were acquired by one of the US giants, they usually discontinued their operations and were folded into the acquirer's operations (Gautier & Lamesch, 2021). The expansion of US firms across Europe was significant, as high internet connectivity there created user demand. However, digital startups based in Europe did not grow because their user bases were fragmented, and capital markets in their home countries were underdeveloped, seeking foreign

investment (Armour & Cumming, 2006; Da Rin, Nicodano, & Sembenelli, 2006). Today, Europe has a digital startup scene and a few globally competitive platforms (Table 2) but remains dependent on US platforms, such as Facebook, Google, and Amazon, and continues to serve as a supplier of digital startups for American internet firms. In 2011, Microsoft acquired Skype, an Estonian startup, an illustration of how European firms strengthened the position of dominant US platforms.

Japan is an exception to Western economies. Because of the historical and geopolitical environment in which the internet developed in Japan—in particular, the early adoption of smartphones, the specific media culture, and the success of iMode, the predecessor of app stores (Steinberg, 2019)—Japan has indigenous platform leaders in e-commerce (Rakuten), messengers (LINE), and search (Yahoo Japan). Driven by global trends, the Japanese home market has become increasingly dominated by US services, and East Asian users are now served by national, regional, and global platforms (Steinberg, 2020).

Table 2. Geography of selected European platforms

Company	Market Segment	Headquarters Location, Date of Foundation	Public/ Private IPO date	Number of Customers
Booking.com	Accommodation listings	Amsterdam, the Netherlands 1996	Public, April 9, 1999	28 million accommodation listings worldwide
SoundCloud	Music streaming	Berlin, Germany 2007	Private	76 million registered users
Zalando	E-commerce	Berlin, Germany 2008	Public, Oct 1, 2014	17 million customers in 15 countries
Delivery Hero	Food delivery	Berlin, Germany 2011	Public, Jun 30, 2017	21 countries, over 73,000 restaurant partners
BlaBlaCar	Car sharing	Paris, France 2006	Private	22 countries across Europe, Russia, Turkey, Mexico, Brazil, and India

Bolt	Ride hailing, food and grocery delivery	Tallinn, Estonia 2013	Private	100 million customers in 45 countries across Europe and Africa
Oda	Grocery delivery	Oslo, Norway 2013	Private	Norway, Finland, Germany
Klarna	E-commerce payment solutions, fintech and e-commerce	Stockholm, Sweden 2005	Private	250,000 retail partners, active in 17 countries
Spotify	Music streaming	Stockholm, Sweden 2006	Public, Apr 3, 2018	422 million users, including 182 million subscribers across 183 markets
Revolut	Mobile banking	London, UK 2015	Private	18 million customers worldwide

Sources: CrunchBase, klarna.com, newsroom.spotify.com, revolut.com.

3.2. The Rise of Platforms in Emerging Economies

Over the past 20 years, the geographic distribution of the internet population has greatly changed. Several national segments, especially Asian countries, achieved significant rates of internet connectivity. In 2021, 53.4% of the global internet population was in Asia, and Chinese became the second-most-used language on the internet (19.4%) after English (25.9%) (Internet World Stats, 2022). BRICS countries have the largest population of internet users (Table 3). As China and India have yet to reach their connectivity limit, these markets are expected to grow still further.

Table 3. Internet usage statistics in BRICS countries and in the United States, 2022

Country	Number of Internet Users	Internet Penetration Rate
China	1 billion	69.8%
India	834 million	59.5%
Russia	124.6 million	85.3%
Brazil	178 million	82.8%
South Africa	34.5 million	57.5 %

USA	299 million	91%

Sources: WorldBank, Internet World Stats.

Changes in internet connectivity coincided with growth in their gross domestic product (GDP) and income in emerging economies — China, Russia, India, and Vietnam (Roser, 2013). For example, India's middle class increased from 300 million in 2004 to 600 million in 2012 (Roy, 2018). The smartphone transition accelerated further modernization in these countries, especially China (Ma, Grafton, & Renwick, 2020). The increase in the urban middle class created demand for services such as ride hailing, food and grocery delivery, and e-commerce (Maimaiti, Zhao, Jia, Ru, & Zhu, 2018; Thamaraiselvan, Jayadevan, & Chandrasekar, 2019).

Many of these countries adopted US platforms in social media (Facebook, YouTube, Instagram), internet search (Google), and messaging (WhatsApp, Facebook Messenger) because of the US platforms' early market entry, and they have become essential internet services. At the same time, emerging economies developed indigenous platform firms in ride hailing, food delivery, e-commerce, and, less often, social media (Table 4). Regional platforms that replaced a US global supplier served a specific country or geocultural region based on a shared language, culture, and religion (Steinberg & Li, 2017). For example, KakaoTalk, based in South Korea, and Line, a Japanese messaging app, have been adopted across the Asian-Pacific region (Thailand, Taiwan, Japan, and Malaysia), and Careem, a Dubai-based superapp, operates across the Middle East, North Africa, and South Asia.

Table 4. Cross-regional comparison of platform leaders in selected segments

Market segment/region	US	Europe	Asia/ Asia Pacific	China	South Africa	Latin America	Middle East
Ride hailing	Uber Lyft	Uber Yandex BlaBlaCar Bolt Mytaxi Gett	Grab Didi Gojek Ola Uber	Didi T3 Mobility Caocao Mobility Meituan	Uber	Uber Cabify 99 Easy Taxi	Careem Bolt Uber

Food delivery	DoorDash Uber Eats	Uber Eats Glovo Delivery Club Just Eat Deliveroo	Deliveroo Zomato FoodPanda LINE Man GrabFood	Meituan Waimai Ele.me ENJOY Home-Cook	Uber Eats Spur Steak Ranches Zomato	iFood Rappi UberEats Glovo 99Food	Talabat Zomato Deliveroo Careem (Uber Eats)
E-commerce	Amazon Walmart eBay	Amazon eBay Allegro Wildberries Zolando	Amazon AliExpress Shopee Lazada Tokopedia	Taobao Pinduoduo JD.com Tmall	takealot.com gumtree.co.az Amazon	Mercado Libre Amazon Casas Bahia	Amazon Souq Noon Wadi Namshi Shein
Social media	TikTok Instagram Facebook	Facebook Twitter Instagram YouTube	YouTube Twitter Instagram Pinterest	Douyin/TikTok Weibo Momo	YouTube Facebook Instagram TikTok	Instagram Facebook TikTok	Facebook Instagram YouTube Twitter
Messenging	Facebook Messenger WhatsApp YouTube	WhatsApp Facebook Messenger Telegram Signal	WhatsApp WeChat Telegram KakaoTalk Line	WeChat QQ	WhatsApp	WhatsApp Facebook Messenger Telegram	WhatsApp Telegram Facebook messenger Viber

Sources: Statista, Similarweb, Statcounter, App Annie, and others

Although emerging economies offer a complex environment for platform entrepreneurship, their social and economic context may create demand for certain services. India created domestic platforms in e-commerce (Flipkart, Snapdeal), ride hailing (Ola), food delivery (Zomato), and financial services (PhonePe, Paytm, and BharatPe). Partial payment services and small loan programs have become popular among the low-income population in India (Rajan, 2021). In Southeast Asian countries, a lack of trust in formal institutions and the absence of public transportation infrastructure facilitated the adoption of alternative mobility services (Jack, 2020; Ratanawaraha & Chalermpong, 2015). In Latin America, digital consumer services began to increase in 2009, when a group of platforms began to operate across the region (Miguez & Menendez, 2021).

In addition to consumer preferences, the state of national internet industries explains why indigenous platforms emerge and mature in some emerging economies but not in others. These countries vary significantly in their social, economic, and political contexts, ranging from China, the second-largest-internet economy globally, in which national

leaders — Baidu, Alibaba, and Tencent — provide the foundation for the domestic platform economy (Fannin, 2019), to African countries, with their poor technological development and uneven digital connectivity (Friederici & Graham, 2018). Because of their underdeveloped domestic markets, emerging economies often become suppliers for overseas markets (on Latin America, see Wagner & Fernandez-Ardevol, 2016; on African countries, see Friederici & Graham, 2018).

Finally, like firms in traditional industries (Roztocki & Weistroffer, 2008), Western and, more recently, Chinese firms seek to capture market share in emerging markets by acquiring local platform leaders. For example, in the Middle East, in 2017, Amazon acquired Souq, the largest e-commerce company with localized operations in the United Arab Emirates, Egypt, and Saudi Arabia, for $580 million, and in 2020 Uber acquired Careem, a Dubai-based superapp with a portfolio of mobility, delivery, and payment services, for $3.1 billion. The US retail Walmart acquired a 77% controlling stake in Flipkart in India, for $16 billion in 2018. The acquisition of indigenous firms hinders the development of the domestic platform industry in emerging economies.

3.3. Russian Segment as Case Study

Russia is a midsize European economy, with over 110 million internet users and an internet penetration rate of 85% (World Bank, 2020). Globally, 2.5% of internet users are Russian speaking, which is comparable to the share of German (2.0%) and Japanese (2.6%) internet users (Internet World Stats, 2022). Russia's inability to commercialize inventions (Graham, 2013) and pursue digitization on a larger scale (Zemnukhova, 2020) contrasts with its success in breeding domestic platform firms. In contrast to other emerging economies, Russia has highly skilled specialists and a steadily growing number of internet users who do not speak English, and they play a significant role in the emergence of domestic platforms and their leadership positions in the home market.

As in the US and China, in Russia domestic platforms provide the foundation for the national platform economy. Three homegrown firms—Yandex, VK (formerly, Mail.ru Group), and, more recently, Sber—structure the Russian platform economy. These firms have created extensive portfolios of consumer services in addition to their core products and function and offer domestic alternatives to many global services (Table 5). Yandex, the largest internet firm in Russia, valued at $17.4 billion in 2022 (Juzbekova et al., 2022), offers some functionality beyond of internet search. VK created a superapp centered on its social network that enrolls 73.4 million users monthly and has 84% of the Russian audience (VKontakte, 2022). Sber, a Russian majority state-owned bank, began to expand into nonfinancial business in 2018 by investing over $1 billion in nonbanking services, partnering with the Mail.ru Group and Yandex, and acquiring Russian digital startups. These three firms are limited to their home market, which is characterized by intense competition for Russian users.

Table 5. Key Russian platforms and their portfolio of services

	Core Market	**Voice Assistant**	**E-commerce**	**Food Delivery**	**Grocery Delivery**	**Music**	**Video Streaming**	**Taxi**
Yandex	search	Alice	Yandex. Market	Yandex. Eats	Yandex. Lavka	Yandex. Music	Kinopoisk	Yandex. Taxi
VK (formerly Mail.ru Group)	social media	Marusia	AliExpress Russia	Delivery Club (O2O)	Samokat (O2O)	Boom	VK Video	Citymobil (O2O)
Sber	finance & banking	Salute	Sbermarket			Zvouk	okko	

Sources: Websites of Yandex, VK, and Sber.

Note: O2O is a joint venture between Sberbank and Mail.ru Group.

Political context plays an essential role in the evolution of Russia's internet industry. Some scholars argue that government control over Russia's economy has declined over

time (Meyer & Peng, 2016), except for large, strategically important firms (Bruton et al., 2015). However, government intervention has increased in the internet industry, because of geopolitical tensions, mainly confrontation with the US and domestic policy issues. Tensions between Russia and Western countries increased after Russia's annexation of Crimea in 2014, initiating "trade wars" between Russia and the EU (Meyer & Peng, 2016) and cybersecurity sanctions against Russian information technology (IT) firms.

Over time, the Russian internet market transitioned from an open environment to one that is selectively protected. The Russian authorities gradually aligned Russian internet governance with national borders (Nocetti, 2015) and rerouted information flows through domestic platforms. Like a few other emerging economies (Venezuela, Peru, Malaysia, Hungary, and Ecuador), Russia can be seen as an "informational autocracy" in which national firms abide by government dictates by censoring certain information (Guriev & Treisman, 2019). This affects information policy and increases oversight of national social media platforms, news aggregators, messaging apps, and classified advertising.

This complex context creates an unpredictable business environment for digital firms. Political lobbying and securing deals with politically influential people remained an important part of a competitive strategy for domestic and foreign internet firms navigating the Russian market (see, e.g., Uber's market entry strategy in Duncan, 2022). Also, the changing political context in Russia has driven outmigration by highly skilled specialists, which tends to increase after a significant political or economic crisis (Antoshchuk & Ledeneva, 2019; Biagioli & Lépinay, 2019; Ledeneva, 2014). This makes the situation in Russia interesting because digital platforms have succeeded in this emerging economy.

