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DIGITAL CONFRONTATION BETWEEN USA AND CHINA: ECONOMIC AND POLITICAL DIMENSIONS

Natalia A. TSVETKOVA,
ORCID 0000-0002-0156-9069, n.tsvetkova@spbu.ru
Saint Petersburg State University, 1/3, Smolnogo Str., Saint Petersburg, 191124, Russian Federation.

Anna N. SYTNIK,
ORCID 0000-0002-6853-6253, a.sytник@spbu.ru
Saint Petersburg State University, 1/3, Smolnogo Str., Saint Petersburg, 191124, Russian Federation.

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Abstract. China turned out to be the only rival to the US in terms of producing digital products sold in the global market. Digital confrontation, previously defined as economic competition between the United States and China in the fields of development, production, application, and control over digital products and social media platforms, has been transformed into political and ideological deterrence. The United States maintains its leadership in the world of technological innovations and is aimed at rolling back China's informational activity in social media and its digital products from the markets of both the United States and target regions and countries indicated as a concern of US national security. The administration of Biden has intensified this confrontation by introducing the so-called policy of digital split with China limiting its access to US innovations, blocking social media platforms, and creating an anti-Chinese alliance in cyberspace. This study assesses China's actions in cyberspace, including issues of digital expansion in African, Asian, and Latin American countries; information campaigns in social networks; and cyber-attacks in the United States. The countermeasures of the United States against the technological growth and expansion of China have been identified in the areas including the establishment of an anti-Chinese digital coalition, the policy of digital connectivity in the Asia-Pacific region, the bilateral cyber diplomacy, and restrictions on the dissemination of Chinese digital products and social networks in the United States. The study concludes that the United States has embarked on a large-scale reduction in China's technological growth and cyberpower over the next three to five years.

Keywords: digital confrontation, cyberdiplomacy, United States, China.

About authors:

Natalia A. TSVETKOVA, Dr. Sci. (Hist.), Professor, Head of American Studies Department.
Anna N. SYTNIK, Cand. Sci. (Polit.), Associate Professor, American Studies Department.

ЦИФРОВОЕ ПРОТИВОСТОЯНИЕ США И КНР: ЭКОНОМИЧЕСКОЕ И ПОЛИТИЧЕСКОЕ ИЗМЕРЕНИЯ

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ЦВЕТКОВА Наталья Александровна, доктор исторических наук,
ORCID 0000-0002-0156-9069, n.tsvetkova@spbu.ru
Санкт-Петербургский государственный университет, РФ, 191124 Санкт-Петербург, ул. Смольного, 1/3.

СЫТНИК Анна Николаевна, кандидат политических наук,
ORCID 0000-0002-6853-6253, a.sytник@spbu.ru
Санкт-Петербургский государственный университет, РФ, 191124 Санкт-Петербург, ул. Смольного, 1/3.

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Аннотация. Цифровое противостояние – конкуренция между США и КНР в сфере разработки, производства, использования и контроля за цифровыми продуктами и социальными сетями – приобретает все более острый характер. Администрация Дж. Байдена взяла курс на создание цифрового разрыва с Китаем, ограничивая доступ к американским инновациям и создавая антикитайский альянс в киберпространстве.

Ключевые слова: цифровое противостояние, цифровая дипломатия, социальные сети, США, Китай.

INTRODUCTION

Digital confrontation is a term that can be used to describe the current state of relations between the United States and China in the field of information technology. This refers to economic and political competition between the two states in the development, production, use, and control of digital products and social networks. Washington, in an effort to maintain its leadership in the world, is trying to contain China's information activity and the supply of its consumer digital products both to the United States and to regions and countries that are of particular concern to the US national security [1].

The digital confrontation between these countries unfolds on two fronts – the market and users of social networks in the United States, as well as markets and target audiences for American or Chinese values in other countries. The confrontation covers not only the technology but also the political culture of the two countries. The dominance of China's digital products in the world will enable Beijing to strengthen the legitimacy of its model of state capitalism, while America's success in distributing its products and technologies will allow the United States to showcase the advantage of market liberal democracy. During the confrontation, questions are being resolved about which computers – the US or Chinese – will collect information about users in other countries. Who – the US or China – will transfer its technology, mobile phones, and social media platforms to third countries, such as Europe, Africa, and Latin America?

