

DIGITAL ECONOMY IN BRICS COUNTRIES: OPPORTUNITIES, OBSTACLES AND EXPERIENCE SHARING

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Annotation. This article examines the development of the digital economy in BRICS countries, focusing on the opportunities, challenges, and the importance of experience sharing among member states. It highlights the role of digital technologies—such as artificial intelligence, big data, fintech, and e-commerce—in driving economic modernization and competitiveness. The study also analyzes the structural barriers faced by BRICS nations, including digital inequality, infrastructure gaps, and regulatory issues. Furthermore, the article emphasizes the significance of mutual cooperation and knowledge exchange in accelerating digital transformation and shaping a more inclusive global digital order.

Keywords: digital economy, BRICS, innovation, infrastructure, cybersecurity, knowledge sharing, economic transformation

Introduction. The digital economy has emerged as one of the most influential forces shaping global development in the twenty-first century. It refers to economic activities that are based on digital technologies, including the use of the internet, digital platforms, e-commerce, fintech, big data, cloud computing, and artificial intelligence. The spread of these technologies has fundamentally transformed production processes, consumer behavior, governance structures, and international trade. As a result, countries across the world are seeking to integrate digital strategies into their economic and social policies to remain competitive in the rapidly evolving global environment. For BRICS countries—Brazil, Russia, India, China, and South Africa—the digital economy plays a particularly strategic role. Together, these five nations represent more than 40% of the global population and nearly one-quarter of global GDP, making them an essential part of the international economic order. Their demographic potential, growing middle classes, and expanding technological capabilities provide fertile ground for digital innovation and transformation. Moreover, the digital economy offers BRICS members an opportunity to diversify away from resource-dependent or traditional industries, boost productivity, and strengthen their positions in the global value chain. However, the road toward digital transformation in BRICS countries is not without challenges. Uneven levels of infrastructure development, gaps in regulatory frameworks, cybersecurity risks, and digital divides between urban and rural populations represent significant barriers. At the same time, the rapidly changing nature of digital technologies requires constant adaptation, innovation, and investment. These factors highlight the importance of international cooperation and knowledge sharing within BRICS. By learning from each other's experiences—China's progress in e-commerce, India's digital governance programs, Russia's cybersecurity expertise, Brazil's digital agriculture, and South Africa's infrastructure initiatives—the group can strengthen its collective ability to overcome obstacles and accelerate sustainable digital growth. This article explores the

opportunities, obstacles, and experience-sharing mechanisms shaping the digital economy in BRICS countries. By analyzing these dimensions, the study seeks to demonstrate how cooperation in the digital sphere can enhance economic resilience, foster innovation, and contribute to the creation of a more inclusive global digital order.

Literature analysis. The digital economy has been widely studied across different contexts, and the academic debate highlights its transformative potential as well as the barriers to its development. Early conceptualizations by Tapscott (1996) emphasized how digital networks and information technologies redefine business models and consumer behavior, laying the foundation for later discussions on digital transformation. More recent works expand this perspective, viewing the digital economy as a comprehensive system that reshapes economic, social, and political relations. According to OECD (2019), the digital economy encompasses e-commerce, digital platforms, artificial intelligence, and data-driven innovation, all of which are reshaping global value chains. The report stresses both the opportunities—such as productivity growth and inclusion—and the challenges, including digital divides and cybersecurity threats. Similarly, UNCTAD (2021) notes that the digital economy is increasingly central to development strategies in emerging markets, including BRICS countries, where rapid digitalization is creating new business opportunities but also amplifying inequalities. Several studies specifically address BRICS countries. Li and Wang (2020) analyze China’s “Digital Silk Road” initiative, highlighting its role in advancing cross-border digital infrastructure and setting standards for global cooperation. Gupta (2021) investigates India’s Digital India program, showing how digital governance and fintech innovations support economic modernization and financial inclusion. Ivanov (2020), focusing on Russia, emphasizes the importance of legal and regulatory frameworks for the stable growth of the digital economy, particularly regarding data protection and cybersecurity. For Brazil and South Africa, the World Bank (2022) highlights both progress and challenges. In Brazil, digital services have been expanding in sectors such as agriculture and public administration, while South Africa continues to face infrastructural constraints but shows potential in expanding internet access and digital skills. Brynjolfsson and McAfee (2017) add a broader perspective, arguing that digital technologies generate both opportunities and risks: they can significantly increase efficiency and innovation but may also displace traditional jobs, requiring policy responses to ensure inclusive growth. Taken together, the literature suggests that BRICS countries share common opportunities in expanding digital platforms, attracting investments, and fostering innovation, while also struggling with similar obstacles such as inequality, regulatory gaps, and skill shortages. Importantly, multiple authors stress the need for international cooperation and experience sharing among BRICS nations to overcome these challenges and build sustainable digital economies.

Materials and Methods. This study applies a qualitative and comparative approach to examine the development of the digital economy in BRICS countries. The methodology is based on the analysis of secondary sources, including policy documents, statistical databases, and scholarly literature. The main aim is to identify opportunities, obstacles, and experience-sharing practices relevant to digital transformation within the BRICS framework.