3.4. Summary

Emerging economies have become major consumers of platform services. American platforms as global suppliers of digital services dominate these national markets. At the same time, in some regions, media consumption patterns, the language, or the need to

access local information create opportunities for regional firms and divert traffic from global suppliers. A study of Russia contributes to our understanding of platform geography and the ability of countries other than the major economies to nurture capitalist firms.

4. METHODOLOGY

This section describes the scientific philosophy underpinning this PhD research and reflects on the process of knowledge creation. The section explains the choice of qualitative research methodology, a case study research strategy, the selection of cases, and the data analysis techniques, which affect our conclusions.

4.1. Qualitative Interpretative Research

This PhD dissertation is based on qualitative research; it analyzes processes and meaning, studies phenomena in the environment in which they occur, and employs descriptive data and social actors' meaning to understand the phenomena (Denzin & Lincoln, 2008; Flick, 2018a). In strategy and management research, qualitative studies provide detailed descriptions of actions and the real-life context that help to clarify the "social processes that underlie management" (Gephart, 2004, p. 455).

Qualitative research is an umbrella term that encompasses approaches with different theoretical backgrounds, methodological principles, and research aims (Flick, 2018a). In the social sciences, including management (Guercini, 2014), several research paradigms coexist (Corbetta, 2003; Della Porta & Keating, 2008; Phillips, Sewell, & Jaynes, 2008). This PhD project is qualitative interpretative research that aims to clarify and reveal the reasons behind strategic decision-making and interprets the empirical data collected — documents, interviews, and observations (Gephart, 2004; Gioia, Corley, & Hamilton, 2013).

4.2. Case Study Research Design

The articles in this dissertation employ a case study research design. Case studies involve in-depth research of "a real-life contemporary phenomenon" characterized by multiple points of interest and require multiple data sources (Yin, 2009, p. 18). They

"confront theory with the empirical world" (Piekkari, Welch, & Paavilainen, 2009, p. 569) and make theoretical contributions by creating "context-dependent knowledge with regard to the identification of new phenomena and trends" (Ridder, 2017, p. 298). Case studies are widely used in management and business studies (Ketokivi & Choi, 2014; Piekkari & Welch, 2018).

Case selection is important in this research design (Walliman, 2015). Depending on the relationship between the empirical setting (the case) and theory, several approaches to case study exist (Eisenhardt & Graebner, 2007; Stake, 2005; Yin, 2009). This dissertation examines anomalous cases that is not explained by existing theory or demonstrates internal contradictions and insufficiency (Gilbert & Christensen, 2005; Ridder, 2017). This in-depth study of Russian platforms elaborates existing theories in economics and management by studying how national platform champions emerge and compete with their global analogs. Focusing on successful firms might pose research limitations but can exemplify theory limitations (Walliman, 2015).

The articles in this dissertation vary in their type of case study research design (Table 6). Article 1 uses an embedded case study design (Yin, 2009), a cross-case analysis of several Russian platforms that reveal similarities and differences in the conditions in which successful platforms emerge. Each case is analyzed independently, and then similarities are identified between cases, leading to theoretical conclusions. Articles 2 and 3 are single case studies; they provide detailed descriptions of more profound causes of the phenomenon. Because anomalous cases are often examined within other cases (Ridder, 2017), a single case study uses secondary literature that places social situations into a context.

Table 6. Design of case studies in this PhD dissertation

	Article 1	**Article 2**	**Article 3**
Case study	Multiple cases	Single case	Single case

Research Design			
Anomaly Case	Indigenous market leaders in highly competitive segments: search, e-commerce, social media.	Regional platform leader that generated and maintained market share in a market segment with a global market leader	National policy and regulations that contributed to platforms growth before the market converged to American/Western platforms.
Purpose of the Case	Comparing similarities and differences among cases.	A detailed description of "how" and "why." Examine relationships within specific settings.	
Sources	Interviews, archives, press releases, policy documents		

4.3. Data Sources and Digital Data Collection

The case study approach uses multiple data sources (Flick, 2018b; Yin, 2009). This PhD project uses press releases, financial reports, semistructured expert interviews, secondary literature, and media publications. This section comments on the digital approach elaborating on the desk (documentary) research and interview strategies and reflects on the data collection process, also known as the research archive generation (Rapley, 2007).

4.3.1. Online Data Collection

We collected the data collection in two phases. In the first phase, we examined the context in which Russian platforms emerged and matured and prepared supporting materials for expert interviews. Available online documents, such as press releases and digitized newspaper archives, were analyzed. In the second phase, the systematic collection of expert interviews and observations of IT industry events was scheduled as on-site fieldwork in Moscow in March 2020. Because of restrictions due to the COVID-19 pandemic, we had to adapt the data collection strategy significantly. The data were collected digitally, except for the Russian Internet Forum, attended in April 2019, and two

interviews conducted in Moscow. We conducted and recorded 14 expert interviews via Skype and Zoom, but the primary empirical materials were documents.

The online nature of desk research and interviews did not have a significant effect on knowledge creation. Online interactions are common in professional communications among the internet industry experts interviewed. Following Howlett's (2022) reflections about digital fieldwork during the pandemic, the digital format facilitated communication between the researcher and the participants, enabling online interactions to be more informal and facilitating flexible time schedules. With regard to desk research, the internet offers access to an enormous variety of multimedia data for research purposes (Guercini, 2014; Rapley, 2007). Internet firms accumulate data on their history, business strategy, and financial statements, and policy documents are retained in a digital format. However, it is important to acknowledge that the use of digital data sources might be a limitation in this research.

4.3.2. Desk Research

Document analysis is one of the major research traditions in social sciences, including management and political economy (McCulloch, 2004; Tight, 2019). We examined several documentary sources for this dissertation.

First, we use firm-generated documents, such as press releases, financial reports, transcripts of official interviews, and information on the websites of the main Russian internet firms: Yandex, the Mail.ru Group, Ozon, and Sberbank. Press releases published between 1996 and 2021 were scraped from the corporate websites of Russian firms and then analyzed. These documents are "public announcements" for industry participants and provide "a direct or indirect indication of its intentions, motives, goals, or internal situation" (Porter, 1980, p. 75). Press releases contain factual data on firms' strategic moves, such as partnerships, alliances, acquisitions, and international expansion, allowing a longitudinal analysis of firms' strategies. Also, financial statements (10-K reports) and

annual reports of publicly traded firms (Yandex, Mail.ru, and Ozon) registered with the Securities and Exchange Commission (SEC) were analyzed. These standard documents are valuable sources of information for strategic management research (Glueck & Willis, 1979).

Firm-generated documents have limitations as research data. Organizations promote a specific interpretation of information regarding financial news, corporate strategy, and legal developments (Neuhierl, Scherbina, & Schlusche, 2013) and want to control harmful media exposure that affects fluctuations in stock prices (Ahmad, Han, Hutson, Kearney, & Liu, 2016). Press releases express the corporate identity and channel how a firm wants others to perceive it (Brown, Dacin, Pratt, & Whetten, 2006; Whetten & Mackey, 2002) and increase legitimacy for shareholders (Fincham, 2002). Therefore, firms' data, even financial statements, are not guaranteed "to show objectivity, consistency, or accuracy" (Glueck & Willis, 1979, p. 96). These obstacles were mitigated using additional documents (statistics, news and media reports, secondary data) and interview data.

Second, we collect and examine official publications from Russian authorities, such as the Federal Antitrust Service, Federal Service for Supervision of Communications, Information Technology and Mass Media (Roskomnadzor), the government, and the president of the Russian Federation. As data sources, policy and government publications provide factual information on policy and polity directions and reflect changes in society and social institutions (Rapley, 2007). To make the research archive manageable, we selected official publications that mentioned the "internet" or Russian internet firms.

The third source of documents is mass media reports and digitized newspaper archives. Digitized newspapers—such as *Computerworld Russia, Mir elektronnoj commerzii* [*E-commerce World*], and *Delovaya pressa* [*Business Press*]—document the historical context of the Russian internet industry, especially during the early 2000s. For example, *Computerworld Russia* was a daily newspaper founded in 1995, and its publicly

available digitized archive from 1995 until 2018 portrays the most important events in the Russian IT industry and the world. The newspaper archive was filtered using a keyword search to reduce the number of articles. The project uses publications that mention internet firms (Ozon, Yandex, VKontakte, etc.), market segments (e-commerce), and industry settings (venture [capital]). The sample of media outlets that reflect contemporary events include tech and economics magazines in Russian and English (e.g., *The Economist*, *Wired, The Verge*). One media source was particularly relevant for this research—RosBusinessConsulting (RBC), one of Russia's most authoritative business media outlets—was monitored daily in 2018-2021, and relevant publications on Russian internet firms were selected, saved, and annotated in the research archive.

This project also uses additional data sources for background and context. The project consulted Mediascope, Russia's leading media agency, which provided data on internet penetration rates and statistics on Russian platform usage in several market segments from 2012 to 2020. Statista and Crunchbase are publicly available databases that aggregate business information about private and public companies, penetration rates, and internet usage, which were also consulted. The use of secondary literature includes popular books written in Russian on the evolution of major Russian internet firms — Yandex (Sokolov-Mitrich, 2014), Ozon.ru (Eksler, 2010), VKontakte (Kononov, 2012), Rambler (Ashmanov, 2008), the rise of venture market in Russia (Vasiliev, 2017), and the social and cultural space of the Russian internet (Kuznetsov, 2004). Additionally, self-help manuals in Russian that review the variety of Russian and foreign internet resources were a valuable source of data on user practices in the mid-2000s.

4.3.3. Expert Interviews

Expert interviews often supplement other methods of data collection (Bogner, Littig, & Menz, 2018). We conducted 14 semistructured expert interviews online in 2019 and 2020, two with European experts, and the rest with Russian speakers. The interview was

structured around the history of the Russian platforms, mainly focused on the industry setting, the role of the Russian state, and competition with the US/global competitors.

These expert interviews are exploratory and were intended to identify problems and provide context. The major obstacle to conducting systemic and theory-generating interviews was the difficulty in obtaining access to employees of selected foreign and Russian platforms, who refused to participate in the study due to the nondisclosure agreements required. Instead, we conducted interviews with third-party experts in social media, venture capital, e-commerce markets, internet policy experts, former Yandex employees, and scholars who perform research on the Russian internet. These informants have broad expertise and contextual and interpretative knowledge regarding firms' strategies and decision-making (Bogner & Menz, 2009; Meuser & Nagel, 2009). Like the managers often interviewed in strategic research (Trinczek, 2009), selected experts are engaged in the Russian internet scene daily. A complete list of interview subjects is in the Appendix to Article 1.

Before conducting the interviews, we made some preliminary observations and connections within the Russian expert community and attended the Russian Internet Forum in Moscow in April 2019. However, the recruitment of interviewees was facilitated by professional and personal connections established within Russian IT that enabled participants to be enrolled via informal referrals. Experts were recruited primarily via a snowball-sampling technique. The IT industry in Russia remains male dominated, hence, the majority of informants were men. All interviews were transcribed.

4.4. Data Analysis

Data analysis proceeded in several stages with an iterative process between data collection and analysis (Walliman, 2015). Thematic analysis (Fereday & Muir-Cochrane, 2006) is the primary method of data analysis employed in this project.

As in other studies (Nowell, Norris, White, & Moules, 2017), press releases, digitized newspaper articles, and interview transcripts were read and then manually divided into several categories and subcategories based on content. Initial codes were generated using existing literature on digital platforms and tested in a pilot study, in which the first 30 documents of each type were analyzed (two in the case of interview transcripts). The coding scheme was calibrated based on emerging topics and then used to analyze the rest of the data. NVivo software was used for coding and retrieving coded information.

In the research design for anomalous cases, a researcher not only examines the content of qualitative data but also considers a "broader complex social situation" (Ridder, 2017, p. 290). Press releases and digitized archives are primarily used for factual data extraction, but the social, political, and economic context is also important. In Article 2, the systematic examination of Yandex press releases, published between 1996 and 2018, demonstrates the evolution of these documents and reflects changes in the social, economic, and political environment. In the early years, Yandex used press releases to explain to early adopters how to navigate the internet using the search engine. Later, Yandex addressed another side of the market: advertisers. When Yandex had its initial public offering (IPO) in 2011, it began to issue legal updates and financial reports, primarily addressing shareholders. In 2014, Yandex created an additional information newsfeed to address a wider audience. This information contextualizes data on major shifts in Yandex's strategy. Similarly, in addition to extracting facts, Article 3 employs elements of discourse analysis to understand the social-historical and political context in which documents were created and examine "how language is used in certain contexts" (Rapley, 2018, p. 2). Factual and contextual data were assembled using existing literature on digital platforms and platform regulations and substantive theory on firms' strategy and behavior.

