

Networks as part of strategy design for digital platform development in China

Arshad Mokhammad¹

¹ IMEMO RAS, Moscow, Russia

Corresponding author: Arshad Mokhammad (md.arshad.786@outlook.com)

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Abstract

The ongoing digital transformation provides an infrastructural basis for multi-level networking. The United States and China as the leaders in designing long-term social and economic development strategies pay serious attention to technological sovereignty and sustainable interaction between the corporate and public sectors that are impossible without reliable digital infrastructure. Digital platforms have become its most important component, creating prerequisites for the formation and development of various network structures. The paper discusses the subordinate effects resulting from the development of digital platforms as part of digitalization. Today, global value chains are being transformed, changing the global reproduction system; the reproduction process is also influenced by digital transformation; technological development and innovations bring new opportunities and transform all aspects of socioeconomic interaction. The methodological basis of the study is constituted by the system approach, comparative analysis and statistical methods. The paper examines the prospects of digital platforms in the PRC both for the national economy and international cooperation and proposes guidelines on their strategic development. It describes the specific features of financing their formation and systematizes the characteristics of networking in the sphere of e-commerce, cloud services and investment cooperation. Addressing the social aspect of using digital platforms, the study emphasizes the importance of social monitoring and migration controls that give the country a competitive advantage in developing and testing the technologies involved. It also shows that platform employment and digital poverty create multidirectional trends affecting the country's economic development.

Keywords

digital platform, networking, network effects, transnationalisation strategy, capital expansion, Digital Silk Road, One Belt One Road, Alibaba

JEL: D85; F63; R11.

1. Introduction

Rapid industrial development of the PRC in the 1970–1980s and its transformation into the world’s workshop proceeded at the time when internet networks were emerging. By the late 1990s, the largest Chinese platforms had started to operate. They facilitated aggregation of data on production and wholesale trade primarily of industrial products; this served the interests of the state that felt the need to introduce systems of both strategic and indicative planning to bring management processes to a new qualitative level.

At the formative stage, the Chinese digital platform market had several specific features. First, there was significant state participation, both direct and indirect, which set the vector of integrated development. Second, both linguistic and mental peculiarities of the region were successfully taken into account. Third, it prioritized the follower strategy with further improvement of the technology through an integrated infrastructural and regulatory framework.

Table 1. International indices assessing the degree of country development of the digital economy

Index	Full name	Meaning	China	USA
			Rank (year)	
WDCI	IMD World Digital Competitiveness Index	Capacity and readiness of countries to develop digital technologies <i>Components: knowledge (talent, education, science); technology (regulation, capital, connectivity, exports); readiness (adaptation, business flexibility, business IT integration)</i>	14 (2024)	12 (2024)
DEI	Digital Evolution Index	Progress in the digital economy by country category: <i>leaders, high level, high potential with growth opportunities, low level of development</i>	39 (2024)	2 (2024)
NRI	Networked Readiness Index	Ability to apply ICT in networks <i>Components: technology, people, governance, influence</i>	20 (2023)	1 (2023)
EGDI	The UN Global E-Government Development Index	Willingness to provide public services using ICTs <i>Components: Volume and quality of online services, development of telecom infrastructure, human capital</i>	43 (2022)	10 (2022)
EPART	E-participation Index	Mechanism for e-citizen participation in government websites <i>Components: websites, social media, mobile platforms, open government technologies</i>	13 (2022)	10 (2022)
GCI	Global Connectivity Index	Evaluation of networking in data centers, broadband, Internet of Things <i>Components: supply, demand, experience, capacity</i>	22 (2020)	1 (2020)
GII	The Global Innovation Index	Assessment of innovation development <i>Components: innovation inputs and outputs</i>	17 (2023)	3 (2023)

Source: Golovenchik, 2018.

The digital segment of the Chinese economy has been growing rapidly for two decades, with an average annual growth rate of 15.9% between 2012 and 2021, leading to its share of GDP reaching 41.5% in 2022 (Ivanova et al., 2023). Networking within the PRC's digital economy has its own characteristics that require a more detailed examination. The average digitalization indicators presented in Table 1 show that the country is not among the world leaders because of persistent income inequality and a serious imbalance in its regional development: the rural areas are still insufficiently covered by new technologies. In 2025, the country's digital economy is to achieve a 10 % share in the GDP, calculated according to the methodology of the Organization for Economic Cooperation and Development (Gershman et al, 2022).

