Russian Journal of Industrial Economics. 2022;15(2):226–233

BUSINESS ECONOMICS

Research article

https://doi.org/10.17073/2072-1633-2022-2-226-233

Comparative analysis of strategies of Chinese companies in the digital economy

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Abstract. With the progress of science and technology, the world is experiencing rapid digital transformation, new technologies and new business models are developing, digital technology and traditional industries are expanding their integration and involvement levels, and the economies and societies of various countries are increasingly entering the digital age. The overall scale of the world's digital economy continues to grow, and the proportion of the digital economy is increasing, but the development between regions is uneven, and the problem of the digital divide is highlighted. The level of digital economic development is highly related to the overall level of economic development. The overall level of digital economy development in advanced economies is higher, the digital economy is larger, and the digital economy accounts for a higher proportion of the total domestic economy. It has entered a highly digitized stage, and the world's major Internet companies and high-tech companies are also highly concentrated in these countries and regions. The article presents the results of a comparative analysis of the strategies of Chinese companies in the digital economy. The work was written in accordance with the strategy methodology of the Foreign Member of the Russian Academy of Sciences (Life-time), Dr.Sci. (Econ.), Professor Vladimir L. Kvint. The author pays considerable attention to the current state and forecasts of the digitalization of the Chinese economy, the connection between digital transformations and the growing need of the population to improve technologies that simplify their life. Based on statistical data, the author determines the advantages and disadvantages of existing digital technologies, states the deepening of their integration with the industrial sector. Analyzing the strategies of the largest digital campaigns, the author reveals the dynamics of the use of applications developed by them by citizens. In conclusion, a conclusion is made about the importance and rapid spread of digital technologies, as well as the need for states interested in their development to create conditions for the latter.

Key words: digital economy, strategies of companies, Chinese companies, IT sector, IT companies, market analysis, digital investments, digital startups, China

For citation: Novikova I.V., Kunchao Xie. Comparative analysis of strategies of Chinese companies in the digital economy. *Russian Journal of Industrial Economics*. 2022;15(2):226–233. (In Russ.). https://doi.org/10.17073/2072-1633-2022-2-226-233

Сравнительный анализ стратегий китайских компаний в цифровой экономике

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Аннотация. С развитием науки и техники мир переживает стремительную цифровую трансформацию, развиваются новые технологии и бизнес-модели, информационные технологии и традиционные отрасли расширяют степень интеграции и вовлечен-

ности, а экономика и общество различных стран все дальше входят в новую эпоху информационных технологий. Общий масштаб мировой цифровой экономики продолжает расти, доля электронной экономики увеличивается, но для различных регионов развитие цифровой экономики неравномерно, что и обусловливает проблему ее применения. Уровень развития интернет-экономики тесно связан с общим уровнем экономического развития. В странах с развитой экономикой общий уровень развития цифровой экономики выше. Она вступила в стадию высокой оцифровки, и крупнейшие мировые интернет-компании и высокотехнологичные компании также сильно сконцентрированы в этих странах и регионах. В статье представлены результаты сравнительного анализа стратегий китайских компаний в области цифровой экономики. Исследование основано на теории стратегии и методологии стратегирования профессора В.Л. Квинта. Значительное внимание уделено текущему состоянию и прогнозам цифровизации китайской экономики, связи цифровых преобразований с ростом потребности населения в усовершенствовании технологий, упрощающих их жизнедеятельность. На основании данных статистики определены преимущества и недостатки существующих цифровых технологий, рассмотрены примеры их интеграции с промышленным сектором. Анализируя стратегии крупнейших цифровых кампаний, выявлена динамика использования разработанных ими приложений для граждан. Таким образом, в статье подчеркнута значимость и стремительность распространения цифровых технологий, а также необходимость государств в усилении заинтересованных в их развитии и создания необходимых условий для этого.