4.5. Research Reliability and Validity

Because of way in which research findings are applied, reliability and validity are important in strategic management research (Guercini, 2014; Scandura & Williams, 2000). In the qualitative research tradition, reliability is achieved by selecting appropriate methods, documenting research procedures and decisions, and presenting research procedures to readers (Flick, 2018b).

This PhD dissertation follows standardized research procedures and data analysis methods (Flick, 2007). The data were organized and coded using NVivo software. The use of software for data management ensures the validity of analysis in qualitative research (Welsh, 2002). All the interviews were transcribed, and an interview guide and a coding system were applied consistently to all data sources. Every case (a firm) was analyzed in the same way.

Achieving credibility also means selecting diverse data sources that provide multiple perspectives on the same phenomenon, increasing the construct validity and the trustworthiness of results (Yin, 2013). The scope of research data is especially relevant in a case study research design in which researchers often support findings with various data sources and detailed case descriptions (Dooley, 2002; Eisenhardt, 1989; Stake, 2000). This research project uses various sources of information: company data, statistics, financial data, and government and policy documents.

A systematic reflection on research procedures in qualitative research implies making an audit trail (Lincoln & Guba, 1985). In this dissertation, the audit trail took the form of note taking during data collection (writing one-page summaries of interviews, listing the main issues discussed, and keeping track of new questions that arise from the data), data analysis (notes with preliminary observations, emerging codes, and their relationships, case

summaries), process notes concerning methodological decisions made throughout the project, and theoretical memos.

All these steps, from data collection to the final analysis, are intended to increase the credibility of research procedures and establish the trustworthiness of the research process, interpretations, and results achieved.

4.6. Generalizability

Studies on emerging economies have limited generalizability, particularly because of variations in context. Context-specific explanations obtained in one location have limited transferability to other countries (Meyer & Peng, 2016). Also, anomalous cases are not representative of a broader population. The generalization of results obtained in case studies is limited in scope and often results in "contextualized explanations" (Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mantymaki, 2011) that treat each case "holistically" "as a specific combination of conditions producing an outcome" (Piekkari & Welch, 2018). The purpose of anomalous case study research is to demonstrate external forces: to identify historical, social, political, and other conditions to explain the anomaly (Ridder, 2017).

This PhD dissertation reveal the context in which digital platforms emerge and compete with more powerful global firms. The results obtained in the study of Russia have relevant implications for understanding platforms in other emerging economies, particularly in BRICS countries such as India and Brazil, which have both high demand for digital consumer services and indigenous digital firms. Also, this case indicates the context in which government intervention is a potential way to nurture and protect national digital firms. These results may be relevant for countries in which the government demonstrates growing interest in regulating global and domestic digital platforms.

4.7. Research Ethics

Because this study involves research on human subjects, several procedures were employed, such as (1) gaining informed consent from participants in the case study, and (2) ensuring the privacy and confidentiality of informants and the results of their participation (Yin, 2009, p. 73). The Norwegian Centre for Research Data (NSD) approved the research design. Following the NSD guidelines, each participant received an informational letter (in either Russian or English), which outlined more detailed information about the project, the terms and conditions of participation in the project, and the purpose of data collection. Written and verbal consent was obtained. Personal data collection, storage, and analysis were performed using NSD-approved procedures.

All informants were assured of confidentiality (protection of identity) because of potential risks to their employment or reputation. Because the interviews focus on business strategy and firms' behavior, personal information was deleted from the data. However, because the group of participants is specific, even with all direct identifiers removed, participants could be identifiable in publication. To mitigate the risks of confidentiality breaches and revelation of potentially sensitive information, the audio recordings were deleted after the transcription of these interviews, and sensitive and identifiable information was removed from the research records.

5. SUMMARY OF THE ARTICLES

Article 1. National Markets in a World of Global Platform Giants: The Persistence of Russian Domestic Competitors

This article examines how and why a population of domestic platforms emerged and why the Russian market converged with local firms. The article examines the context of the Russian internet industry from the late 1990s until 2022 and analyzes three market segments: search (Yandex), social media (VKontakte and Odnoklassniki), and e-commerce (Ozon).

Section 1 demonstrates that Russia's platforms built internal capabilities by generating a substantial user base in their home market. Russia's turbulent social, economic, and political context in the late 1990s, poor internet connectivity, and use of the Russian language provided non-state protection from foreign firms and prevented foreign entry. Internally, Russia had the necessary resources availability to support the emerging internet industry, such as software skills, access to foreign and domestic capital, a population with increasing purchasing power, and rising user demand for Russian-language internet resources. When foreign firms entered the Russian market, Russian users prioritized domestic services due to their social, cultural, and physical proximity and use of the Russian language.

Section 2 focuses on changes in Russia's political and regulatory context and the effect of these changes on platform competition in designated market segments. The article illustrates that the growing importance of domestic platforms to the economy, society, and policy resulted in the selective protectionism of domestic firms. Government oversight varied across market segments and was most needed in search, a market segment open to multihoming, in which a foreign competitor established much stronger user lock-in by bundling the product with hardware. In e-commerce and social media segments,

government support was minimal, and Russian platforms established leadership positions due to all kinds of proximities to users.

The article extends the theory proposed by Stallkamp and Schotter (2021) on how firms compete with cross-country or/and within-country network externalities and demonstrates the presence of local network effects in global services. The findings raise the issue of government intervention as a necessary policy measure to protect domestic platforms, first to shelter their early market entry and then to protect them from foreign firms that exhibit global network effects. This unique national setting opens up a discussion on whether it is possible to replicate the Russian historical trajectory today, when most national markets have already converged with the US platforms.

Article 2. Defending the Motherland: How Russia's Yandex Competes with Google

The article analyzes the anomalous case of Yandex, a Russian national search engine and its competitive strategy against Google from its inception in the late 1990s until 2020. The research question addressed in this paper is: how does a local platform prevent the migration of its users to a global competitor? For twenty years, the internet industry experienced several device transitions to navigate the internet: the PC, the smartphone, and then the mobile app era. The article uses this periodization to examine how Yandex generated network effects in each era.

The main argument is that a small platform, limited to its home market, can compete with a global platform of similar functionality by creating and occupying a niche, leveraging government protection, and extending its product offering beyond the core product.

During the PC era, Yandex built up its capabilities by leveraging all sorts of proximities to users and advertisers in the local market. Consistent with the existing literature, early market entry, technological leadership, and the unique offering of high-

quality Russian-language search enabled Yandex to lock in a PC user base. The smartphone era shows the significant limitations of this strategy, demonstrating the powerful lock-in between hardware and software that global platforms (Google) could create. Finally, after the market converged to the Apple iOS and Google Android mobile operating systems during the mobile app era, a regional champion could generate local network effects by adding proprietary platforms that mediated between local supply and local demand. Again, Yandex occupied market segments before domestic and foreign competitors entered its home market with the same proposition.

A niche platform strategy based on local network effects cannot fully protect a smaller platform. The powerful lock-in during the smartphone transition gradually eroded the market share of Yandex. The paper also demonstrates that the regional platform sought government protection. For other countries interested in employing this model, the paper offers valuable observations on the necessity of government protection against a foreign takeover and practices that accumulate market power.

Article 3. Protecting a Domestic Platform Economy: How Russia Mitigated Dependence on Western Platforms

Article 3 addresses the emerging topic of platform governance and examines the role of policy and politics in nurturing domestically competitive platforms.

A significant amount of scholarly work analyzes Russian internet governance, particularly media content censorship and various mechanisms through which the Russian government imposes control over the internet. However, existing works tend to omit the role of Russian policy and politics in the competition between domestic and foreign firms. The article demonstrates the evolution of policy approaches in Russia. The government's attitude toward the internet and platforms started with general support of digitization and the industry and extended to control over domestic firms as content and media providers and finally to the most recent stage, in which the government challenges the dominant

market power of the US firms and aims to expel foreign platforms. The article argues that because the internet challenges Russia's authoritarian regime, national authorities acknowledged the strategic importance of platforms for politics and society early enough to introduce restrictive policies and prevent the foreign takeover of domestic firms. The article reviews the existing literature and demonstrates the unintended outcome of Russian internet politics.

The case shows several implications for the study of platforms and platform governance. As is the case in other countries, Russia demonstrates that politicians, policy makers, and regulators gradually acknowledge the growing power of platforms that require policy responses. The Russian government protected domestic internet startups by regulating mergers and acquisitions and implementing antitrust regulations against foreign platform competitors. The discussion also comments on the limitations of nationalization of digital platforms and demonstrates other mechanisms that Russia used to secure control of national platforms. As platforms become subject to greater control, economic and political interests increasingly merge. In the interest of protecting local digital markets and innovators, national policies increase the tendency toward fragmentation of the global internet.

6. DISCUSSION

The purpose of this PhD dissertation is to understand how and under which conditions indigenous platforms emerge outside major economies and can successfully compete with global platforms. The Russian market is a rich empirical setting for a small yet important internet, which sheds light on these processes. Each article in this dissertation makes an independent contribution, and the following section summarizes their general findings.

6.1. Regional Platforms as Niche Platforms: A Trade-off between Global and Local Networks

The dissertation overall suggests that, by creating and occupying a niche, regional platforms can compete with foreign platforms with similar functionality. A niche or a strategy with a limited scope is advantageous in particular for small firms, which have limited resources and hence better adaptability in navigating customer needs and the changing business environment (Dalgic, 1998; Dalgic & Leeuw, 1994). In network markets, niche platforms build their advantage by generating locally bound network externalities (Stallkamp & Schotter, 2021). This study extends existing research by demonstrating the presence of national network effects in globalized segments such as search, e-commerce, and social media, in which geographic boundaries should not be significant.

The study demonstrates that national language, relevant functionality, and geographic proximity to local users create strong forms of user lock-in and redirect traffic to national platforms. International expansion requires time and incurs higher costs because of the "liability of foreignness" (Zaheer, 1995). Local platforms are better positioned because of their knowledge of local markets and institutions (Cusumano et al., 2019), cultural factors, and user media consumption practices (Steinberg, 2020).

A long-term strategy of niche platforms requires protecting and strengthening local network effects. Because of the high innovation rates in the internet industry and technology convergence, the competitive dynamics among firms can be rapidly transformed. A niche platform must respond by creating new combinations of local network effects and extending functionality (VK, OK, and Yandex), providing better-quality service than foreign equivalents (Ozon) or creating additional platforms that also employ within-country network effects (Yandex). Like platforms in other national segments, for example, the superapp model in South Asian markets (Steinberg, 2020; Steinberg, Mukherjee, & Punathambekar, 2022), Russian platforms pursue horizontal expansion. This opens up a discussion about why indigenous platforms do not create a strong bundle of software and hardware, either locally or globally. The dissertation also demonstrates the limitations of the niche platform strategy, as niche platforms struggle to internationalize with their core product and, hence, remain local.

The Russian example demonstrates the importance of a homogeneous user base. In Russia, rising internet connectivity and the elimination of the digital divide between capital cities and provinces enabled domestic platforms to continuously enroll and lock in users in a naturally insulated domestic market. This created an opportunity for scale. Domestically competitive platforms also emerged outside Moscow and St. Petersburg, two major cities in the western portion of the country. 2GIS, a map and navigation platform created in Novosibirsk in 1999, became a domestic market leader, with 42 million monthly active users in Russia and the Commonwealth of Independent States (CIS; Crunchbase, 2022) and a competitor to Yandex.Maps and Google Maps in Russia. The importance of a homogeneous userbase corroborates evidence from African countries, in which poor national internet infrastructure, limited to major cities, failed to generate a sufficient userbase for domestic services (Friederici & Graham, 2018), and Europe, where the highly

connected but fragmented internet population did not ignite sufficient network effects for domestic platforms.

6.2. Industry Environment and Growth of Domestic Platforms

This study on Russia demonstrates the importance of having an industry context (social, political, and economic) in which platform firms emerge and mature. Like technology entrepreneurs in traditional industries (Hargadon & Douglas, 2001), platform entrepreneurs had to make significant efforts to transform existing institutions and create new markets. Digital transformation requires "novel actors, structures, practices, values, and beliefs" (Hinings et al., 2018, p. 55) that will replace existing industry organizations with the new "platform logic" (Gawer & Phillips, 2013). Our in-depth analysis of Russian platforms demonstrates the importance of partnerships with local content providers, regulators, infrastructure providers, and advertising agencies. Most important, these firms need to create user demand to attract users, and cultural factors play a decisive role in technology adoption.