Digital platforms as a specific form of business organization

The need for digital platforms was first substantiated in the works of J.-C. Rochet and J. Tirole, who looked into the redistribution of social gain from these technological innovations and studied the peculiarities of the Ramsey model in conditions of integrated monopoly (Rochet & Tirole, 2003). The researchers tested their hypotheses on the operation of payment systems (Rochet & Tirole, 2011).

The rapid spread of digital technologies in all spheres of life has created the need to analyze and forecast the trends in the development of digital platforms and study peculiarities of their functioning. The primary classification of these objects was offered by A. Gaver and M. Kuzumano. (Gawer & Cusumano, 2014). Many other authors later proposed their own ways of systematization, clarifying some of the aspects or making additions. Among these are Nik Srnicek (Srnicek, 2017), Jeffrey Parker, Marshall Van Alstyne and Sangeet Paul Choudary (Parker et al, 2016), Alex Moazed and Nicholas Johnson (Moazed & Johnson, 2016). Idris Mootee has most consistently highlighted the criteria for defining platform technologies (Mootee, 2008). Competitive strategies are determined by both product architecture and industry specifics; their mutual adaptation creates opportunities to optimize the use of available resources within business models taking into account the interests of all participants.

Eckhardt et al. (2018) and Hein et al. (2019) define a platform ecosystem as a network of platforms and other complementary information goods that together provide consumers with greater utility. In platform ecosystems, the special network effects between platforms increase economies of scale within the inter-organizational network. This, in turn, improves the work of the algorithms: the more data a platform ecosystem collects, the better the big data algorithms perform.

Economic and technological development in digitalized environment led to the proliferation of digital platforms, which subsequently expanded into digital ecosystems. They are not normally oriented to mass production thanks to the possibilities of individualized supply and demand and positive network effects combined with faster interaction and lower transaction costs. In technological terms, digital ecosystems can be defined as models of interconnected information systems characterized by scalability and self-organization (Dini et al, 2011). Some authors

(Li et al, 2012) consider self-organization, scalability, sustainability and dynamism to be crucial for the development of a digital ecosystem as these qualities determine its adaptive capabilities in constantly changing external environment, both technological and social. J. Parker, S. Choudary and M. Alstyne define the digital platform as an enterprise that enables mutually beneficial interactions between third-party producers and consumers, offering open infrastructure and establishing new rules (Parker et al, 2016).

As business models, they form a mechanism to redistribute value added on the outcome of transactions and encourage turnover to maximize the financial result (Johnson et al, 2008). The capabilities created by digital platforms for integrated strategy development at all levels of planning allow corporations to improve their business processes by making adjustments based on monitoring results. This creates prerequisites for the servitization of the economy and improvement in its long-term prospects (Nielsen & Lund, 2014). Decisions on the platform configuration are primarily made by the central (focal) agent that determines the organizational structure and interaction formats of the participants (Baden-Fuller & Mangematin, 2013).

The most important factor of an ecosystem's competitiveness is the technology of interaction between supplier, consumer and intermediary who are in need of sustainable cooperation throughout the value chain (Fehrer et al, 2018). One must also take into account the likely dictate of digital platforms in pricing issues. For example, when production costs are high, forced price reductions may cause serious losses for the suppliers when the absence of alternative distribution channels with similar potential excludes the possibility of diversification. It is the platforms that set the publicly recognized level of costs that determine the competitiveness of market participants.

Successful development of digital platforms is based on network externalities that have been thoroughly investigated by the institutional branch of economic theory. Some papers (Antipina, 2020) looked into maximization of counterparty surplus on digital platforms, given that the seller can vary market prices to achieve its strategic goals. The network effects have been studied both in terms of their technological capabilities and their impact on different types of market structures (Katz & Shapiro, 1985).

Mechanisms of predictive analytics use the capabilities of digital platforms that allow for the fullest implementation of the concept of "supervisory capitalism" by Sh. Zuboff. It aims to remove consumer surplus and change pricing strategies in accordance with the prediction of consumer preferences based on the digital footprint (Zuboff, 2015).

A. V. Selin proposed the following definition of digital platforms: a business model based entirely on high technology that creates profit through exchange between two or more independent groups of participants. In their basic configuration, platforms directly bring together producers and end consumers, allowing them to interact without intermediaries. They also enable different companies to share information

and thus significantly improve collaboration and create innovative products and solutions (Selin, 2016).