China is not ahead of the United States in the creation of advanced technologies, but is increasing the volume of trade in digital products within the country and in foreign markets. The volume of the digital economy of China is growing by 10.3% per year, and the USA by 9.8%; its share in China's GDP is 41.5%, and in the USA only 10% of GDP [sources 1, 2]. However, the United States remains a source of innovation for the digital economy, a leader in creating new areas of technological development, including computers, phones, and social media functionality. China ranks 12th in the world in the creation of advanced technological solutions [2, 3].

China has emerged as the United States' sole significant competitor in terms of the scale of the creation of digital products that are sold in the global market. Neither Russia nor the countries of the European Union have been able to create sustainable products with a global reach. *Apple* products or the *X (Twitter)* social network, *Huawei* products, or the Chinese platform Weibo command consumer bases worldwide posing a challenge to America's digital dominance. Despite this, Washington still has serious advantages: *Google*, *Apple*, *Amazon*, *Microsoft*, *Intel*, and *IBM* remain world leaders. It is American, not Chinese, manufacturers that determine the latest trends in the world of social media and telecommunications products.

The interaction of two distinct economic approaches in the digital realm – innovation-led by the U.S. and expansion-driven by China – has given rise to a unique dynamic. It is characterized by a bid for technological dominance between two nations with divergent political ideologies and values. The U.S. has leveraged various conflicts to impose sanctions and resist technology transfers to China. Conversely, China has adopted covert aggressive cyber tactics and maintained adaptable policies to preserve its access to the U.S.'s innovative economic sector.

Technological confrontation and economic competition have garnered attention from experts in U.S. and international relations. However, the broader implications of digital confrontation, specifically technological and information containment strategies, have yet to be thoroughly examined by researchers from Russia and elsewhere [4, 5].

CYBER POWER OF CHINA: AN ATTACK ON US LEADERSHIP

The presence of Chinese hardware and social media in other countries, including the United States, as well as the use of big data analytics, have significantly expanded the potential of Chinese *cyber power*. This term refers to the state's ability to exert political influence on foreign countries using tools such as digital products, e-commerce, communications, an army of hackers and trolls, information campaigns, etc.

First, in China, unlike many countries, national technology giants that are capable of introducing their own equipment to other countries have been created. The Digital Silk Road is about the export and sometimes imposition of telecommunications equipment and infrastructure, undersea fiber optic cables, mobile networks, e-commerce, and smart cities in poor countries. The PRC is trying to take over the technological development of the target countries, which is beneficial from an ideological and economic point of view, although it is fraught with political costs for them. More than 80 countries are covered by Chinese technologies, including networks and video surveillance, which makes the US government think about containing such digital power [6].

In recent years, Chinese companies have expanded the market by providing access to the Internet in developing countries, which has allowed them to promote political values [7]. It should be mentioned here that technology transfer as a means of disseminating political culture was originally an American idea. During the first administration of President Obama, within the framework of the Foreign Operations Appropriations Acts, the program “Internet Freedom” was introduced, through which the transfer of technologies to organizations and countries promoting liberal values was financed.

China has copied this approach, with state-affiliated enterprises such as *China Telecom*, *China Unicom*, *China Mobile*, *Huawei*, and *ZTE* bidding around the world to help promote national technology and political culture. For example, *Huawei* is building undersea Internet cables in Asia-Pacific countries, which allows China to monitor data traffic and instill its own practices of using digital control on the Internet. It is often said that Beijing has built a global infrastructure to support friendly countries, and China’s digital dominance poses a threat to US cybersecurity as Beijing quickly implements its Internet governance standards in other countries. Therefore, American experts are more concerned not with economic competition with China, but with political competition: China’s activities in the digital sphere oppose American digital products, limit

the movement of values, and reduce the political influence of the United States.

Second, China can carry out cyber attacks, which makes it a participant in the new system of digital international relations [8]. In 2020 alone, about 1,800 cases of cyber attacks from China were identified (according to American experts), covering 200 million Americans [source 3]. However, the problem of attack attribution remains the most serious in the field of digital international relations [9]. It is impossible to confidently say that it is China, Russia, Iran, or European countries that are carrying out particular attacks, so the agenda on cybersecurity issues in diplomacy sags and ends with declarations. Nevertheless, *cyber-diplomacy*, or *techplomacy*, is gradually emerging. About 30 states created a new diplomatic position to translate technical problems into the political sphere and formed a negotiating position [10]. The content of the negotiations between China and the United States shows that the parties are looking for ways to create regulations and norms of conduct on the Internet. However, there are still no criteria for compliance with the norms of behavior of states in cyberspace [11, 12, 13].