Further, the study also demonstrates the importance of access to capital markets and human talent. Although these resources are not distributed equally (Florida & Kenney, 1988; Hornuf, Schmitt, & Stenzhorn, 2020; Lutz, Bender, Achleitner, & Kaserer, 2013), they play a crucial role in supporting new technologies.

Finally, although the dissertation focuses primarily on the competition between Russian national champions and their global rivals, intense competition in the home market contributed significantly to the industry's growth. In search, Yandex competed with Rambler, once a national market leader and pioneer of digital advertisement in the country. Although the management of Rambler did not develop a sustainable expansion strategy to attract users, Rambler & Co continues to be its largest media holding, with over 47 million monthly users in 2022. In social media, Odnoklassniki and VKontakte competed with the social network MoyMir, developed by the Mail.ru Group. Because they were limited to

their home market, internet companies competed for Russian users. As in the Chinese and American markets, the intense competition led to high innovation rates and technological advancement.

6.3. The Role of Government Intervention

This study elaborates on the government's role in nurturing domestic platform leaders and creating an independent platform infrastructure. As stated in the existing literature, early market entry and late foreign entry gave Russian firms a first-mover advantage. An important implication is that digital startups may require government protection from foreign firms. In contrast to the free market in the US and government intervention in China, an alternative scenario of selective protectionism that balances domestic market openness with the protection of indigenous firms prevails in Russia.

As demonstrated in the three articles, Russian platforms emerged in a relatively isolated environment. Although this condition does not exist in other settings because their markets have already converged with the US platform giants, one policy option is government protection of digital startups from acquisition or being outcompeted by foreign platforms. Also, Russian platforms pursued a strategy of home market leadership and refused to be acquired by foreign firms. The conditions in Russia illustrate that niche platforms can seek protection from global leaders because they were needed, and, as in other countries, antitrust regulations were used as an instrument of protection.

The timing of government intervention is important to consider. Government protection was imposed on Yandex after Russian users adopted Android smartphones with only Google services installed. After the market starts to tip toward one or two platforms, it is challenging or even impossible for a smaller platform to displace the dominant platform. The contrasting case is the early control and supervision of RuTube, a Russian video-hosting platform (Article 1). Content censorship decreased platform attractiveness

and diverted user traffic. This suggests that a balanced and nuanced approach to successful government intervention is needed.

Finally, it is important to emphasize that government protection is one of many factors that enabled the success of Russian digital firms. An in-depth analysis of Russian platforms illustrates that, primarily, Russian firms built advanced technologies, generated functionality and attracted users, and adapted competitive strategies for over 20 years. The government protection facilitated network effects created in their national environment, in which they used their knowledge and navigated the environment. Government protection is only adequate for supporting the industry when firms are competitive and advanced.

7. CONCLUSION

7.1. Contribution to Platform Research

The study of Russian platforms extends academic research on digital platforms, which is primarily focused on US and Chinese firms. The study demonstrates that platforms can emerge and mature outside the major economies and makes several contributions to the existing literature.

First, this examination of Russia offers a more nuanced understanding of the dynamics of within-country network effects, their variation between different segments (search, e-commerce, and social media), and the need for government intervention in each segment. The internet industry's social, political, and economic environment and evolution over time can play an important role in explaining the dynamics of network effects.

Second, the study elaborates on the role of the state, its motivations, and its instruments in regulating platform firms and markets. The Russian situation exemplifies the connection between technology, national economic interest, and geopolitics in the context of digital platforms. National regulators, guided by different norms and values, aim to achieve more control over the impact of platforms at the local level. The increasing fragmentation of platform governance approaches follows the fragmentation of internet governance practices (Daskal & Ohm, 2018) and continues the further disintegration of global cyberspace.

This study of Russia contributes to the academic debate over the power of US platforms and the role of domestic platforms in increasing local autonomy and control in home markets. As the war in Ukraine in 2022 illustrates, the Russian environment demonstrates the resilience of the domestic platform economy as supported through domestic platforms. National platforms have become strategically important for the economy and society.

Overall, the study on Russia contributes to emerging studies on platform capitalism and its country-specific variations. Although Russian platforms stem from another social, political, and market environment, these dominant platforms do not demonstrate an alternative business model or platform governance approach that would ensure better public accountability, for example. Like the US GAFAM and Chinese BAT firms, Russian platforms (Yandex, VK, and Sber) want to increase power in the home market through network effects, mergers and acquisitions, and aligning private and government interests. The platform organizational form is a hegemonic model for a new corporation that spans different economic and political systems. Further analysis of platforms as the dominant organizational form and their consequences are necessary for understanding capitalism as a socioeconomic system.

7.2. Limitations of the Study and Suggestions for Further Research

In conclusion, it is important to mention the limitations of this study and the directions it opens for further research on the geography of platform firms.

This dissertation focuses on Russian national champions, "successful platforms" that emerged in the early 2000s, at the beginning of the commercial internet era, and operate in particular market segments (search, social media, e-commerce). Although it focuses on platform leaders, the study omits failed platforms and the role of the national environment in them. As a result of the research question and case selection, the project examines platforms limited to their home market that struggled to internationalize. The project also omits examination of platforms that emerged outside major economies and succeeded in crossing borders. For example, the Russian-born ride-hailing platform inDriver, created in 2013 in Yakutsk, had attracted 100 million users and expanded to 37 countries by 2021 (Gaineddenova, 2022). Further research is needed to understand the competitive strategies of these firms.

The second direction for further research comes from the research methodology employed. Qualitative methodology is used to understand the context and its complexity and interpret actions in a given context (Queirós, Faria, & Almeida, 2017). Quantitative research can provide a more systemic account of platforms that operate outside Western economies, allowing cross-country comparisons of their strategies, governance structures, and policy contexts. Further, a quantitative study could elaborate on the role of factors that facilitate user adoption of domestic or American platforms. This dissertation suggests that the home market size, timing of the entry of domestic and foreign firms, national language, cultural and social proximity to the US, and physical distance to the US were important factors that facilitated the adoption of Russian services. A systemic analysis of national segments would clarify the role of these factors in supporting domestic firms. A combination of data sources on national markets, populations, and firms could make this analysis possible.

The third avenue for future research entails studying the interconnections between national and global characteristics of digital firms. Although this PhD project examines the platforms in one national segment as national firms, digital platforms demonstrate the cross-border flow of data, capital, technology, and reliance on international internet infrastructure. Because of the layered technological architecture and platform modularity, strategic and technological critical resources (Ojala et al., 2018) might be geographically distributed. Additionally, digital platforms are interconnected, and a few platforms serve as infrastructure for other firms. For example, the app marketplaces Google Play and App Store are gatekeepers that distribute digital content and apps on other platforms to global and national audiences. These porous boundaries between national and global platform characteristics require further research.

Finally, further research is needed to understand how and why a digital platform has become a dominant organizational form that spans economic and political systems. The

platform economy has become a global phenomenon. The dissertation demonstrates that platforms have emerged not only in Western capitalist economies but also in semimarket economies such as China and Russia, in which the industry has blurred boundaries between government and private authority and creates different conditions for digital entrepreneurship and firm operations. Platform research would benefit from systemic studies on national contexts other than the US, China, Japan, and Russia. Cross-comparative studies of national environments provide an opportunity for examining industry factors that lead to the emergence of platforms as a dominant firm that accumulates power and resources and, in turn, for understanding the modern economy better.

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Part II. Articles

I

Article 1.

National Markets in a World of Global Platform Giants: The Persistence of Russian Domestic Competitors

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Abstract

US platform companies have dominated the global platform economy. Drawing on archival research, interviews, and company reports, we explore the reasons that Russia was able to develop platform companies that survived the entry of US firms. The chaotic post-Soviet society paradoxically provided a sheltered environment within which domestic companies could build sufficient competence to maintain their domestic market position. As first movers, Russian companies created and leveraged within-country network effects based on social, cultural, and physical affinities with their user base. This made it difficult

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for US platforms to overwhelm domestic companies. After 2008, the Russian government's position regarding the internet changed, and it began to selectively shield domestic leaders by preventing acquisitions by foreign companies and requiring the preloading of domestic applications on devices. Our Russian case study is instructive for other countries that want to remain open but, at the same time, build domestic platform companies.

Keywords: foreign entry, internet history, network effects, platform firms, platform policy, Russia

1. Introduction

Today, US online platform giants—Amazon, Apple, Facebook, Google, and Microsoft— have developed a global reach and dominant market shares in many countries (Kenney & Zysman, 2020).[3] The most widely discussed example of a country that has stymied the penetration by the US platform companies is China, where government policy and sociocultural differences have systematically combined to block their entry (Li, 2019; Mueller & Farhat, 2022). We shift this focus to explore how Russia, a country that initially had few restrictions on foreign platform entry, was able to develop its own platform champions. The Russian example offers insights into how other countries that wish to develop a national industry could leverage their existing conditions to build and nurture their own domestic platforms.

By online platforms, we mean internet-based virtual "locations" that mediate between several groups of users and benefit from network effects (Hagiu & Wright, 2015). The reason for US dominance was not only their early market entry but also the learning that came from being established in the world's largest homogeneous market at the time. The large user base created the condition for winner-take-all outcomes that could be extended to a largely barrierless market connected by the global communications infrastructure (Adner & Kapoor, 2010; Rochet & Tirole, 2003). Not surprisingly, these US venture capital–funded companies recognized that their business models could be easily transferred to foreign markets and rapidly became dominant in Europe because they faced low market barriers, sociocultural proximity to the US, common use of the roman alphabet, and acquisition of the national incumbents (Kotha, Rajgopal, & Rindova, 2001).

[3] In this paper, we abbreviate "online platforms" as "platforms." We recognize that there are other platform companies, such as Intel and Cisco, but they are not online.

In contrast to Western Europe and even Japan, where the US giants are gradually displacing local competitors such as Rakuten and Yahoo! Japan (Steinberg, 2019), Russia has developed a domestic population of platforms that are present in all the important market segments (Table 1). The experiences of Western Europe and Japan suggest that Russian companies would gradually lose market share and weaken as competition from the US giants increased. But, in the Russian market, the US platform giants have been unable to leverage their network effects, technical skills, and the use of acquisitions to overcome local competitors. As a result, the Russian domestic platforms have not given way to foreign competition but, rather, have maintained or even gradually increased their domestic market share.

Table 1. Platform leaders in key market segments

	Global	**Germany**	**Russia**	**Japan**	**China**
Social media	Facebook	YouTube Facebook Instagram	YouTube VKontakte Instagram Odnoklassniki	YouTube Twitter Instagram	WeChat (Tencent) Sina Weibo Douyin
Search	Google	Google	Yandex	Google	Baidu
E-commerce	Amazon	Amazon	Wildberries Ozon	Amazon Rakuten	Alibaba JD.com

Sources: Statista, Statcounter, and Similarweb.

This paper addresses the question of why and under what conditions the Russian market was able to preserve local companies—a position that allowed the economy and society to increase the autonomy of the home market from Western platform companies. To elucidate these developments, we explore the historical, political, cultural, business strategy, and language issues that enabled the far smaller domestic platforms to capture and maintain their national market share. Drawing on press releases, archival sources, and semistructured interviews with experts, we illustrate the development of the Russian internet (RuNet) through case studies of Russian national leaders—Yandex, VKontakte, Odnoklassniki, and Ozon. Understanding how RuNet platforms emerged and successfully

competed with the US giants is important, as more national governments consider whether having domestic platform companies is in their national interest (Cioffi, Kenney, & Zysman, 2022; Weber, 2019).

The study examines the evolution of RuNet beginning in the late 1990s, when internet technology was introduced in Russia, to just before 2022, as the conflict in Ukraine dramatically changed competitive dynamics between Russian and foreign platforms. Our case study of Russian platform companies in three key markets—online search, social media, and e-commerce—demonstrates that they initially occupied leadership positions due to their local embeddedness. Although the paper demonstrates that home market leadership can be achieved through leveraging within-country network effects (Stallkamp & Schotter, 2021), it also describes the limitations of local network effects from an evolutionary perspective and raises the issue of state intervention as a necessary measure for supporting domestic companies.

To understand Russia's ability to create and sustain domestic platforms, we first describe the interaction of interplatform competition and the role of policy and politics in network effects dynamics and then introduce Russia's industry context, in which platform companies emerged. We offer case studies, examining their operations first in the laissez-faire environment and then in the context of increased government oversight and selective protection. In the conclusion, we describe the implications of our findings for understanding the ability of local companies to resist penetration by global giants.