Most members of the Russian expert community see the digital platforms as systems of algorithmic mutually beneficial relationships between a significant number of independent participants in an industry or sphere of activity maintained in a single information environment; the use of these platforms causes a reduction in transaction costs through applying digital technologies to operations with data and entails changes in the division of labor (Digital Russia, 2018).

As digitalization is unwinding the digital platforms transform into digital ecosystems that bring together large numbers of participants, information services and business processes, based on the principles of mutually beneficial relationships (win-win) (HSE, 2021). They improve the competitiveness of all stakeholders and agents interacting with the ecosystem. Firms' activities expand as they attract new counterparties; this enhances capitalization and prospects of the ecosystem and is beneficial for the economy of their country.

The formal criterion of the digital ecosystem today is the ability to work within one account with a large number of services grouped under a common brand providing a simplified transition between them both within the company and on a commercial basis. The most important components of the digital ecosystem include services that make it possible to integrate monitoring and data processing processes, a coordination center responsible for the interaction of ecosystem components, an innovative technology platform that monitors the scientific and technological achievements and promising trends in the industry as well as possibilities of their commercial application in the short and medium term.

2. Digital market super players and Alibaba's experience in forming complex structures

The most universal Chinese digital platforms that realize multi-level network interaction include Alibaba Group, Baidu and Tencent, which form the BAT group. The main activities of the leaders of the Chinese market of universal CPs have certain features that allow them to adjust their strategies on the basis of the symbiotic web, taking into account the capabilities and free resources of the participants. In addition to BAT, such platforms as Huawei, Xiaomi, JD.com and Pinduoduo are successfully operating in the Chinese market, with Huawei and Xiaomi, who focus on the promotion of hardware technological solutions, having the opportunity to implement strategies of co-competition (Coopetition). Obviously, the introduction of digital platforms has brought procurement in the leading countries of this sector to a new level. Both Alibaba (China) and Amazon (USA), thanks to the monitoring technologies used, are focused on the fulfillment of orders with zero inventory. A striking example of strategic group formation within the network interaction is the forced development of the Pinduoduo platform in cooperation with Tencent, which provided access to its virtual web of

communication networks based on WeChat. This symbiotic cooperation allowed it to overtake the recognized leader Alibaba in record time. Chinese businesses actively introduce new technologies in e-commerce making use of the already formed global digital space and the expansion potential necessary for the development of the emerging macro-region. The prominent place of China's leading digital companies within both national and global economic systems is confirmed by the scale of capitalization shown in Table 2.

Table 2. Capitalization of leading Chinese companies in the digital platform sector for 2024 (billion, \$)*

Название	
Tencent	442,81
Pinduoduo	202,96
Alibaba	194,86
Xiaomi	57,25
Jingdong Mall (JD)	26,28
Baidu	29,09

* Based on August 2024. *Source:* Companies Market Cap, 2024.

In our opinion, there are persistent disproportions related to the type of market: investment firms are the leaders because of the character of their assets; they are followed by e-commerce firms that provide links to the production base in value chains. Sustainable working partnerships have been in place for decades but transformation of stable networks is difficult because it is practically impossible to make abrupt changes in market redistribution. The third place is taken by firms that provide hardware for the digital sector. Strategic partnerships at the global level can mitigate growing tensions and ensure sustainable development.

The emergence of Alibaba in 1999, specializing in trade operations between small and medium-sized businesses, can be recognized as a success. It helped that the dot-com market collapsed a few months later: if the two events had occurred simultaneously, the negative impact of the crisis may have prevented the successful establishment of the Chinese conglomerate. A little earlier, in 1998 comes the platform JD.com, initially focused on media trading; later the business was diversified with a focus on logistics. The leading shareholder of JD.com at the stage of formation was the Chinese investment platform Tencent, also formed in 1998; it specialized in investment activities and venture financing. At the time Alibaba mostly worked in the B2B segment, while JD.com was aimed at B2C. A little later in 2000, Baidu appeared, which chose a strategy of universalization and is now the leading multi-disciplinary Chinese platform, tracking new trends in the sector and actively investing in them. The appropriation of Western experience, primarily American, was driven

by significant foreign investment, as Walmart invested in JD.com and American venture capital firms were involved in creating Baidu’s strategy.