Third, the presence of national social media and developed tools for analyzing big data from users in other countries enhance the effectiveness of the dissemination of pro-Chinese information. In the confrontation between Chinese and American platforms (for example, *Weibo*, *TikTok*, or *YouTube*), there is a question of who – the United States or China – will get access to the data of social media users in various countries, and therefore the ability to exert large-scale influence on them.

Initially, the Chinese government built a policy of *digital soft power* in the form of disseminating positive information about China on social media, including target audiences in the United States. The change occurred around 2018–2020, when China adopted offensive tactics with the help of special information campaigns. Official accounts were created on US social media sites such as *Facebook*¹ and *Twitter*, and the Chinese Ministry of Foreign Affairs initiated the dissemi-

¹ Banned organization in the RF.

nation of Chinese positions on current issues, often with anti-American posts.

The following algorithm can be traced in Chinese digital diplomacy: one-time creation of accounts; their long-term inactivity, and then simultaneous activation; quick and consistent response to posts by Chinese diplomats, as well as similar language expressions and terms in posts. Offensive digital diplomacy using aggressive information campaigns, international broadcasting, purchase of contextual advertising, and coordinated dissemination of propaganda by numerous activists has become a significant tool for representing the national interests of China to foreign audiences. The most famous digital campaign, which is attributed by American experts to China, is influencing the results of the presidential elections in 2020: allegedly about 2 million users disseminated messages against the election of Donald Trump.

An unbiased approach to Beijing's information activity on social media shows a different picture. The authors' machine analysis of all posts by China's main international broadcast channel, primarily *China Xinhua News* on *Twitter*, in March 2023 indicates that they did not receive a significant response from readers. Despite more than 12 million subscribers, the publication's daily posts have only about 20 "likes" and reposts (quotes)². This indicates a weak penetration of pro-Chinese information to users, as well as the fact that the number of subscribers is artificially inflated.

This conclusion correlates with the results of Beijing's information activity in Taiwan. The PRC government has deployed significant resources to promote the thesis of the need for unification. However, posts about a unified China only generate positive reactions on the Beijing-controlled *Weibo* platform.

USA: DIGITAL DIVIDE POLICY

The United States is seeking to reduce the potential for economic and military development and Beijing's participation in the global market.

² Big data collection and analysis were carried out using tools *Twitter Advanced Search* and *Python (Vander)*.

Current US digital policy towards China can be divided into five elements.

The first element is strategic, reflecting the US administration's view of the digital confrontation and digital divide with China; the second is the measures designed to restrain the technological growth of the PRC and create an anti-Chinese digital coalition; the third is regional (distribution of digital products from the USA and China in the Asia-Pacific region); the fourth covers the relations between the US and China on issues of political interference through social media; the fifth means restrictions on the distribution of Chinese digital products and social media in the US.

At the strategic level, the American approach to China has shifted from cooperation to confrontation in the digital environment. This coincided with the growth of the number of Chinese technology companies in the global market, which undermined the US digital monopoly on hardware, Internet communications, and social media that developed in the 2010s. The policy of engagement was based on the expectation that China would liberalize politically, become a responsible player, and comply with international rules and norms supported by the United States. However, the Chinese leadership, on the contrary, has strengthened internal controls, implemented unilateral measures in the South China Sea, and expanded the scope of cyber attacks to steal American technological and financial information. Falsifications about Chinese interference in the American elections had a negative impact [14, 15].

While the Trump administration focused on tariffs and trade disputes, the Biden administration showed a new approach to forming coalitions to limit China's technological development, especially in the military sphere [16]. However, in the spring of 2023, some statements appeared about targeted restrictions on technology for the Chinese military industry, in the provision of digital products in other areas [source 4]. This indicates that the Biden administration is engaging in a dialogue to maintain pressure on the emerging digital alliance between Beijing and Moscow. For its part, China also seeks to maintain access to American innovation.

The second element of US activity is the measures to reduce the potential of the PRC in pursuing an active cyber policy and creating an anti-Chinese digital coalition. The formation of such a coalition began during the Trump administration, when the United States began to lobby European countries for the rejection of Chinese 5G network equipment. The Biden administration has taken the issue of an anti-China digital alliance to a new level. In July 2021, when the United States once again accused China of cyber attacks, the Biden team began to assemble a coalition of countries from NATO and the European Union. They were joined by Australia, the UK, Japan, and New Zealand.