2. Platforms and Network Effects Dynamics

Platforms intermediate transactions between various sides, which can include users, producers, advertisers, and other actors (Hagiu & Wright, 2015). Successful platforms benefit from and are the result of network effects that, after initiated, often result in winner-take-all/most dynamics, creating monopolistic or oligopolistic markets that frequently have

powerful lock-in (Gawer, 2014; Shapiro & Varian, 1999). For the platform owner, the goal is to tip the market (Rysman, 2009). The network effects can be direct, that is, they increase because more similar users join the platform, and indirect actors on different sides join, so more buyers attract more sellers and vice versa (Gawer, 2014). The key is to establish lock-in because, after it is established, the market is more difficult to enter (Tiwana, Konsynski, & Bush, 2010). This need to achieve lock-in often requires the subsidization of users and makes acquisitions so attractive that lock-in can be created.

Recruiting a larger user base is vital for building a competitive advantage in industries governed by network effects (Fuentelsaz, Garrido, & Maicas, 2015). Early market entry is important for initiating positive network dynamics but is not always sufficient. For example, new markets can emerge, as was the case when Facebook replaced MySpace by capturing young users who had not yet been locked in.[4] Late-entrant platforms can attract users by exploiting an underserved niche or creating a new one (YouTube with on-demand video), providing a more desirable service (Snapchat with pictures that disappeared) or a more relevant and technologically advanced service (Google Search versus AltaVista, etc.), or by overwhelming the incumbent through massive subsidization (as was the case with Amazon.com versus Diapers.com) (Dowell & Swaminathan, 2006; Zhu & Iansiti, 2012). These strategies can be used by a dominant global platform as it attempts to enter a national market, that is, one that can be seen as a niche.

The greatest attention is usually paid to network size, but network strength, which refers to the adherence of users to their fellow users, is extremely important for retention (Shankar & Bayus, 2003). Strength is the power of the social ties between users who see themselves as part of a particular community. These social ties can be shared interests, personal characteristics that might lead to local network effects, or a "local bias" (Eocman,

[4] Social media seem particularly prone to new platforms with young/new users—a reality that prompted Facebook to purchase Instagram and WhatsApp and explore purchasing Snapchat.

Jeho, & Jongseok, 2006) that explains the success of niche platforms.[5] Such biases allow platform companies with smaller user bases to operate in defensible niches (Cennamo & Santalo, 2013).

The traditional view of network effects in the online platform literature often assumes that markets are homogeneous, and the rapid global diffusion of the US platform companies certainly validated this assumption (for some measures of US platform market share, see Kenney & Zysman, 2020). However, as Stallkamp and Schotter (2021) observe, in some cases, powerful global network effects can be mitigated by national boundaries.

Platforms that have a global reach and derive value from a non–location-bound user base can benefit from cross-country network externalities. For example, some users might see access to a global social media community through platforms such as Instagram or Facebook as important, whereas others with a local friendship base may be satisfied with a local social media platform. Similarly, some might regard access to foreign videos from, say, YouTube as unimportant. In fact, most movie viewers in a national market might be uninterested in foreign movies— of course, the global salience of Hollywood movies makes them an exception. Thus, in an open national market, a global platform can be used by specific user groups, as the domestic user bases might not be homogeneous (Suarez, 2005). Finally, some platform technologies that are more basic, such as the Mac iOS and the Google Android operating system, are more ubiquitous and thus more difficult to replace—and, as we shall see, in Russia, government action was required to mitigate their power.

Another type of platform attracts a location-bound user base and experiences network effects at a national level. Within-country network externalities might stem from the nature of a product/service, for example, in delivery services and ride hailing, in which users on

[5] For example, Apple's MacOS computer survived among artists, designers, and students when the rest of the personal computer world was dominated by Wintel machines.

both sides of a platform benefit from having close physical proximity. In other cases, local platforms can use social or cultural proximity to their users and linguistic barriers to create locally relevant services (Ji, Choi, & Ryu, 2016). Consequently, these markets can converge at a national level (Stallkamp & Schotter, 2021).

This creates a backdrop for our consideration of the Russian case, in which we examine the conditions in which, in one country, users continue to value domestic platforms sufficiently for them to survive and even thrive, although foreign platforms make a concerted effort to enter the market. The Russian case elaborates on existing theory by raising the question of the extent to which the local network effects can generate a long-term advantage.

3. Policy, Politics, and Network Effects

When the commercialization of the internet began in the 1990s, it was not evident that platforms would wield significant social, economic, and political power. Understanding of their systemic importance followed in the mid-2010s, as terms such as "platform economy," "platform capitalism," or "platform society" became common not only in the popular and academic vernacular but also in the awareness of policy makers (Kenney & Zysman, 2016; Srnicek, 2017; van Dijck, Poell, & de Waal, 2018). Governments gradually became aware of the implications of platforms for their economies and societies, thus concerns turned from privacy to the exploitation of platform-dependent labor and the increasing integration of ever-greater swathes of their economies into platforms, making them vulnerable to value extraction (Kenney, Bearson, & Zysman, 2021). By the 2020s, it had become clear that platforms had become critical infrastructure in social, economic, and political life (Plantin, Lagoze, Edwards, & Sandvig, 2018).

Given the power of the state, it can influence competitive dynamics between domestic and foreign platform companies. For example, the Chinese government, driven

by its desire to create a domestic high-technology industry, used administrative and other means to favor domestic companies, especially with regard to entry into communications-based industries, including the internet. China, with its strong government, unique cultural characteristics, and enormous market, could ignore US pressure and build a relatively autarchic platform economy (Coe & Yang, 2022; Jia & Kenney, 2021). In contrast, far fewer countries could resist the rapid incursion and adoption of the US platforms by their inhabitants. Russia is of particular interest because it retained some vibrant domestic platform companies, and we explore the reasons for this in the next section.

A variety of historical and geopolitical conditions raise the question of how digital platforms generate naturally occurring network effects and leverage regulatory support, fostering state-facilitated network effects. Whereas academic literature on digital platforms is dominated by studies on US and Chinese platforms (Steinberg, 2020), we extend the existing research by studying the case of Russia and demonstrating how platforms create network effects in other national environments. After briefly introducing the methodology, we explain the dynamics of network effects for Russian domestic platform leaders.

4. Methodology

Russia is a particularly appropriate case study because it has a midsize European economy that, like most economies, was liable to penetration by foreign, that is, US platform companies. We employ a multiple-case study research design approach to identify similarities across selected cases (Yin, 2012). Using three cases studies, we explore why Russian platforms succeeded in these market segments—search (Yandex), social media (VKontakte and Odnoklassniki), and e-commerce (Ozon)—despite facing powerful foreign entrants. We explore each case individually and then compare their commonalities. We used a general inductive qualitative analysis based on interpretations of the raw data aimed at identifying the most important themes (Fereday & Muir-Cochrane, 2006).

The data used in this paper come from multiple sources that cover the period from the late 1990s until 2022. Kontareva conducted 14 anonymous semistructured exploratory expert interviews, twelve of which were with key actors and observers of the Russian internet scene, and two were Europeans. These experts are former Yandex managers, policy makers, venture capitalists, social media market analysts, product managers of platform companies, and scholars (see the list in Appendix). The informants were recruited using a snowball sampling technique and assured anonymity. The interviews were conducted offline and online in 2020. These expert interviews were used to identify salient topics from the perspective of participants and knowledgeable observers.

Then, the interview data was contextualized with a comprehensive analysis of the archival materials. They include searches of the digitized archives of Russian newspapers and magazines dedicated to the computer and telecom markets. The most important of them were *Mir Electronnoy Commerzii* (*E-commerce World*), *Delovaya Pressa* (Business Press), and *Computerworld.* Documentation—such as press releases, websites, and financial statements from key Russian internet companies—was analyzed. Online presentations by various observers that documented the history of the Russian internet and third-party interviews were viewed. Finally, the paper includes an analysis of popular books about internet companies written in Russian. The collection and analysis of written materials in Russian and English totaled more than 2,000 pages.

5. Russian Internet Industry: Sheltered Home Market and Internal Capabilities

The ability of Russia to develop its own internet companies can be traced in part to its early backwardness. When it first connected to the internet in 1990, Russia was transitioning from a planned to a market economy. At the time, Russia had weak institutions and little support for market activities (Estrin, 2002; Radaev, 2005). Corruption

was endemic, and legal enforcement of laws and contracts was difficult (Volkov, 2002) as the oligarchs looted the economy. Selective enforcement, accompanied by a relative absence of the rule of law, resulted in an environment that was described as "hostile" and discouraged foreign companies and investors from entering the Russian market (Aidis & Adachi, 2007; Puffer & McCarthy, 2001).

Russia's internet market was small, and the infrastructure lagged far behind that in the West and even other developing economies (Perfiliev, 2002). In 2001, only about 19.6% of the population in Moscow and Saint Petersburg had internet access, and other regions had far less. Russian citizens had little purchasing power and few computers. In August 1998, Russia experienced a national financial crisis that resulted in rampant inflation, forcing devaluation in the ruble. As a result, in 1999, unemployment rose to 13.3% (Federal'naya Sluzhba Gosudarstvennoi Statistiki, 2021), and Russia's gross domestic product (GDP) fell to the level in 1991. The decline in real disposable income further diminished purchasing power and increased substantial poverty.

The Russian language was yet another obstacle to the market entry of global internet services. In contrast to Western Europe, Russia had a preponderance of internet users who lacked proficiency in English, so securing a share of the market would require a significant investment in translation. This discouraged early market entry by the global platform companies. These realities created space for domestic companies to enter what was a small, neglected market.

Despite these obstacles, there was demand for Russian-language content. Russian users with bad memories of Soviet censorship perceived the internet as an underground space for self-expression (Gorny, 2006), which expanded the volume of internet content and gave rise to the term RuNet for the Russian-language sites on the global internet. Russian internet content and search portals were established in the late 1990s, followed in the mid-2000s by e-commerce and social network sites. By 1998-1999, some of the

pioneers had already begun to earn revenue from their websites, attracting yet other entrepreneurs. Though the number of internet users in 2000-2001 was small, it began to increase rapidly and grew from 3 million in 2000 to over 59 million in 2010 (Internet World Stats, 2010). Moreover, high-speed access to the internet became available in a larger number of cities (Perfiliev, 2002).

The increased connectivity was accompanied by economic recovery and improvement in government institutions. Per capita GDP increased by 2.5 times over the period from the early 1990s to 2015, as did domestic demand for goods and services and capital markets for businesses and banks expanded (Akindinova, Kuzminov, & Yasin, 2016). Moreover, the economic and political environment improved due to the policies of President Vladimir Putin's administration, coupled with an increase in oil and hydrocarbon export prices.

The enhanced macroeconomic environment also contributed to an increase in all types of private entrepreneurship, and students in the excellent science, engineering, and mathematics education system that Russia inherited, were attracted by entrepreneurial opportunities (Zhikharevich, 2019). Thus, many founders of internet firms had technical competency and could build technologically intensive businesses. Many of Russia's leading internet companies, including Yandex, Ozon, and Mail.ru, emerged as spin-offs from software companies. Although the software business had provided the initial revenue, the internet was attractive because it was understood as the future of computation.

At the same time, some Western investors, particularly after the 1998 financial crisis, began to view Russian internet companies as inexpensive, so they invested more than $100 million in them (Perfiliev, 2002). The appearance of a few "patient investors," who prioritized long-term over short-term gains (Deeg & Hardie, 2016), was especially significant for the growth of Russian internet companies. In 2000, Michael John Calvey, co-founder of Baring Vostok Capital Partners, and other professional investors created Ru-

Net Holdings, with paid-in capital of $20.5 million to invest in Russia's internet startups. After raising the capital, Ru-Net Holdings immediately purchased 35.72% of Yandex.ru for $5.3 million and a controlling stake in Ozon.ru for $3 million. Contemporaneously, Yuri Milner, the Russian-born entrepreneur and investment banker, together with the US investment fund NCH, created NetBridge Holding. During the dot-com crash in 2000-2001, NetBridge merged with Port.ru, the owner of Mail.ru, the most popular email portal in Russia. Later, in the decade, the Mail.ru Group became a conglomerate consisting of major Russian internet companies, including Odnoklassniki and VKontakte. These investments provided capital for domestic entrants enabling them to acquire the significant computer resources needed to build internet companies.

Inspired by the success of US internet companies, Russia's internet entrepreneurs replicated US internet business models in the Russian market (Table 2). As is the case in the adoption of many cross-border organizational models, the importing company had to adapt the foreign model to the local environment (see, e.g., Westney, 2013).

In contrast to the Western European and even developed East Asian economies, Russia lacked basic communications, effective payment systems, and dependable fulfillment infrastructure. This relative "backwardness" gave Russian startups the space to be funded, grow, and establish their user base, enabling them to ignite within-country network externalities. In other words, the Russian internet companies became locally embedded, and when the foreign companies did arrive, the Russian companies were incumbents and thus would have to be dislodged.