Tencent’s direct foreign investments are explained by the need to take into account the national specifics, an example of which is investing in Indian marketplaces and used car resale services. The platform also invests in the European market, which can be illustrated by the purchase of shares in the British gaming industry leader Sumo Group (TAdviser, 2024a).

The formation of infrastructure platforms, particularly in telecommunications, began in China in the late 1980s. A good example is Huawei, which became a leader not only in telecommunications and related services, but also in the field of hardware support for government infrastructure projects. At the moment, this corporation is the world’s largest manufacturer of telecommunications equipment. There are also three smaller companies operating in the Chinese market: Xiaomi, Lenovo Group Ltd and ZTE.

The scale of the Chinese economy determines close cooperation with logistics companies, the vast majority of which are state-owned and the share of non-residents in the state procurement market is minimized. This policy primarily concerns high-tech industries and innovative products: the Chinese government stimulates domestic producers and creates additional demand in the national market, which is facilitated by the absence of significant barriers in the supply of raw materials and energy products to China. The extent of Chinese participation in the global e-commerce market is shown in Figure 1, from which it is clear that sustained global leadership was observed over the past decade (Zhang & Chen, 2019).

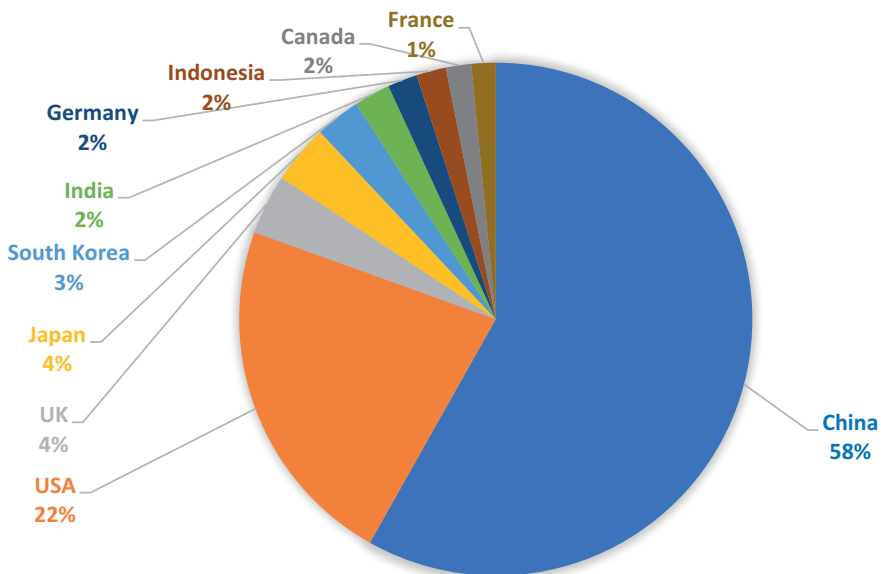


Figure 1. Global e-commerce market share in 2024. Source: MobiLoud, 2024.

Of the Chinese industry leaders, the example of Alibaba is the best illustration to the classifications of digital platforms because all components of its ecosystem are highly universalized and integrated. The company has been gradually assuming the role of a focal agent, first at the national and then international levels. This position will enable it to create strategic groups in various sectors (logistics, finance, manufacturing), gain competitive advantage within the reproductive basis and ensure its technological sovereignty. The global scale of coverage determined its primary vector of development, e-commerce, which gave rise to the demand for the use of Alipay payment systems, which later grew to become significant participants in the financial market (Ant Financial). Today, the functioning of global platforms is impossible without capacities for data storage and processing (Alibaba Cloud Computing), integrated in multilevel networks. Commercial success in sales cannot be achieved without logistics infrastructure, which is why specialized divisions (Cainiao and Fengniao Logistics) have emerged. The current trend towards the creation of customized content has resulted in the emergence of video and music hosting services (Youku and Alimusic), while the completeness of Alibaba's trade infrastructure allows the promising Chinese market to increase its presence in the external sector and provide sufficient potential for further development. E-commerce is the leading revenue generator in this ecosystem, accounting for 87% of the turnover (BCS-Express, 2023). At the same time, for the PRC the activity of this sector was a significant factor that ensured economic growth both through the introduction of infrastructure and the involvement of new categories of economic agents in the production process.