Ключевые слова: цифровая экономика, стратегии компаний, китайские компании, IT-сектор, информационные компании, анализ рынка, цифровые инвестиции, цифровые стартапы, Китай

Для цитирования: Новикова И.В., Се Куньчао. Сравнительный анализ стратегий китайских компаний в цифровой экономике. *Экономика промышленности*. 2022;15(2):226–233. https://doi.org/10.17073/2072-1633-2022-2-226-233

比较分析中国企业在数字经济中的战略

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摘要：随着科学技术的发展，世界正经历着快速的数字化转型，新技术、新商业模式不断发展，信息技术与传统产业的融合度和参与度不断提升，世界经济和社会日益迈入新时代。全球数字经济总体规模持续增长，电子经济占比不断提升，但区域间发展不平衡，数字鸿沟问题凸显。互联网经济的发展水平与整体经济的发展水平密切相关。发达经济体在数字经济领域的总体发展水平更高，电子经济规模更大，在国内经济总量中的份额更高，已进入高度数字化阶段，世界上最大的互联网公司和高科技公司也高度集中在这些国家和地区。本文介绍了对中国企业在数字经济中的战略比较分析的结果。研究基于俄罗斯科学院外籍院士、经济学博士、V.L.昆特教授的战略理论和战略规划方法论。作者非常关注中国经济数字化的现状和预测，以及数字化转型与人们日益增长的对改进技术以方便生活的需求之间的联系。根据统计数据，作者确定了现有数字技术的优势和劣势，指出了它们与工业部门的深度融合。通过分析大型数字公司的战略，揭示了公民使用这些公司开发的应用程序的动态。结论是数字技术意义重大且推广迅速，对数字技术的发展感兴趣的国家需要为其发展创造条件。

关键词：中国的数字经济、中国企业的战略、IT行业、市场分析、数字投资、数字初创企业、信息公司

Introduction

According to V.L. Kvint, a renowned scholar of strategy theory and methodology, at the heart of any strategy is the principle of saving time, thereby saving a significant amount of resources and achieving economic efficiency. This principle seems to be a basic principle for the strategic analysis of the digital economy of Chinese companies [1].

To what extent the subject has been scientifically researched, however, is difficult to judge unequivocally. On the one hand, it has been directly or indirectly addressed in many published studies. On the other hand, it forms part of more general issues (for example, the China's digital economy development as a whole).

Such works include, for example, research by A. García-Herrero and J. Xu [2]. The latter note that the digital sector has become one of the driving forces of the Chinese economy in the mid-2010s due to the rapid growth in the added value of its products. However, the territorial unevenness of its development significantly limits the potential of this economic engine and prevents the development of a large domestic market.

The collective study by H. Ma and his colleagues [3] elaborates strategies to accelerate the digital transformation of various industries in the PRC. However, the situation is assessed from the perspective of the Chinese economy as a whole, so the authors do not consider specific strategies for the development of particular companies.

Zh. Longmei, S. Chen, and J. Daniel note imbalances in the development of the PRC digital economy [4]. On average, China lags behind many industrialized countries in the digitization of the economy. However, it is ahead of them in the most industrialized regions and in certain sectors of the economy (e.g., e-commerce). Digitalization contributes to labor productivity growth in most sectors of the PRC economy. The overall assessment of China's digital economy, according to Zh. Longmei, S. Chen and J. Daniel, depends on the basic concept variant interpretation. In a narrower sense, the digital economy is limited to the information and communications technology (ICT) sector; in a broader sense, it also includes the informatized segments of the traditional economy. In a narrower sense, the digital sector accounts for 6 % of the PRC's GDP, and in a broader sense, it accounts for up to 30 %, making China the third strongest digital economy in the world [4].

Y. Huang and J. Khan hypothesize that the digital sector in the PRC has become the main growth engine for segments of the traditional economy after the depletion of demographic resources and the impact of cheap labor [5].

S. Abendin and P. Duan focus on the impact of Beijing's official stance on international trade on the development of e-commerce. China does not commit to data localization, free flow, and mandatory source code sharing, which creates conflicts with both the U.S. and Japan and the EU, key external consumers of goods and services produced by the PRC digital economy [6].

In summary, the topic addressed in this article has not been sufficiently researched as a stand-alone topic, although various aspects of digitization strategies have been addressed. The high relevance of the topic results both from China's special role in the global economy and from the transformation of digital technology into one of the engines of the Chinese economy.

Results and discussion

Recently, China has seen an acceleration of its digitalization processes, mainly through the combination of Information and Communication Technology (ICT) with established and well-known service sectors such as finance, entertainment, and e-commerce. The online ecosystem, driven by user needs, is expected to have positive momentum due to the presence of an online platform used (or operated) by more than 850 million people.