Table 2. Basic information on key Russian internet companies

	Yandex	**VKontakte**	**Odnoklassniki**	**Ozon**
Service	Internet search	Social media	Social media	Online sales
US model	WebCrawler/ Lycos/AltaVista	Facebook	Classmates	Amazon

Key foreign competitor	Google	YouTube Instagram	YouTube Instagram	AliExpress
Date established	1997	2006	2006	1998

6. The Rise of Domestic Leaders: National Network Effects and Local Embeddedness

Within-country network effects played an important role in explaining why Russian companies were able to establish an advantage in the key platform segments and then use their position to expand into yet other services. In this section, we examine how Russia's internet companies in search, social networks, and e-commerce generated within-country network externalities to maintain their market share when the far larger foreign competitors entered Russia.

6.1. Search and Beyond: Yandex's Local Knowledge of User Behavior

As was the case in the US market, in which search engines/portals, such as Yahoo, Lycos, and AltaVista, competed for market share, several locally developed search engines were introduced in the Russian market. With the exception of AltaVista, US search engines did not initially index documents in the Cyrillic alphabet. This left a market opportunity for local search engines, such as Aport, Yandex, and Rambler, that indexed Russian web pages.

Compared to foreign search engines, Yandex had a better understanding of the local environment and could deal with the obstacles in the Russian market. Initially, there were very few Russian websites, so there was a lack of indexable content. To incentivize content production, in 2000, Yandex acquired Narod.Ru, a free web hosting service that provided tools for the creation of websites. To build the market, Yandex gave internet users instructions on how to use the search query function correctly and followed Google's lead

in keeping the start page, portal, and email services uncluttered and easy to navigate. In 2001, Yandex developed the first Russian contextual ad placement system and built a nationwide advertising network. The expansion of the internet advertising market enabled Yandex to break even in 2002. As in the rest of the world, online advertising soon became the fastest-growing segment of the advertising market, resulting in sales of 17.8 billion rubles ($561 million) in 2009 (Assotsiatsia Kommunikatsionnykh Agentstv Rossii, 2021).

Initially, for Google, Yandex's main competitor, the Russian market was too small to be of significant interest, though it opened an R&D office to recruit Russian software professionals. In 2001, Google introduced a Russian-language interface, but the search quality was low, as it did not invest significant resources in developing Russian-language processing algorithms (Interview 4). In 2003, to accelerate its growth in the Russian market, Google offered to acquire Yandex, but Yandex declined. By 2003, Yandex was the most visited website on the Russian internet and the most recognizable internet brand, as 25% of Russian internet users associated the internet with Yandex (Fond Obshchestvennoe Mnenie, 2003). The Yandex management thought that, instead of having the company become a Google subsidiary, it could compete with Google globally (Sokolov-Mitrich, 2014). These global ambitions were based on serving Russian speakers globally. By 2005 Russian had become one of the internet's ten-most-used languages (Internet World Stats, 2006), as Yandex attracted a growing number of Russian-speaking internet users worldwide.

Like all other platform companies, Yandex grew by adding internet services. Leveraging its position as the number one Russian-language search engine made it possible for Yandex to introduce yet more services generated from local search queries. Complementing search, email, and news, Yandex added a marketplace, a payment system (Yandex.Money), entertainment services (Yandex.Music, Yandex.TV, Yandex.Afisha, Yandex.Radio), and classified advertising (cars, jobs, real estate, tourism, etc.). In 2004,

contemporaneously with Google, Yandex began to build a map service that would become a powerful new source of user lock-in. Building on Maps, Yandex expanded into adjacent markets, such as ride hailing in 2011 and introduced a navigation app similar to Waze in 2012. By introducing these services, it occupied space in the local market, reinforcing within-country network externalities.

Initially, Yandex was able to lock in users that were domestically oriented by using the Russian language. Its Russian users primarily searched for locally relevant information, and only 12-15% of its searches were in English. Yandex expanded its functionality by adding new services and layers of relevant information for the local audience. The addition of new services was important not only for growth but also for taking up space that could enable an opening for a foreign entrant. Yandex's leadership position in the home market was facilitated by growth based on naturally occurring network externalities ignited from the locally bound user base. However, the transition from the desktop to smartphones based on foreign operating systems, Apple's iOS and Google's Android, became a critical weakness for Yandex, as Google, in particular, could use the transition to the smartphone to preinstall its Russian-language services, thereby weakening the within-country network externalities that Yandex had built up in the PC era.

6.2. Social Media: VKontakte and Odnoklassniki Connecting Russians

Online social networking in Russia began in the late 1990s. During the dramatic increase in internet connectivity in the mid-1990s, the first generation of internet users introduced a variety of content platforms designed to facilitate online interactions within Russian-speaking communities (Gorny, 2006). Because the early internet infrastructure was composed of local city networks instead of a centralized national network, as was the case elsewhere (Bowles, 2006; Perfiliev, 2002), online communities were local.

The extension of the internet infrastructure nationally led to the rapid emergence of a Russian blogging culture that operated as social media. In 1999, one of the first blogging websites, LiveJournal, enabled the posting of long text notes, as well as commenting on them, a genre that was consistent with Russian communication patterns (Interview 8). In 2006, although LiveJournal continued to be used, two domestic social networks, Odnoklassniki and VKontakte, were introduced and rapidly adopted.

These new social media platforms had different origins, but like Facebook, they were launched with the stated goal of connecting classmates. The user bases of the two platforms differed by age. Odnoklassniki attracted mature and rather conservative users who wanted to connect with classmates and friends. In 2010, only 26% of its users were under age 25 (Mail.ru Group, 2010). However, VKontakte was developed to serve a group of St. Petersburg State University students but soon opened to the general public. Because VKontakte originated with the student community, with a modern web design and multiple functions, it catered to a younger audience.

Facebook had been introduced earlier than Russian social media platforms and, initially, did not have a Russian version; moreover, its interface was not easy to navigate. For the most part, the Russian audience adopted domestic services. The majority of Russians had few cross-border relationships with people in Western countries, and, even in the more Westernized Russian cities, where people did have such relationships, only a small share of them used Facebook. Further, according to our Russian respondents, VKontakte was technologically superior to Facebook and had a more advanced search system, with a variety of filter options for searching for friends and relevant content (Interview 8; Leontyev, 2012).

Although the two Russian social media platforms were originally modeled after US websites, they were redesigned to appeal to the Russian user and context (Zhao, Shchekoturov, & Shchekoturova, 2017). Communication on VKontakte revolved around

"communities" or interest groups that facilitated further platform adoption. Much of the rapid growth of VKontakte and Odnoklassniki was due to their music and video content. As was true of YouTube at first, VKontakte initially allowed users to upload videos, HD-quality movies, and music, violating copyrights but attracting many viewers.

The Russian market converged with the domestic platforms because of the locally bound user base, Russian-language interface, search, and attractive functionality. By 2008, when a dedicated Russian version of Facebook was introduced (Polit.ru, 2008), most users in Russia had already adopted VKontakte, Odnoklassniki, or both. This shows that local network effects created powerful lock-in dynamics that were difficult for foreign companies to overcome.

6.3. E-commerce: Ozon Building a Nationwide Infrastructure

E-commerce was introduced in Russia in the late 1990s, but growth was handicapped because Russia had neither a logistics infrastructure to effectively process and fulfill orders nor a culture of purchasing from unknown sources. Moreover, few Russians had credit cards, making it difficult to pay for a purchase (Kan, 2000). The postal delivery infrastructure was unreliable, and private delivery services, such as FedEx, UPS, and DHL, were too expensive for a typical transaction (Hawk, 2002). Finally, due to a lack of trust, customers were unwilling to pay until they received and examined the merchandise (Eksler, 2010). This meant that it could take a few weeks between the time a package was shipped and when payment was received. Thus, sellers had to use their capital to replenish their stocks (i.e., they had a negative float), and increased sales meant that sellers had to finance replenishment until payments were received, which ultimately resulting in expansion that required ever greater amounts of capital, making sellers chronically short on capital.

These obstacles and the small overall market discouraged entry by domestic and foreign e-commerce companies. For foreign companies, entering the Russian market was

a large risk, as it would be necessary to build a physical presence in terms of logistics infrastructure with no assurance of profit.[6] Because of the low purchasing power and the limited number of credit cards, cross-border e-commerce was also minimal. Thus, in contrast to the popularity of e-commerce in the West, introducing e-commerce to Russia was not attractive to foreign companies or most domestic entrepreneurs (Terekhov, 2001).

In 1998, Ozon, one of the first e-commerce companies, was established. It did not immediately address these obstacles because, initially, nearly half its sales were exports to Russian expatriates (Hawk, 2002). However, in 2001, when the Russian post office increased its fees on book exports, the export share of total sales dropped from 40% to 10% (Eksler, 2010), and the company had to concentrate on selling in the expanding domestic market.

The most capital-intensive requirement was the creation of a nationwide logistics infrastructure and building local delivery services. In 2001, Ozon established an in-house delivery service to replace the untrustworthy government postal service. In 2002, to reduce delivery costs, Ozon began to build a network of sales pickup centers. This reduced the high cost of last-mile delivery and allowed customers to pay upon delivery. Also, it addressed the cash-flow problems because these pickup centers reduced the warehouse storage time for goods purchased and the time until payment was rendered. As its customer base and product line grew, Ozon outgrew the capacity of its Moscow warehouse. In 2006, Ozon built a 7,000-square-meter logistics center in Tver, a city on the outskirts of Moscow (Shmelev, 2006). This logistics center has become the largest fulfillment center in Eastern Europe. Subsequently, Ozon built warehouses in Kazan, Ekaterinburg, Rostov-on-Don, and Novosibirsk.

[6] This should be compared to Amazon's overseas expansion, which was driven by purchases from foreign customers. Effectively, these customers provided data regarding demand.

Physical proximity to users and sellers gave Ozon a competitive advantage and was a barrier to entry for other merchants. By 2012, Ozon had achieved the most extensive geographic coverage of all the e-commerce companies in Russia, with a delivery network that served almost 200 cities (Data Insight, 2012). Ozon invested in creating logistics and delivery service infrastructure by establishing partnerships with local service providers. By 2020, Ozon had built nine fulfillment centers, 43 sorting hubs, 7,500 parcel lockers, 4,600 pickup points, and 2,700 couriers (Ozon Holdings PLC, 2020, p. 2). As part of this expansion, Ozon was among the first companies to provide smaller cities with the same "unlimited Moscow assortment" of goods (Aris, 2019). The problem is that, having funded this rapid growth, Ozon has yet to make a profit. So far, the constant expansion in fulfillment infrastructure has required raising capital of $738.1 million (Crunchbase, 2021).

The ability of Russian platform companies to survive the entrance of the US giants shows that national boundaries can mitigate global network effects. In contrast to their foreign rivals, Russian internet companies leveraged their social, cultural, and physical proximity to their users to build within-country network externalities. Only later did the government understand the importance of the internet and become more actively involved in shaping the Russian market to protect domestic companies. The next section discusses the changing regulatory context and national policy meant to protect the national market, as the global giants increased their effort to enter the Russian market.

7. Increased Government Oversight and State-Facilitated Network Effects

Initially, Russia's internet companies were successful despite, or perhaps because of, the initial benign neglect by the government. Unlike many Russian industries that were built "on the remnants of Soviet structures," the software and internet industries were built from scratch (Terekhov, 2001, p. 99). Because the internet industry did not have a history

of being integrated into the rest of the economy and, at least initially, was small and insignificant,[7] it was not subject to state regulations, significant political interference, or the chaotic property seizure by the oligarchs that occurred after the fall of the Soviet Union in 1991 (Yaremchuk, 2006). Although some regulations in the late 1990s and early 2000s were implemented to protect telecommunication from foreign influence and monitor internet usage (Alexander, 2004), they did not have any particular impact on industry competition or technology adoption. After the resignation of President Boris Yeltsin in 1999, the subsequent administration, under Putin, focused its attention on controlling traditional mass media sources, leaving the still small but rapidly growing Russian internet largely to private companies free of government interference but open to foreign penetration.

Beginning in the second half of the 2000s, state policy toward regulating the internet began to change. The increasing government efforts to modernize Russia's economy turned their attention to the growing internet companies (Budnitsky & Jia, 2018). This coincided with growing interest in establishing and maintaining government control over the flow of information, in particular, search (Yandex) and social media (Mail.ru and VKontakte). The immediate result was that the government began to scrutinize mergers and acquisitions of Russian internet companies by foreign companies. For example, in 2008, the Russian government's antitrust agency blocked Google from acquiring 30% of Begun, a contextual advertising service company. The acquisition would have given Google access to the Russian online advertising market and, as has been the case in most global markets in which Google participates, direct traffic away from its competitors, in this case, Yandex.