Alibaba Group uses various monetization mechanisms, which have a significant impact on the structure of networks and vectors of their further development. At the stage of forming value-adding partnerships, it is necessary to ensure homogeneous transparent terms of cooperation for a certain period of time, which helps stabilize the business structure. At the next stage, the transformation of payment systems is made in accordance with the priority vectors of platform development, which can be determined by both business actors and the state as a stakeholder. When projects reach a certain level of maturity with stable working partnerships already formed it becomes possible to apply monetization mechanisms that flexibly redistribute the benefits between the platform users and its beneficiaries.

Another example is the Taobao business model, where neither sellers nor buyers pay commissions as monetization is carried out through advertisements and various services, e.g. giving priority to pages in search and ranking. Network services provide a stable cash flow and contribute to the use of mechanisms for flexible adjustment of financial results. Tmall is monetized through subscription fees, and since the world's largest brands operate on this platform, the amount of fees for access to the platform is considerable. Besides, it charges commissions for transactions and payments for intra-platform services. Since the AliExpress platform is positioned as Alibaba's B2C segment focused on online commerce, merchants selling goods pay a one-time fee at the beginning of their business and then are charged commissions for the services.

Alibaba Group has made impressive progress in developing cloud services, and now it is a strong leader in the segment implementing transnationalisation strategies and forming strategic partnerships. As a result, its market share has reached almost 20% and the company is the third largest in the world (Nexus Group, 2024). Cloud services are the second core business of the company, whose management regards work with Big data as a key priority. Using the advantages of internal networks allows it to rationally combine the data storage services, computing power, analytical processing services and software development with cloud specifics. The group's strategic development priorities include growth not only in the Chinese segment, but also in Europe, the Middle East and Africa.

The work with digital data and ever-increasing infrastructure requirements made it necessary for Alibaba to create a network of data centers, and it was these data centers that provided explosive growth in financial results from the use of cloud technologies and held 46% of the market in 2019. By 2022, Alibaba's share dropped to 36% with a total market size of \$30.3 billion (TAdviser, 2023). Breakthrough technologies in this area include the creation of smart logistics platforms, such as Cainiao Smart Logistics Network Limited. It allows Alibaba Group to process large volumes of Big data, engage in cloud computing, automate logistics processes, and develop sound sorting systems that take into account the dialectal peculiarities of the Chinese language.

Alibaba Group's achievements made it possible to create inter-firm networks and ensure successful development of territorial clusters. Its dynamic constellation of flexible networks based on both working partnerships and strategic coalitions contributes to consistent buildup of the existing and emerging value chain capacity. To maintain a margin of safety for sustainable interaction, the system certainly needs adjustment in line with geopolitical transformations.

3. Peculiarities of China's regional expansion in the digital segment

Network interactions have regional peculiarities; their stability and flexibility depend on the degree of transnationalization, which determines the possibility of using the advantages of transfer pricing and choosing optimum taxation regimes. Effective combination of matrix and divisional organizational structures contribute to successful management of mutual relations portfolio. The interaction of production, distribution and investment networks mediated by digital platforms, often controlled by multinational corporations, can produce synergy effects, e.g. coordinated interaction of ODM (Original Design Manufacturer), OEM (Original Equipment Manufacturer) and OBM (Original Brand Manufacturer) schemes that allow some of the network segments to use competitive advantages of the brand, existing territorial distribution structure and loyalty system. The emergence and spread of such schemes transform global value chains and create additional opportunities for cross-industry and cross-country distribution of surplus value (Polozhikhina, 2018).

Transformation of the Chinese Internet sector gave rise to the rapid growth of companies that received substantial support from the government, venture funds and business incubators, which stimulated the emergence of innovative forms of business organization and facilitated the development of clusters. At the initial stages of development this market operated in a fairly liberal environment but the high growth rates of the industry leaders would not be so impressive if there had been strong competition from foreign firms. Partly because of this, in the late 1990s, the government began to limit the activities of foreign companies in the national Internet space. In 1998, it initiated The Golden Shield Project (TAdviser, 2024b), released in 2003. Today, there are 11 other interconnected components that ensure digital transformation at the state level. It is important to note that Chinese search engines are focused on the peculiarities of working with the implemented algorithms, which is indirectly evidenced by the limited coverage of Chinese users by Google services as can be inferred from Figure 2. To produce the expected output and form sustainable interactions within the network structures, it is necessary to create analogs that take into account local specifics. For the past ten years, the PRC has been operating a public procurement network that takes on the role of a focal agent and provides all the necessary information using network filters and forming competitive advantages for certain sectors of the economy. This platform implements the policy of openness and is a key actor for this type of operations.