Materials. The research draws on the following sources:

- International reports from organizations such as the OECD, World Bank, and UNCTAD, which provide statistical data and policy assessments on the global digital economy.

- Government programs and strategies from BRICS countries, such as Digital India, China's Digital Silk Road initiatives, Russia's Digital Economy Program, Brazil's national digital strategies, and South Africa's digital infrastructure plans.
- Academic literature and case studies (e.g., Tapscott, 1996; Gupta, 2021; Ivanov, 2020; Li & Wang, 2020) that analyze specific aspects of digital economy development and governance in BRICS nations.
- Empirical data from international databases covering internet penetration, digital trade, ICT infrastructure, and innovation indices.

Methods.

1. Comparative analysis. The study compares digital economy indicators across BRICS members to identify similarities and differences in their developmental paths.
2. Content analysis. Policy documents, strategic frameworks, and official reports are examined to understand national priorities and implementation strategies.
3. Statistical analysis. Key indicators such as internet access, e-commerce volume, and digital service adoption are evaluated using World Bank and OECD data.
4. Systemic approach. The digital economy is analyzed in relation to infrastructure, innovation capacity, human capital, and regulatory frameworks to capture its multi-dimensional nature.

By integrating these methods, the study provides a holistic understanding of the opportunities and challenges in BRICS digital economies, as well as the potential for mutual learning and cooperation.

Research Discussion. The findings of this study highlight both the dynamic potential and persistent challenges of the digital economy in BRICS countries. While each nation demonstrates distinct characteristics and priorities, common patterns emerge that underline the importance of collaboration and experience sharing. Opportunities for growth. China and India stand out as global leaders in e-commerce, mobile payments, and digital services, largely due to their vast consumer bases and rapid adoption of new technologies. Their experiences suggest that scale and strong state-led programs can accelerate digital transformation. Brazil and South Africa, although smaller in market size, are integrating digital solutions into agriculture, public administration, and financial inclusion, demonstrating that digital technologies can support diverse sectors beyond IT. Russia's focus on cybersecurity and digital governance provides another valuable area of expertise, especially as cyber threats become more sophisticated globally. Collectively, these experiences illustrate how the digital economy fosters diversification, creates jobs, and strengthens competitiveness. Persistent challenges. Despite significant progress, digital divides remain a critical issue in BRICS countries. Urban areas are generally well connected, while rural and underdeveloped regions lag behind, limiting inclusivity. Infrastructure constraints—such as low broadband penetration in South Africa and parts of Brazil—hinder equal participation in the digital economy. Moreover, regulatory challenges, particularly in areas of data privacy, intellectual property, and cross-border digital trade, remain unresolved. These obstacles highlight the need for coordinated policy frameworks both at the national and international levels. The role of cooperation. One of the most important insights is the value of experience sharing within BRICS. For instance, India's Digital India program offers lessons in digital governance that could be adapted by Brazil and South Africa. Similarly, China's success in scaling e-commerce platforms provides a model for integrating digital trade in

emerging economies. Russia's expertise in cybersecurity is particularly relevant for all BRICS members, as cyber risks represent one of the biggest threats to digital growth. Through joint initiatives, capacity building, and technology transfer, BRICS countries can mitigate their weaknesses and enhance collective digital resilience. Global implications. The digital strategies of BRICS countries also carry significance beyond their national borders. By strengthening their cooperation, BRICS can play a more active role in shaping global digital governance, setting standards for cross-border data flows, and promoting a more inclusive digital order. Their combined demographic and economic weight positions them as influential players in the ongoing transformation of the global digital landscape. In summary, while BRICS countries are at different stages of digital transformation, their combined experiences provide valuable lessons for each other and for the wider international community. Sustainable growth in the digital economy will require not only national reforms but also robust mechanisms for cooperation, mutual learning, and coordinated policymaking within the BRICS framework.

Conclusion. The digital economy has become a central driver of economic modernization and competitiveness in BRICS countries. It offers vast opportunities for growth, ranging from the expansion of e-commerce and fintech services to the creation of new jobs and the diversification of national economies. At the same time, persistent obstacles such as digital inequality, inadequate infrastructure, cybersecurity risks, and regulatory gaps continue to challenge the pace and inclusivity of digital transformation. The analysis shows that while China and India lead in scale and innovation, Brazil and South Africa demonstrate sector-specific applications, and Russia contributes significantly in areas of cybersecurity and digital governance. This diversity underscores the potential of experience sharing within BRICS, where each country brings unique strengths that can support the collective advancement of the group. Looking ahead, deeper cooperation among BRICS nations will be essential to overcoming existing barriers and shaping a more sustainable and inclusive digital economy. Joint initiatives in digital infrastructure development, policy harmonization, cybersecurity, and capacity building can not only accelerate transformation within BRICS but also strengthen their influence in global digital governance. By pooling resources, sharing knowledge, and coordinating strategies, BRICS countries have the potential to emerge as key architects of the future digital order.

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