[7] Sergey Vasiliev, one of the early-stage investors in the Rambler portal, claimed that neither the companies' management nor the politically connected oligarchs understood the internet, as their understanding was based on the traditional extractive industries (Vasiliev, 2017).

In 2011-2012, after a series of protests in Russia, state control of the internet industry as a communications medium there intensified. The government pivoted from general support of digitization to perceiving the internet as a potential "threat" to its control over information (Kolozaridi & Shubenkova, 2016). After Putin returned to the presidency in 2012, the Russian government further tightened control over internet information by censoring oppositional content (Glazunova, 2022). Twitter and Facebook were forced to comply with content moderation rules and newly introduced data localization laws because of their use by anti-government groups to mobilize protests (Denisova, 2017).

After Russia's 2014 annexation of Crimea, and rising conflict in the Donbas, geopolitical tensions rapidly deepened, leading the Russian government to decide it was necessary to mitigate dependence on Western infrastructure, in particular, US-based platforms. The Russian authorities introduced an internet governance approach meant to align cyberspace control within the country's borders (Asmolov & Kolozaridi, 2020; Budnitsky, 2020; Stadnik, 2019). In addition to increasing information and infrastructural control over the internet, Russian regulators began to challenge the asymmetric market power between Russian and US platforms (Budnitsky & Jia, 2018). Antitrust regulations became instrumental in protecting domestic internet companies and were implemented to limit the ability of US platforms to use their dominance in various services to expand to other markets. For example, beginning in 2021, all Android and iOS devices sold in Russia were required to preinstall Russian services, including Yandex, Mail.ru, Vkontakte, and Odnoklassniki, as well as Russian videostreaming platforms, forcing users to choose between comparable Russian and foreign services.

Initially, Russian platforms had achieved market leadership because of national network effects, but these policy changes ushered in a new era, in which the government deliberately strengthened the position of Russian internet companies in several strategic market segments— specifically, search and social media. However, state support had

differential impacts on network effects, depending on the market segments. The following section examines the evolution in government support in three market segments.

7.1. Search: Fending Off Google

Internet search was the most vulnerable segment, so it required government support in order to strengthen network effects. Unlike with social media and e-commerce markets, in search, bundling with the operating system can be used to unwind prior user lock-in. In the transition from desktops to smartphones, the competitive dynamics between Yandex and Google changed. In 2008, the release of Google's Android OS, which required preinstallation of various Google services, including search and the Chrome browser, immediately undermined Yandex's leadership in search, eroding the firm's search market share and thus advertising income. Yandex's response was to develop its own mobile OS and a browser designed for Russian-speaking users, but these efforts were unsuccessful.

In 2015, Yandex filed an antitrust lawsuit against Google in Russia, whose Federal Antitrust Services supported Yandex's accusation that Google was abusing its market-dominant position in smartphones. Hence, Yandex prevailed and recovered its market share because its services were required to be preinstalled on Google and Apple phones. In effect, the smartphone transition disrupted Yandex's in-country network effect lock-in, and government intervention ensured that Google's preinstallation of its own software on Android phones in Russia would not harm Yandex's prospects.

Yandex continues to leverage its within-country network externalities from expanding its portfolio of locally relevant services. For example, Yandex has several platforms based on geolocation data and its strong brand that offer ride hailing, grocery delivery, car sharing, and e-commerce. As of 2021, this expansion strategy enabled Yandex to generate 50% of its revenue from services other than advertising, making it less vulnerable to Google (Yandex, 2022, p. 12). Government recognition of the systemic

importance of Yandex erected an additional barrier to Google as it tried to take advantage of its global network effects, in particular, its control over the Android OS. The Yandex experience illustrates that a national leader that benefits from within-country network effects can still become dependent on government support to maintain its position — especially when a disruptive technology shift is controlled by an external competitor.

7.2. Social Media: Powerful Lock-In

The changing international conditions and the use of social media platforms to organize protests in 2011 led the Russian government to increasingly monitor and restrict social media, news aggregators, and blogging platforms. These restrictions include increased monitoring of online traffic, censorship, and informal pressure to sell ownership of social media companies to various Kremlin-tied oligarchs (Vendil Pallin, 2017). Although the government began to focus on using social media platforms to maintain control over public opinion, these policies had little effect on the competitive dynamics between Russian and Western platforms, as they both complied with government requirements.

The transfer of VKontakte ownership to a Kremlin-affiliated organization in 2013 was accompanied by tighter supervision of social media by Russia's intelligence services (Soldatov & Borogan, 2015), but this change did not cause users to migrate to other platforms (Interview 6). In 2016, when Roskomnadzor, Russia's regulatory agency, blocked LinkedIn on the grounds that it did not comply with data localization laws, some white-collar and highly educated Russian users migrated to Facebook as a substitute. Twitter, whose traffic Russia's authorities slowed in 2021, had a minimal following, 690,000 monthly active users (Brand Analytics, 2020).

As shown above, VKontakte and Odnoklassniki maintained their position by intermediating communication among domestic users. However, even though, VKontakte

became the most popular Russian social network in 2020, with 42.3 million monthly users, it was followed by Instagram, with 36 million users, and Odnoklassniki and Facebook, which each had approximately 26 million users (Mediascope, 2020). This shows that US social media giants maintained a significant market share of the Russian market but had not taken control.

Facebook, though large, was not considered a particularly significant threat to Russian social media platforms. However, it was more difficult to compete against Instagram, YouTube, and TikTok, with their user-generated content. Because Russian platforms were largely limited to their home market, their response has been to expand to new age groups (older Russians), introduce new products or services, and provide greater functionality in existing services. For example, in 2021 Mail.ru Group introduced a WeChat-type superapp to integrate its various portfolio services with the VKontakte user base (Mail.ru Group Limited, 2019). The goal is to have VKontakte provide a variety of services, such as e-commerce (AliExpress Russia), food delivery (Delivery Club), gaming (VK Play), and personal transportation (Taxi VKontakte). Additionally, VKontakte launched a Mini Apps platform that allows third-party developers to produce apps for it. These services were meant to be supported by the VK payment app and a user ID system that could track use across the platform and its various apps.

YouTube, established in 2005, is a particularly powerful foreign internet platform that can be accessed globally. In response, in 2008 Russian entrepreneurs introduced a Russian alternative, RuTube. Although RuTube garnered 400,000 daily users and more than 40 million views per month in 2008 (Gornykh, 2009), it could not prevent user migration to YouTube, which soon had far more content. Then, RuTube was acquired by Gazprom-Media, the media holding company of Russia's gas company, and was repurposed to broadcast television content online. As of 2021, Russia had several videostreaming platforms, such as ivi.ru, Okko, owned by the Russian national bank,

Sberbank, and Kinopoisk, owned by Yandex. VKontakte also introduced a video platform, and Odnoklassniki experimented with various forms of video content to increase user engagement. VKontakte and Odnoklassniki attempted to enter the market by using their user data and domestic market knowledge to compete with the Western leaders, YouTube and Instagram.

Cultural proximity to users, the Russian language, and advanced technology enabled VKontakte and Odnoklassnki to benefit from within-country network externalities. In areas such as video content, consumer demand for access to global and Russian-produced content made it difficult for Russian social media companies to compete with global giants, including the Chinese platform TikTok. Thus, whereas the Russian social media giants could rely on their user lock-in and high switching costs, they were less successful in leveraging incumbency to control new "killer" applications developed in the global market. Incumbency and within-country network effects offered some protection. However, in some cases, new services developed outside Russia grew so quickly that neither Russian entrepreneurs nor incumbents in adjacent markets could respond quickly enough, as demonstrated with YouTube.

7.3. E-Commerce: Fragmented Market

The government played a minimal role in the growth of e-commerce. In fact, e-commerce was probably the most challenging online sector to develop because of Russia's chaotic transition to capitalism, which led to inertia in infrastructure development, such as basic logistics and delivery services, deterioration in many basic institutions, and the general level of trust.

As shown by the example of Ozon, the development of e-commerce has been slow and has not yet resulted in either a near-monopoly, as is the case with Amazon in many countries, or a duopoly, as has emerged in China (Alibaba and JD.com). As internet

penetration rates increased, the economy stabilized, consumers became more confident about ordering online, and new domestic e-commerce platforms and foreign companies entered the market. Wildberries, a clothing and apparel store, and Citilink, an electronics store, which are now the country's two largest e-commerce companies in terms of sales volume, were formed in 2004 and 2008, respectively (Data Insight, 2019). Another Russia-based company is Lamoda, a fashion-focused e-commerce platform created by the Berlin-based Rocket Internet venture capital group in 2011. In 2020, it was the second-largest online apparel and footwear retailer, with sales of over 53 billion rubles (Statista, 2021). Because of the many domestic and foreign new entrants, as late as 2021, Russia's three largest e-commerce platforms combined had a market share of only 35% (Financial Times, 2021).

Moreover, although Amazon has become a major or dominant actor in many national markets, as of 2021, it did not have operations in Russia, though not for lack of trying. In 2013, Amazon entered the Russian market by opening an office and offering a limited selection of goods, such as digital content (books, video) and hardware (Kindle). However, not long afterward it closed down its Russian website (Russians could still order from Amazon in Europe, but delivery was prohibitively expensive). The largest foreign e-commerce company is AliExpress, an Alibaba subsidiary. In 2019, AliExpress was the seventh-largest retailer in Russia by sales volume and had the highest growth rate (Data Insight, 2019).

The key advantages of domestic marketplaces are having a national presence and access to delivery infrastructure. In 2019, in an effort to strengthen its position in the Russian market, AliExpress partnered with the Mail.ru Group in a joint venture called AliExpress Russia. This partnership aims to improve AliExpress logistics by accelerating fulfillment and adding the AliExpress marketplace app to the personal accounts of VKontakte users (VK, 2019). In 2021, AliExpress built a fulfillment center on the outskirts

of Moscow and planned to continue expanding into Russia's regions by building fulfillment centers in Yekaterinburg, Kazan, and Rostov-on-Don (AliExpress, 2021).

Despite the improvement in the fulfillment time AliExpress was still not fast enough in delivering goods compared to local marketplaces that are in closer proximity to users and have built a logistic network. As a result, Russia-based e-commerce websites are better positioned for everyday internet shopping, in which consumers require rapid fulfillment and delivery (Interview 1). Moreover, Russian users prefer local platforms not only because they offer more timely delivery services but also because physical proximity generates trust.

In many respects, the Russian e-commerce market remains relatively underdeveloped. There has not been a shake-out, and the Russian companies remain competitive with AliExpress. The government has not protected the market, though it is unlikely that it would allow foreign platform companies, such as Amazon, to acquire one of the Russian leaders. However, the stabilization of the Russian economy and the maturity of the banking system have improved the context for the operation of e-commerce and thus have played a vital role in the maturity of e-commerce.

8. Conclusion

The paper explores the conditions in which a relatively open national internet market developed, which enabled domestic platform companies and global giants to coexist. Our case study suggests that infrastructural backwardness can have some advantages if it creates a context in which local companies can emerge and become incumbents, with concomitant network effects and lock-in. If the local platforms can attain sufficient growth, they can defend their market even against far larger foreign entrants. We show that Russian platforms were able to build up their capabilities and adopted several strategies that slowed foreign entrants, including domestic mergers that achieved a critical mass and, in the case

of Yandex, rapidly entering new markets before the arrival of foreign companies. Finally, although the market was relatively open, as the importance of platforms became more obvious, the state intervened to protect Russian companies from acquisition and, most important, to ensure that, during the transition to smartphones, Russian applications were preinstalled, forcing users to choose their preferred application.

However, the position of domestic leaders is always precarious. New services with global appeal, such as YouTube, and technological changes, such as the movement to the mobile internet, can disrupt the stronghold by domestic companies. Thus, ultimately, the survival of a domestic ecosystem and platforms require state intervention. Significant changes in Russia's national internet policy offered domestic platforms selective market protection. Government intervention was necessary for protecting Yandex, as control over the smartphone operating system and Android, in particular, gave Google an opportunity to preinstall its own apps as defaults—a powerful advantage that threatened not only search but also the Maps application by Yandex. Social media and e-commerce applications were not threatened as much by foreign entrants. The social networks developed were less vulnerable to disruption. And in e-commerce, the difficulty of operating in the Russian environment reduced Amazon's chances of success, creating space for domestic companies to grow and build physical logistics infrastructure and a barrier to entry for foreign firms.