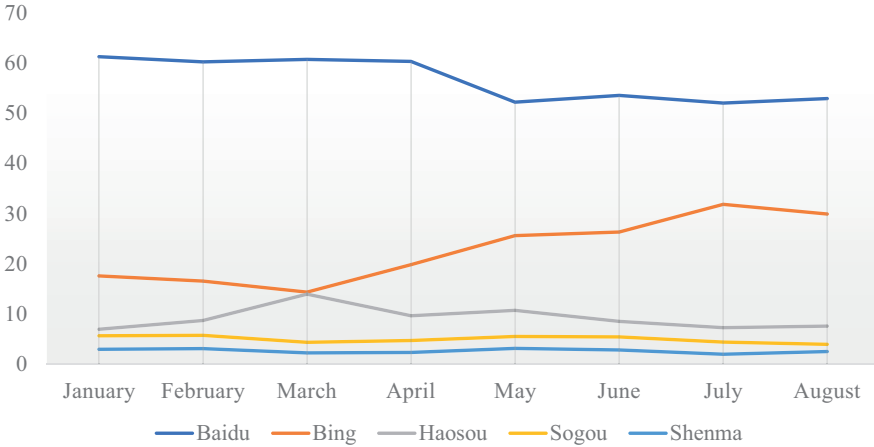


Figure 2. Search Engine Market Share China in 2024 (%). *Source:* Statcounter Global Stats, 2024.

The next stage of AI technologies implementation may involve ecosystems that process general information about the national economy; one example is the project “Golden Bridges” (TAdviser, 2024b), which uses the virtual web with opportunities for multi-level control and monitoring of statistical data. Such experience can be most useful for both individual countries and integrated associations. To accelerate the networking and enhance unification standards, they introduced electronic

document management within the framework of the “Golden Customs” program. The scale of China’s e-government is unprecedented; other countries may find it difficult to use the Chinese experience, given the degree of government involvement and state control in China.

The main prerequisites for the rapid growth of Chinese digital platforms include the initially small services sector and low level of wholesale and retail trade development in combination with extremely high growth rates of demand in all sectors of the economy. This has led to the transformation of the country’s industrial structure and emergence of new markets. An important feature of the ownership structure in the Chinese economy is that, according to the Fortune Global 500 (2019), only 15% of its 109 corporations were privately owned. All the others were, and most probably are, state-owned, which could adversely impact their adaptability to changing market demands (World Economic Forum, 2019). The degree of state influence in all spheres of the Chinese economy is extremely high and it is likely to remain so in the future.

The state plan “Made in China 2025” (2015) emphasized the possibilities of Internet technologies; this resulted in the creation of “National Informatization Development Strategy”. It is necessary to note that BAT companies supply the Chinese state corporations with ready-made IT service solutions and create software products for working with cloud technologies and BIGDATA analysis. The results of this cooperation are the scoring systems based on public-private partnership and the national system of digital state control. Such integration is beneficial for the majority of agents as it reduces information asymmetry and increases public welfare (Israilova & Balanova, 2020).

The explosive growth of digital technologies certainly influenced the development of the One Belt, One Road strategy, which now includes the Digital Silk Road project: it is expected to grasp the opportunities created by digital economy. The interaction associated with the growth of digital platforms in e-commerce, educational and financial technologies is on the rise. These developments will affect the social structure and form an additional sales market for Chinese equipment. Infrastructure of digital economy, among other things, requires data transmission channels located both underwater and above ground; wireless transmission via 5G technologies will need newly-built data processing and storage centers.

All these elements are to be integrated on the basis of China’s BeiDou satellite navigation system, which ensures China’s autonomy from the United States and GPS systems. Competition with alternative U. S. platforms may become a “digital trade war” over the standards of implementation. To date, the growing popularity of Chinese digital standards, illustrated by the integration of the BeiDou geolocation system with Russia’s Glonass, leads to the operation in the new markets, thus taking the digital products development to a qualitatively new level (Danilin, 2019). The Chinese IT and telecom standards will be introduced in the participant countries; Chinese manufacturers will meet the demand for the necessary equipment; there will be more active information exchange through digital platforms specializing in e-commerce, fintech and educational technologies. The increased information flows, when properly

aggregated and processed, will create a new level of opportunities for cyberspace development.