In December 2021, the creation of a “Alliance for the Future of the Internet” was announced – a union of states that will use only American digital technologies. The State Department even has a new department – the *Bureau of Cyberspace and Digital Policy*. One of its tasks is to persuade allies to follow targeted US restrictions in curbing China’s technological growth without harming trade.

The US has identified critical technologies that should not be available to China: supercomputers, big data analytics, artificial intelligence, and biotechnology. The basis was the steps of the Trump administration, limiting the access of Chinese specialists to obtaining tools for processing and analyzing video recordings from surveillance drones created and managed by the *Algorithmic Cross-Functional Team*. Wide access to artificial intelligence technology was suspended for several years. The European conflict and the Chinese position of pro-Russian neutrality contributed to Washington’s policy of refusing to transfer new developments to China, for example, limiting the access of Chinese scientists to quantum computer models.

The third element of the digital confrontation between the United States and China is the struggle in the Asia-Pacific region to distribute their products to target countries. The formation of a group of countries – consumers of American digital products, united into a single network, is a regional response of the United States to the digital challenge. Back in 2018, Secretary of State Pompeo began implementing a project for a single digital space in the Asia-Pacific. The

Biden administration announced the creation of a *digital connectivity* system there within a group of countries focused only on American technologies. The agreement with Singapore and assistance programs for the Philippines allowed for the expansion of the broadband network and the reorientation of consumers to American products. In Vietnam, the *National Electricity Corporation* completely updated its equipment and switched to American computer standards. In the Philippines, the US Agency for International Development is linking local e-commerce platforms to US data. In Bangladesh, the American digital financial system and Internet services are being formed [source 5].

The fourth element of the digital confrontation with China is the issue of mutual political interference through social media. It was noted above that the United States accused China of interfering in its elections in 2018 and 2020. Beijing, for its part, accuses the United States of influencing young people through social media. US agencies used them to disseminate information among Chinese users about the protests in Hong Kong in 2019, which was also indicated in the reports by American foundations as financing media campaigns and training Chinese journalists.

The fifth element of the US digital policy against China is limiting access to Chinese digital products, information, and social media to the US territory. American society is under pressure from “investigations” about Chinese interference in the domestic political process. Evidence is sparse, since any state is capable of carrying out digital information campaigns. However, political hysteria influences decision-making and leads to an increase in anti-Chinese sentiment: today about 82% of American citizens express a negative attitude toward China. This is the highest percentage since the early 2000s, when the average was 35% [source 6].

The Committee on Foreign Investment in the United States and the US Trade Representative are the main initiators of restrictions on the access of digital products to the American market. Dozens of transactions were blocked, and in 2018 a bill on the risks of foreign investments was initiated. It outlines a list of specific digital products

that enhance China's capabilities in cyberspace. The discussion stalled, but some sections on *electronic warfare capabilities* were added to the National Defense Authorization Act. The 2019 version of the Act expanded restrictions on the use of Chinese video surveillance technology and telecommunications equipment within the United States, as well as on the export of American digital products to China. The chains of Chinese equipment that were previously used in computers of government and non-government departments were eliminated [source 7].

The list of "undesirable" Chinese companies with which American agents cannot trade without a government license contains about 60 entities as of 2023. This is how the White House limited Huawei's and ZTE's exports of microchips, which are necessary for the production of smartphones and other products. They are prohibited from purchasing American equipment and technology, and their phones and applications cannot be used by government agencies. One can say that American specialists and supervisory authorities are able to control the transfer of Chinese gadgets to critical areas in the United States. However, a significant question remains, which arose for the first time in the history of US technological development: How do we stop the popularity of Chinese social media?

The US government is putting pressure on Chinese companies that own social media platforms such as *TikTok* or *Weibo*. Congressional hearings in 2022 and 2023 regarding the *TikTok* showed a public and successful raider takeover of the company in terms of control of user data by the United States [source 8].

It would seem that the main reason for the pressure on Chinese social media is economic protectionism. However, it cannot be said that *TikTok* receives more income or is more popular than its competitor, the American platform *YouTube*. According to statistics, *YouTube*'s revenues from advertising exceed *TikTok*'s revenues (about USD29 billion versus USD9.4 billion) [sources 9, 10]. *YouTube* is the second most popular social media platform in the United States. However, *TikTok*, which uses a model of short videos and generated faces, remains extremely popular

among the younger generation of Americans from 13 to 35. Visual propaganda and the accumulation of data on American users open up significant opportunities for Beijing to advance its agenda.