In China, only 25 % of enterprises are digitally transforming their industrial sector in mid-2020. Due to high financial costs, more than 55 % of enterprises failed to complete a fundamental upgrade of their digital equipment, especially micro and small enterprises [7]. That is why China's policy today is aimed at stimulating the greater integration processes of ICT with the production process.

Recovering from the pandemic, China seeks to find opportunities for further economic development, one way of which is to increase the digital change pace. In early May 2020, China launched its Digital Transformation Action Plan to work with and support small and medium-sized enterprises. This includes managing data, processing large amounts of data, creating and implementing artificial intelligence systems that can perform complex functions, using distributed databases, and cloud computing.

In the context of assessing the PRC's digital economy, we can infer the country's strategic priority in this area: By 2020, online retail transactions will be worth $1.5 trillion in monetary value, representing a quarter of all retail transactions in China and more than double the volume and share of e-commerce in the United States. Meanwhile, internet ingression in China remains low by global standards and is approaching 60 %, with 99 % of Chinese consumers using mobile internet. This is also confirmed by data from McKinsey's 2019 report comparing countries by U.S. digital transaction volume (**figure**). Within the corresponding ranking, China ranks first with $1.5 trillion.

China's three largest IT companies, collectively called BAT – Baidu, Alibaba and Tencent – can be directly compared to the dominant industry giants in the US, such as Facebook, Amazon, Apple, Netflix, Google (often using the acronym FAANG) and others. Baidu specializes in the search business in the PRC, Tencent focuses on messenger and social networks, and Alibaba on e-commerce and online advertising. All three platforms also have online streaming platforms.

The analysis of the Companies' development strategies shows that the big three are also responsible for a larger share of acquisitions of IT companies and startups. Their strategy is to buy out promising projects in order to earn on them after investing their own money. Between 2000 and 2020, they bought 14 companies worth more than $1 billion each. The total amount of transactions exceeded $63 billion each (**table**). The leader in acquisitions is Alibaba, which invested $48.7 billion to acquire 11 enterprises. Tencent and Baidu – $12.9 billion and $1.9 billion, respectively [8]. At the same time, the investment focus is specifically on the Chinese market – only two of the acquired companies were foreign (Lazada from Singapore and Supercell from Finland). This strategy shows the great potential of China's domestic market IT and also the possible difficulties of attracting foreign capital when market consolidation among the big three is so high, including in countries allied with China [9].