The specialized programs “Made in China - 2025”, “China Standard - 2035” and “Internet +” (Lee et al, 2019) can provide valuable information about the prospects of the digital Silk road. The first program is to close the gap in the aerospace industry between the world leaders and the PRC; it should also involve robotics and energy generation. The second program directly and indirectly contributes to the introduction and strengthening of the position of Chinese technological standards in the global market. Digital economy dominates some of the sectors, with e-commerce leading the way and Chinese companies accounting for more than 50% of global transactions. In fact, they are the world leaders already: their turnover is expected to exceed \$3.5 trillion in 2024 (International Trade Administration, 2023).

E-commerce is a critical component of the One Belt, One Road strategy, in which all the leading Chinese companies, including BAT, Huawei and JD.com, have agreed to participate (Kheyfets, 2020). This program focuses on expansion primarily in the South and Southeast Asian markets. It is planned to establish free cross-border e-commerce zones, with marketplaces as their main infrastructural components. An important indicator of e-commerce development is the share of e-commerce transactions in retail sales. In 2013, the percentage of e-commerce coverage of retail transactions in the PRC exceeded that of the US, and the trend is sustainable (Zhang & Chen, 2019). As of 2022, the milestone of 55% had been surpassed and now the PRC ranks first in the world retail sales (Belretail, 2021). The Chinese companies expand through foreign direct and portfolio investment; their largest recipients are Pay TM (India), Airwallex (Australia) and Lazada (Southeast Asia).

As Chinese platforms proliferate globally, affiliated payment systems are also rapidly growing, with Alipay and WeChat Pay leading the way since the Chinese tourists prefer to pay through them when traveling abroad. The Chinese payment systems are improving the growth prospects of fast mobile payments along the Silk Road, as they use the capabilities of their platforms and increase the density of emerging networks. One can note the intensive development of Alipay, which is present directly or through local companies in more than 40 countries in Europe and Asia, including Pakistan, India and Bangladesh (Solomatina, 2021)

4. The social aspect of using digital platforms

The structural differences between the Chinese market and the global market consistently forming since the 1970s, have allowed the country to design digital platforms tailored to its national characteristics. In view of the diverse production potential, the first to emerge were the tools of the “access economy” in the broader sense of the term, relating to both consumption and production. Positive dynamics of consumer demand against the backdrop of an underdeveloped services sector helped the Instant Gratification Economy to realize its potential, along with the growing

purchasing power of the population and the transformation of the services sector. Sharing or Collaborative Economy platforms have been steadily expanding over the last decade, affecting both the business sector (office rentals), such as Haozu.com, and household needs (car rentals, home rentals, etc.), as exemplified by Didi Chuxing. This concept echoes the provisions on which the On-demand Economy is based (Geliskhanov et al, 2018). As a result of actions in the digital environment, any user leaves a digital footprint; the methodology of its processing should be constantly improved as the nature of distortion is variable and, therefore, the ways of motivating the potential consumer of digital products should vary as well (Wang et al, 2019).

The Chinese experience supports the network effects theory, as the digitalization process was less capital-intensive at the initial stage of development, unlike other industries such as mechanical engineering. The low base effect and the unprecedented number of users of the product, together with government support, provided the industry with significant resources for growth, guaranteeing its competitiveness in the foreseeable future. This has opened up prospects for the least developed areas of the country, creating jobs in small and medium-sized businesses, resulting in a convergence of economic development levels in different regions of China. With stable economic growth, the country's significant human resources could be used more fully and effectively in a "gig" or free-wage economy through platform employment (Bobkov & Chernykh, 2020). Today, over 20% of working Chinese resort to such platforms, the potential point of instability being the lack of security provided by traditional hiring models (Zuo, 2024). Network effects contribute to an increase in the network density and number of actors, thus creating conditions for their dynamic interaction in freelance networks.

At present, the Chinese government authorities focus on balancing the work of existing digital ecosystems. The Chinese regulator has to do it in response to social and labor challenges posed by increased exploitation of workers as a result of active introduction of platform employment, unfair means of attracting consumer attention, discrimination against small businesses, and use of dumping mechanisms. At the same time, the regulatory system is flexible enough: digital ecosystems are given recommendations to minimize the growing imbalances and allowed to choose their own tools to stabilize the situation.