Russia, which was indiscriminately accused of interfering in the US elections, did not have a national platform that could operate in the United States. China has taken cyber policy to another level via the social media platforms that Americans use. According to the *TikTok* corporate leadership, about 20% of the company's investments belong to Beijing, and Chinese specialists work at the company's headquarters from different countries, which may influence the transfer of user data to Beijing.

As a result of the campaign against *TikTok*, its administration agreed to cooperate with US federal supervisory authorities and guarantee no connection with the Chinese government [source 11]. Bans are also being introduced at the state level. Texas and Arizona have banned *TikTok* apps on government devices, and Montana has banned the app throughout the state.

However, the US government's ability to control social media is limited by the First Amendment and Section 230 of the Communications Decency Act of 1997 which protects Internet providers and online platforms from legal liability for user-generated content. Therefore, all hearings and investigations in Congress since 2017 have attempted to build a channel of interaction with the management of technology giants, understand their ethical standards, and apply pressure to control information flows [17]. Thus, the main way to suppress pro-Chinese information is through technical facilities.

The policy of technical suppression of unwanted information flows is coordinated by the *Global Engagement Center*. Engaging with tech giants, including *Google*, *Facebook*, *Twitter*, etc., is the only way to eliminate narratives against American leadership or the values of neoliberal society. This interaction began during the Obama years, when tech giants helped curb *ISIS*³ and *Taliban*⁴ propaganda on social media by shutting

³ Banned organization in the RF.

⁴ Banned organization in the RF.

down accounts. The platforms have established their own norms that follow the needs of the US foreign policy.

US social media entities are actively involved in various technological projects of the Department of State, which are related to public diplomacy, help in implementing the policy of information stress resistance of Europe against Russia, have established a network of influential bloggers in the countries of the Middle East and are reporting on the closure of unwanted accounts, who spread pro-Chinese narratives. For example, in 2023, *Google* specialists reported to Congress that more than 100,000 accounts linked to the Chinese government were blocked. *YouTube* stated that it uses special tactics to suppress unwanted content and reward those users who disseminate information loyal to the United States (their videos are artificially made to trend). *YouTube* blocked more than 24,000 users, stating that their activities were coordinated by China. There are numerous examples of American social media diligently fulfilling political requests coming from the White House or the US Congress.

The question that remains, which will determine the effectiveness of Chinese information activities in the United States, and vice versa, is the use of artificial intelligence in digital information campaigns. At a hearing in Congress, the creator of the non-profit organization *OpenAI*, Sam Altman, said that the only way to stop Chinese “disinformation” is to create special algorithms when a neural network communicates with a person, which will limit the appearance of unwanted responses or anti-American positions for use by China [source 12]. Therefore, in a new round of digital confrontation between the two countries, the question will be solved whether the neural network of any country – the USA or China – will become the most popular in the world, which will allow the built-in algorithms to contain a pro-American or pro-Chinese position and impose it on the users.

RESULTS AND CONCLUSIONS

The economic competition in digital technology that was observed during the Obama and Trump administrations has escalated into a political and ideological confrontation between the United States and China in cyberspace during the Biden administration. China emerged as the only power in the world that is able to use its national social media, as well as digital products in the United States and other countries. The presence of a sovereign Internet, national platforms, and hardware communications has formed China’s most powerful cyber force, which undermines US leadership in the technological sphere.

China and the United States have extended their rivalry from their respective domestic markets to the global stage, affecting other nations’ markets. Their strategic competition is now dual-faceted. Firstly, there’s an emerging coalition of countries aligning technologically with either the United States or China, a dynamic particularly evident in Latin America and the Asia-Pacific region. Secondly, they’re engaged in digital information warfare, aiming to displace each other’s national social networks within domestic markets. Amidst these tensions, cyber diplomacy stands as the sole bridge for collaboration, as both nations seek to mitigate cyber attacks and espionage.

China’s technological prowess has evolved to a stage where traditional economic countermeasures, such as trade wars and product bans, are insufficient. In response, the Biden administration is advocating for a digital divide, seeking to limit China’s access to advanced technology, potentially diminishing its cyber influence over the next three to five years. China’s stance on regional conflicts is increasingly influencing U.S. policy decisions. Recognizing its reliance on U.S. innovation for its digital growth, particularly in its stance towards Russia, the Asia-Pacific, and other areas, China is likely to adopt a moderated policy to ensure continued access to the American innovation economy.

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