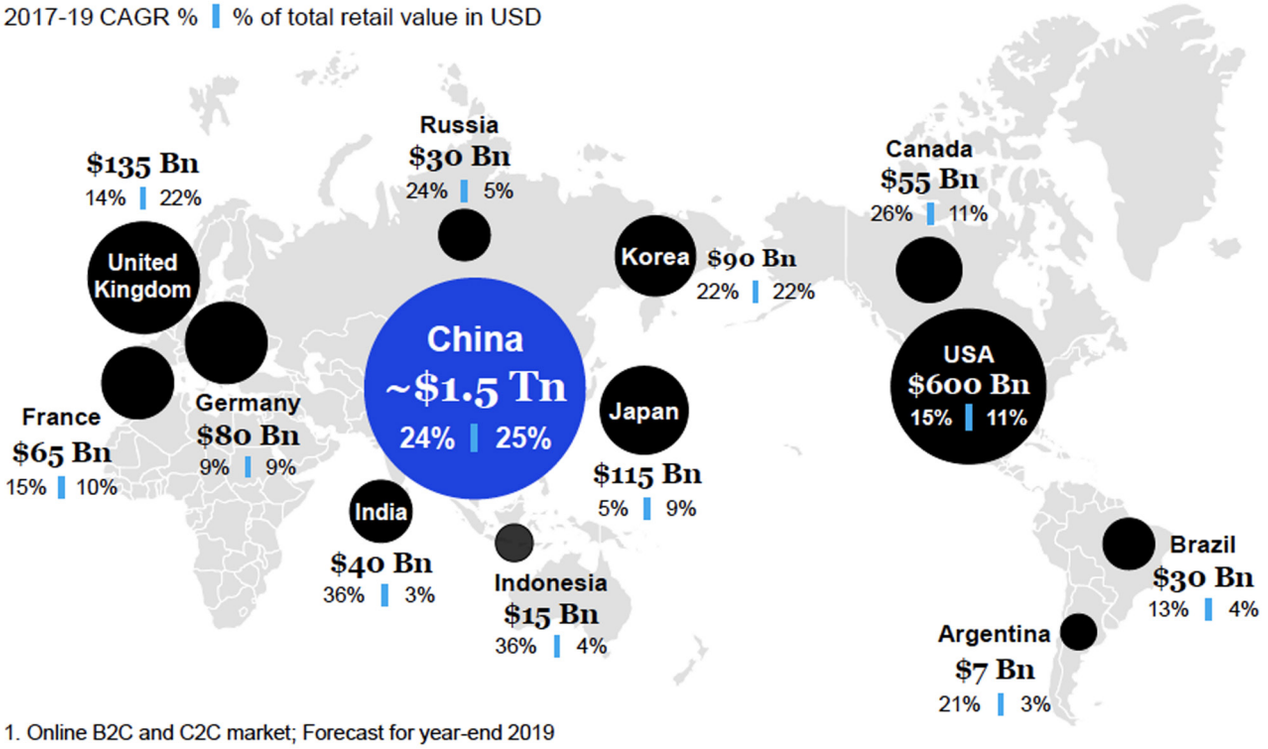

Fig. 1. Volume of digital transactions by country

Source: China digital consumer trends in 2019. McKinsey & Company. September 26, 2019. URL: https://www.mckinsey.com/~/media/mckinsey/featured%20insights/china/china%20digital%20consumer%20trends%20in%202019/china-digital-consumer-trends-in-2019.pdf

Based on user analysis over the past 5 years, the global market dominance of Baidu, Alibaba and Tencent has declined slightly. In 2016, Chinese spent 71 % of their cell phone usage time on apps from BAT, while the internal split by company meant more than 50 % for Tencent. By the end of 2019, more than half of Tencent's profits were generated by the gaming division. By January 2021, that share had fallen by almost 30 % to 42 % – Tencent was starting to lose ground. This is partly due to the widespread use of products from the young company ByteDance (owner of TikTok), whose messaging app Toutiao currently ranks second to the app in question with 14.5 % usage [10].

In 2016, BAT dominated digital advertising with 56 % market share and Alibaba and Baidu with 25 % and 22 %, respectively [11]. In the first half of 2020, the total share of BAT is the same as in 2016, but the situation has changed significantly. Alibaba increased its share to 29 % (and Tencent to 12 %), and Baidu's share fell to 15 % [12]. More importantly, ByteDance – the second largest player in the market – grew rapidly from 2 % to 18 % of digital advertising revenue during the period.

Compared to the Western market for smartphone devices and mobile apps, the Chinese information economy is largely driven by a fixed number of apps for general use rather than software products from specific information companies. The so-called super-apps, as an example we can take Alipay by Alibaba or WeChat by Tencent, are essentially a marketplace for other applications within themselves, similar to Google Play and AppStore by the American companies Google and Apple, respectively, which contain a large number of small add-on programs that can be run immediately and perform certain functions [13].

Launched in 2011 as a messaging system, WeChat is identical to the U.S. equivalent of WhatsApp and currently has more than 1.3 billion monthly active users, indicating significant strategic potential. In addition to its core functionality, WeChat contains 2.6 million mini-programs. To compare with the AppStore, the latter had a total of 2.3 million apps as of January 2020.

Alibaba and Baidu have developed their unique applications that allow the use of mini-programs and Alipay payment services. These are owned by Alibaba's subsidiary Ant Financial, which has ma-

Table 1

Billion dollar startups acquired 2000–2020 triple BAT

Company	Customer	Price, $ billion	Industry	Country
Cainiao	Alibaba	20	Logistics	China
Supercell	Tencent	10.2	Video games	Finland
Ele.me	Alibaba	9.5	Food delivery	China
Youku Tudou	Alibaba	4.8	Video hosting services	China
UCBrowser	Alibaba	4.7	Web browser	China
China Music Corp	Tencent	2.7	Music streaming service	China
91 Wireless	Baidu	1.9	Application Store	China
Kaola	Alibaba	1.8	Electronic commerce	China
AutoNavi	Alibaba	1.6	Electronic maps	China
Lazada	Alibaba	1.5	Electronic commerce	Singapore
iKang Healthcare	Alibaba	1.4	Medical care	China
Alibaba Pictures	Alibaba	1.3	Online cinema	China
Amap	Alibaba	1.1	Electronic maps	China
Koubei	Alibaba	1.0	Online Ordering Offline Services	China