For the PRC economy, it is very important to monitor and redirect its sizable interregional migration flows as there are plans to launch incentive programs that involve setting up centers of gravity for highly skilled labor, e.g. Alibaba headquarters in Hangzhou and Huawei's most advanced manufacturing laboratory in Shenyang. The power of digital technology allows Chinese government agencies to almost seamlessly abolish the *hukou* system of registration control over the country's citizens based on their place of residence (Maslov, 2021).

The Chinese methods of personal data processing are at the forefront of the world achievements due to the widespread implementation of social credit and social behavior monitoring systems. The initial databases are formed by processing integrated arrays of the BAT group. For example, the data on Alipay card transactions

and information of the largest dating service Baihe are aggregated by Sesame Credit, which is part of Alibaba, and data are also provided by WeChat messenger (Tencent) and other operators (Kovalev & Knyazeva, 2021). The obtained information enables continuous observation and supervision of all spheres of life of the country's population with sufficient objectivity of social rating parameters and the possibility of impact on the social behavior of citizens. Different network segments generate large amounts of heterogeneous information (video footage results, data on financial transactions, information on offenses), which are subsequently summarized into a single array, on the basis of which criterion assessments are calculated to form the final result. The need for additional checks and elimination of contradictions within this array is met by dynamic networking at the local level. Business networks with significant coverage are expected to create conditions for the control over the shadow sector of the economy and their innovative methods should improve the virtual cooperation process.

Digital transformation can change the cultural context and systems of social interaction: the widespread use of digital communication may create imbalances as it affects the parameters of differentiation in the social system and the behavior of economic agents. This may limit access to digital services and create marginalizing effects that should be monitored by those who formulate and implement social policies related to wage levels and human capital reproduction. For the PRC, the problem of digital poverty is rather acute given the high level of shadow economy. There is a certain relationship between the two phenomena; it is difficult to correctly assess signals in the digital environment that forms "low prices for goods and services in the digital black market" and so imbalances in the national reproductive system are forming (Gasparyniene et al, 2015).

5. Conclusions

The prospects for the development of Chinese digital platforms in the coming decades can be assessed in the context of intense competition with the United States and transnational network structures formed by participants of international economic relations in the new emerging world order. Digital platforms have become part of the basic infrastructure and as such are important for national security, which determines the need for independence and autonomy of the software and hardware complex. At the same time, there should exist integration opportunities for foreign partners. The development of Russian digital platforms implies close cooperation with China as it involves borrowing and adapting Chinese achievements in the field of comprehensive digitalization.

The rapid development of AI technologies, together with increasing Big data processing capabilities and growing international competition in the sector critical to national security, is driving a surge in investment in line with established government priorities, which will inevitably lead to a technological breakthrough in this area of knowledge.

The scale of network structures' development largely depends on the flexibility of property rights application: it may be possible to maximize the use of resource base but there may be threats to the sustainability of national reproduction systems.

Given the ongoing geopolitical fragmentation and formation of macro-regions, it has become essential to harmonize the corporate and state responsibility for developing network structures; the most advantageous ones are the focal networks with sufficient coverage density.

The analysis of the Chinese experience in creating a strategy for the development of digital platforms reveals the following characteristics: they, first, have a system of social monitoring; second, they created infrastructure networks and, third, introduced indicative planning tools based on the information received. As a result, a synthetic approach to public administration has been implemented, which allowed the authorities to use the potential and growing technical capabilities of digital platforms.

To promote the coordinated development of China's digital platforms it may be useful to:

- increase the degree of openness of the currently closed network structures of the Chinese economy; if they not only compete but also complement each other it will be possible to use the full potential of complementary assets.
- introduce the promising types of digital networks infrastructure to increase their density and accelerate interoperability while using new methods of data protection. This will reduce the risks of loss of trust. Examples of such network structures are external agent networks, banks without branch networks and the use of alternative access options without online control.
- identify vacant market segments that can benefit from the adoption of digital ecosystems, as exemplified by Pinduoduo's unprecedented growth rate in the collective purchasing sector; the authorities should help to realize competitive advantage.
- use the accumulated experience of Chinese companies in networking structures for mobile payments to create a universal payment system serving international commodity and monetary circulation, the demand for which has become evident in recent years.
- coordinate the pace of promoting both the digital sector and logistics infrastructure projects, as their optimal balance is important for sustainable development and economic growth prospects; this should be done when determining the vectors of investment in the international development of the infrastructure complex and related network structures.

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