Because of the industry context in which internet companies emerged in Russia, it had a domestic alternative for nearly all the main platforms. After it launched military actions in Ukraine in 2022, this proved particularly important, as foreign platforms ceased operations in Russia due to sanctions, reputational risk, and counter-sanctions by the Russian government. This is particularly salient because online platforms have become vital infrastructure for commerce and social interaction (Plantin et al., 2018). In fact, cutting off any country from all essential platform services, including browsing, e-

commerce, email, maps, search, and social media, would be socially, economically, and politically devastating.

In contrast to the countries in Western Europe, which allowed their domestic internet companies to be purchased by the much larger US platform companies, the Russian government (perhaps taking a cue from China) did not allow either acquisition or ownership of large equity positions in domestic platform companies. As awareness of the critical infrastructure implications of platform power has grown, Western Europe has no domestic companies to support and act as replacements for the US giants. In contrast, as the Russian government reconsiders the wisdom of an open market and the implications of the power of the US platform giants, it has domestic companies the competency to offer viable alternatives.

The current capabilities in Russia are the outcome of a unique set of circumstances that allowed the development of significant domestic capabilities. This historical trajectory suggests that replicating the relative success of Russian companies in other countries may be difficult. First, these countries no longer have domestic companies, as the US companies outcompeted them, often either by being willing to suffer enormous losses to tip the market or acquiring their foreign competitors. However, in countries that still have domestic companies, such as India, Indonesia, Japan, South Korea, Brazil, and other larger countries, government action to protect and nourish domestic companies can gives policy makers a degree of freedom in ensuring that enormous wealth extracted by online platforms remains within the domestic market.

The Russian example is important because it demonstrates that the openness of national economies to the global platform giants does not have to be absolute and that domestic platforms can be preserved. The Chinese solution of relative autarchy and the Western European solution of benign neglect are not the only ones possible. Intermediate solutions, such as the one Russia developed initially by accident but after 2008 increasingly

by policy, can balance the benefits of openness and caution and offer workable solutions as well as ways to build internal capabilities.

The platform economy is reorganizing global society, however, the literature has focused almost entirely on the implications and developments in the US and Western Europe. More recently, interest in China as a model has increased (Jia & Kenney, 2021; Wang & Coe, 2021). However, other countries are also building their own type of platform economy. Understanding these different models can deepen our understanding of the different ways in which the notion of a platform economy can be implemented in line with national cultures and objectives.

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Appendix

Interview List

#	Person Interviewed	Focus of the Interview	Interview Duration (hr:min)
1	Head of e-commerce marketplace	E-commerce segment in Russia. Competitive strategies of Yandex, Mail.ru, and Sberbank	01:15
2	Venture capitalist and capital markets expert	Russia's capital market in the late 1990s-early 2000s	01:20
3	Internet policy maker	Information and data policy in Russia	00:55
4	CEO, Digital entrepreneur	History of the Russian internet, Yandex's strategy	00:55
5		Yandex and Google competition	01:30
6	Social media market analyst	Social media segment in Russia	00:53
7	Internet policy analyst	The evolution of the internet governance in Russia. Foreign market entry and domestic platforms' strategies in Russia.	01:20
8	Social media market analyst	Advertisement strategies of Russian platforms. Rankings	00:50
9	Product Manager (Europe)	Growth strategies of a national search engine in Europe	01:18
10	Product Manager (Europe)	National search platforms and competition with Google	00:52
11	Academic Experts	Russia's telecom infrastructure	00:54
12		Venture capital in Russia	01:25
13		Internet governance, information policy in Russia	01:15
14		State-business relations in Russia	00:38

II

III

Name of candidate: Alina Kontareva

Title of thesis: **National Platforms in a Globalized World: Competitive Strategies and the Role of the State in the Case of Russian Digital Platforms**

Abbreviations for different types of corrections:

Cor – correction of language

Cpltf – change of page layout or text format

Page	Line	Foot note	Original text	Type of correction	Corrected text
3	21		Yoshiko Herrera	Cor	Yoshiko M. Herrera
3	23		(Society for Internet Research, Moscow)	Cor	(Club for internet and society enthusiasts, Moscow)
5	Article 3		Protecting a Domestic Platform Economy	Cor	Protecting Domestic Platform Economy
9	Article 1		Revised and resubmitted to an academic journal.	Cor	A revised version of this paper is published in *Policy & Internet,* 15 (3), 327-350. doi: https://doi.org/10.1002/poi3.341

14	14		(Steinberg, 2020),	Cor	(Steinberg, 2020, p. 2),
15	25		(Wright, Filatotchev, Hoskisson, & Peng, 2005)	Cor	(Wright, Filatotchev, Hoskisson, & Peng, 2005, p. 2)
21	23		(Tiwana, 2013; Nambisan & Sawhney, 2011).	Cor	(Nambisan & Sawhney, 2011; Tiwana, 2013).
22	1		Azure and Amazon AWS),	Cor	Azure and Amazon Web Services),
22	18-19		(Tiwana, 2013; Kenney et al., 2019).	Cor	(Kenney et al., 2019; Tiwana, 2013).
22	21		can innovate.	Cor	can innovate (Evans & Gawer, 2016).
23	12-13		(Eisenmann, Parker, & Van Alstyne, 2009; Adner, Chen, & Zhu, 2015).	Cor	(Adner, Chen, & Zhu, 2015; Eisenmann, Parker, & Van Alstyne, 2009).
26	16		pioneers such as Yahoo	Cor	pioneers such as Yahoo!
27	11		(Yahoo Japan).	Cor	(Yahoo! Japan).

28	Oda		Norway, Finland, Germany	Cor	Largest online grocery store in Norway
28	4		In 2021, 53.4% of the global internet population…	Cor	In 2020, 53.4% of the global internet population…
28	6		(Internet World Stats, 2022).	Cor	(Internet World Stats, 2020).
31	20		(Internet World Stats, 2022).	Cor	(Internet World Stats, 2020).
31	23-24		Russia has highly skilled …. who do not speak English …and they play a significant role….	Cor	Russia had highly skilled …. who did not speak English …and they played a significant role….
32	Table 5 Title		**Key Russian platforms and their portfolio of services**	Cor	**Key Russian platforms and their portfolio of services as of 2022**
37	9		We collected the data collection in two phases	Cor	We collected the data in two phases
48	15, article 3 title		*Protecting a Domestic Platform Economy*	Cor	*Protecting Domestic Platform Economy*

51	5		(VK, OK, and Yandex),	Cor	(VKontakte, Odnoklassniki, and Yandex),
56	6		(Yandex, VK, and Sber)	Cor	(Yandex, VKontakte, and Sber)
61	Denzin		Denzin, N. K., Lincoln, Y. S. (2008). *Collecting and Interpreting Qualitative Materials.* Thousand Oaks, USA: Sage Publications Ltd.	Cor	Denzin, N. K., Lincoln, Y. S. (2008). *Collecting and interpreting qualitative materials.* Thousand Oaks, USA: Sage Publications Ltd.
63	Frenken, K., Vaskelainen,….		. In I. Maurer, J. Mair & A.Oberg (Eds.),	Cor	. In I. Maurer, J. Mair & A. Oberg (Eds.),
64	Gainedde nova		Gaineddenova, R. (2022) Pricing and Efficiency	Cor	Gaineddenova, R. (2022). Pricing and Efficiency
64	Gilbert		Gilbert, C., & Christensen, C. M. (2005). Anomaly Seeking Research: Thirty Years of Development in Resource Allocation Theory. In J. L. Bower and C. Gilbert (Eds.), *From Resource Allocation to*	Cor	Gilbert, C., & Christensen, C. M. (2005). Anomaly seeking research: Thirty years of development in resource allocation theory. In J. L. Bower and C. Gilbert (Eds.), *From Resource Allocation to Strategy* (pp. 71-

			Strategy (pp. 71-89). Oxford, England: Oxford University Press.		89). Oxford, England: Oxford University Press.
66	Internet World Stats		Internet World Stats. (2022). *Internet world users by language*	Cor	Internet World Stats. (2020). *Internet world users by language*
67	Kononov		*Kod Durova [Duriv's code].*	Cor	*Kod Durova [Durov's code].*
79	The last line on the page		(Kotha, Rajgopal, & Rindova, 2001).	Cor	(Hermes et al., 2020).
86	13		*Delovaya Pressa* (Business Press),	Cor	*Delovaya Pressa (Business Press),*
87	11		As a result, in 1999,	Cor	As a result, in 1998,
88	10-11		the economic and political environment improved due to the policies of President Vladimir Putin's administration	Cor	the economic situation improved and the political environment stabilized due to the policies of President Vladimir Putin's administration

90	10		such as Yahoo,	Cor	such as Yahoo!,
95	16		allowed customers to pay upon delivery.	Cor	allowed customers to pay upon pickup.
98	20		including Yandex, Mail.ru, Vkontakte, and	Cor	including Yandex, Mail.ru, VKontakte, and
111	Kotha		Kotha, S., Rajgopal, S. & Rindova, V. (2001). Reputation building and performance: An empirical analysis of the top-50 pure internet firms. *European Management Journal*, 19(6), 571-586. https://doi.org/10.1016/S0263-2373(01)00083-4	Cor	Hermes, S., Clemons, E., Schreieck, M., Pfab, S., Mitre, M., Böhm, M., . . . Krcmar, H. (2020). *Breeding grounds of digital platforms: Exploring the sources of American platform domination, China's platform self-sufficiency, and Europe's platform gap.* ECIS Research Papers
121	11		toward three search platforms—	Cor	toward three search platforms—

			Google, Bing, and Yahoo,		Google, Bing, and Yahoo!,
123	26		telecommunications appears to be	Cor	platforms appear to be
126	8		were Russian Business Consulting, The Verge, and TechCrunch	Cor	were *Russian Business Consulting, The Verge,* and *TechCrunch*
129	9		that it build on as a base	Cor	that it built on as a base
133	1-4		Google also announced partnerships with hardware vendors and manufacturers to preinstall Yandex.Kit on popular devices sold in Russia, but threatened hardware partners with termination of the Android licensing contracts if they installed third-party software (Efrati, 2014).	Cor	Yandex also announced partnerships with hardware vendors and manufacturers to preinstall Yandex.Kit on popular devices sold in Russia. But Google threatened Yandex's hardware partners with termination of the Android licensing contracts if they installed third-party software (Efrati, 2014).

157	12		and Port.rus.	Cor	and Port.ru.
159	18-19		reliable and trustworthy (Sokolov-Mitrich, 2014)	Cor	“reliable” and “trustworthy” (Sokolov-Mitrich, 2014)
166	6-7		withdrawal of American social media platforms	Cor	withdrawal of American platforms
166	15		security and economic importance.	Cor	security and economy.
169	Asmolov		Asmolov, G. (2020). Runet in Crisis Situations…	Cor	Asmolov, G. (2020). Runet in crisis situations…
169	Bruns		Bruns, A., Highfield, T., & Burgess, J. (2013). The Arab Spring and social media audiences: English and Arabic Twitter users and their networks. American Behavioral Scientist, 57(7), 871-898. doi:10.1177/0002764213479374	Cor	Bruns, A., Highfield, T., & Burgess, J. (2013). The Arab Spring and social media audiences: English and Arabic Twitter users and their networks. *American Behavioral Scientist*, 57(7), 871-898. doi:10.1177/0002764213479374

170	Fond Obshhestvennoe Mnenie		Fond Obshhestvennoe Mnenie (2018). *Internet v Rossii: dinamika pron+namics. Winter* 2017-2018]. Retrieved from https://fom.ru/SMI-i-internet/13999	Cor	Fond Obshhestvennoe Mnenie. (2018). *Internet v Rossii: Dinamika proniknovenija. Zima 2017–2018* gg. [*Internet in Russia: Usage dynamics. Winter 2017-2018*]. Retrieved from https://fom.ru/SMI-i-internet/13999
170	Federal Antitrust Service		Federal Antitrust Service (2021b).		Federal Antitrust Service. (2021b).
171	Hermes		Hermes, S., Clemons, E., Schreieck, M., Pfab, S., Mitre, M., Böhm, M., . . . Krcmar, H. (2020). *Breeding grounds of digital platforms: Exploring the sources of american platform domination, China's platform self-sufficiency, and Europe's platform gap.* ECIS Research Papers	Cor	Hermes, S., Clemons, E., Schreieck, M., Pfab, S., Mitre, M., Böhm, M., . . . Krcmar, H. (2020). *Breeding grounds of digital platforms: Exploring the sources of American platform domination, China's platform self-sufficiency, and Europe's platform gap.* ECIS Research Papers