Source: Visualizing Chinese Tech Giants' Billion-Dollar Acquisitions. CBINSIGHTS. May 28, 2020. URL: https://www.cbinsights.com/research/bat-billion-dollar-acquisitions-infographic/

naged to reach the second place by mid-2020 with 647 million monthly users, 401 million of whom used mini-programs [14]. The financial services regulation is the basis for the realization of the new unique applications positive aspects. The growing importance of digital financial services in China is determined by the weak development of the banking system in the country, where the use of credit cards by citizens is unpopular, so that in 2020 there were only 0.3 cards per capita. For comparison, the figure in the United States in the same year was 2.5 cards [15]. By collecting data on the implementation of mini-programs in the market as well as consumer spending, Alipay will be able to gather much more information on the financial outlook of both businesses and ordinary citizens, which will eventually allow the company to leave traditional banks far behind. MYBank Ant Financial operates on a "3-1-0" model that allows small and medium-sized businesses to fill out a loan application within three minutes, which is then automatically approved within one second. Huabei, which means "just spend" in Chinese, is beneficial to consumers because it offers interest-free microloans with credit limits starting at $7 . Other credit platforms have limitations in the form of credit scoring systems (banking systems that rate customers based on statistical methods), such as Alibaba, Sesame Credit. In September 2020, Ant announced that of the five services available to citizens, namely payments, wealth management, microfinance, insurance, and loans, 40 % of Alipay customers use the full package of services and 80 % use at least three [16].

In 2020–2021, the digitization of the PRC has accelerated, mainly through ICT integration with traditional business in industry and services, especially in finance, entertainment, and digital commerce. The digital economy has increased from 15 % of GDP share in 2007 to more than one-third by 2019. The International Monetary Fund (IMF) predicts that the digitization process in the PRC will continue at a rapid pace, exceeding 50 % of China's GDP by 2025. [16].

The large base of 850 million Internet users enables the existence of a well-functioning online ecosystem that becomes an increasingly profitable environment for investment and, as a result, a better product for users due to the economy of scale [16].

A large number of companies are in the early stages of modernizing their digital foundations or have not yet begun to do so, due in part to the high costs involved and thus the particular difficulties for micro and small companies. At the legislative level, the PRC has sought to introduce a package of measures and specific policies to stimulate the large-scale effect of digitization seen in the corporate sector, followed by the deepening of ICT integration into the production process. According to a market analysis by consulting firm International Data Corporation (IDC), by 2024 more than half of the global IT budget will be spent on the digital innovation and transformation process, which is already being implemented in China. The ratio of this trend in China is expected to be more than 70 %.

According to Ho Jinjie [17], this can have a huge impact on all businesses. The head of IDC China also noted, "If enterprises want to create more value, they need to prioritize digitalization in their operating model and create more connections to help enterprises achieve the goal." [7]. The National Development and Reform Commission (NDRC) in April 2022 launched a series of measures and subsidies aimed at increasing the growth rate of digital transformation and related changes for small and medium enterprises (SMEs) to focus on cloud services and big data technologies, as well as measures to support Artificial Intelligence (AI).

According to Lundin [18], the parties are not only aware of the "political pressure" but also of the rapid development of ICT and digital technologies that affect the market and business in this sector. "This, in turn, could fundamentally change China's role in the global digital transformation race as well as its role in the global world of research and innovation" [18].

Conclusion

To summarize, digital technology has spread rapidly around the world. However, the benefits of their active adoption and subsequent application are not always evident in the short term. Overall, the impact of digital technologies is unevenly distributed across the countries that use them, and in some cases falls short of expectations. To maximize the potential of the digital revolution, nations should shift their activities in favor of improving the regulatory framework to ensure innovation and competition, train employees to meet the demands of the new economy, and hold institutions accountable. For China, in turn, it is important to find the right balance between the regulatory system for the Internet, economic and social innovation, and the implementation of world-class standards for the digital economy.

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Received **27.04.2022**; Revised **12.05.2022**; Accepted **14.06.2022**