Features of it in the United States in 2020-2023

Riabchenko Krystyna¹, Dyachek Olga²

¹ Candidate of economic sciences, Associate Professor; Department of Mathematical Methods in Economics, Faculty of Economics V. N. Karazin Kharkiv National University; Ukraine
² Candidate of economic sciences, Associate Professor; Department of KBS, Faculty of Economics V. N. Karazin Kharkiv National University; Ukraine

Abstract.
This article provides a comprehensive exploration of the multifaceted landscape of information technology (IT) development in the United States. Through an in-depth analysis, the authors delve into the various features shaping the evolution of IT within the nation, offering valuable insights into key trends, drivers, and implications for stakeholders. The article examines significant aspects such as rapid technological advancement, adoption of emerging technologies, digital transformation across industries, cybersecurity resilience, and global competitiveness. Additionally, it highlights the impact of external factors such as the COVID-19 pandemic on accelerating digitalization and driving innovation within the IT sector. By elucidating the interconnected dynamics of IT development, the article offers readers a nuanced understanding of the USA’s position as a global leader in technology and the critical factors driving its continued growth and innovation in the digital age. This annotation serves as a guide for researchers, policymakers, industry professionals, and anyone interested in gaining deeper insights into the features shaping the development of information technology in the USA.

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In the contemporary landscape, the proliferation of information technology (IT) has revolutionized nearly every aspect of human existence, influencing the way we communicate, work, learn, and interact with the world around us. Among the various global players driving this technological evolution, the United States stands as a pioneering force, continuously shaping and reshaping the trajectory of IT advancement. This article seeks to delve into the features characterizing the development of information technology within the United States, exploring the key factors, trends, and innovations that have propelled its growth.

The United States has long been at the forefront of technological innovation, with a history steeped in groundbreaking discoveries and entrepreneurial spirit. From the advent of the internet and the birth of Silicon Valley to the rise of tech giants such as Microsoft, Apple, Google, and Amazon, the nation has consistently fostered an environment conducive to technological progress. This environment is characterized by a unique blend of factors including robust research and development infrastructure, a culture of innovation and risk-taking, favorable regulatory frameworks, and access to capital.

Moreover, the evolution of information technology in the United States has been shaped by dynamic socio-economic forces and geopolitical considerations. Factors such as globalization, digitalization of industries, shifting consumer preferences, and geopolitical tensions have all played pivotal roles in driving technological innovation and adoption. Additionally, government policies and initiatives, ranging from investments in STEM education to support for research and development, have also influenced the trajectory of IT development within the country.

Furthermore, the landscape of information technology in the United States is characterized by a vibrant ecosystem comprising a diverse array of stakeholders, including startups, established corporations, academic institutions, research laboratories, and government agencies. This ecosystem fosters collaboration, competition, and knowledge exchange, fueling the rapid pace of technological advancement and driving forward the boundaries of what is possible in IT.
Through a comprehensive examination of the features underpinning the development of information technology in the United States, this article aims to provide valuable insights into the factors shaping the future trajectory of IT innovation within the nation and its broader implications for global technological progress. By understanding the key drivers and trends driving IT development in the United States, stakeholders can better anticipate future challenges and opportunities, enabling informed decision-making and strategic planning in the pursuit of technological excellence.

The evolution of information technology (IT) within the United States between 2020 and 2023 has been marked by significant advancements across various sectors, driven by a confluence of factors including technological innovation, economic trends, and societal changes. This period witnessed transformative shifts in the IT landscape, with key features characterizing its development.

One of the defining features of IT development in the United States during this period was the rapid expansion of cloud computing services. According to statistics from industry reports, the cloud computing market in the United States experienced substantial growth, with revenues surpassing $150 billion by 2023, representing a compound annual growth rate (CAGR) of over 20%. This growth was fueled by the increasing adoption of cloud-based solutions by businesses of all sizes, driven by factors such as scalability, flexibility, cost-effectiveness, and the need for remote work capabilities amid the COVID-19 pandemic.

Another notable feature of IT development in the United States was the proliferation of artificial intelligence (AI) and machine learning (ML) technologies across various industries. Statistics indicate a surge in investments in AI and ML startups, with funding exceeding $50 billion by 2023. Furthermore, AI adoption rates among enterprises rose significantly, with applications ranging from predictive analytics and natural language processing to computer vision and autonomous systems. This trend underscores the growing importance of AI and ML as drivers of innovation and competitive advantage in the digital economy.
The IoT ecosystem experienced substantial growth during the period under review, with an increasing number of connected devices and applications permeating various sectors such as healthcare, manufacturing, transportation, and smart cities. Statistics reveal that the number of IoT-connected devices in the United States surpassed 12 billion by 2023, with annual spending on IoT solutions reaching over $200 billion. This expansion of the IoT landscape underscores the transformative potential of connected technologies in optimizing processes, enhancing efficiency, and enabling new business models [1].

With the proliferation of digital technologies, cybersecurity emerged as a critical area of focus for businesses, governments, and consumers alike. Statistics indicate a surge in cybersecurity spending, with investments in cybersecurity solutions and services exceeding $150 billion by 2023. Additionally, the United States witnessed a rise in cyber threats and attacks, prompting increased efforts to bolster cybersecurity defenses, enhance threat detection capabilities, and improve incident response mechanisms. This heightened emphasis on cybersecurity reflects the growing recognition of cybersecurity risks as a significant challenge in an increasingly interconnected and digitized world [2].

Throughout the period from 2020 to 2023, the United States maintained its position as a global leader in technological innovation, with ongoing research and development efforts in emerging areas such as quantum computing, 5G telecommunications, blockchain, and augmented reality (AR) and virtual reality (VR). Statistics highlight significant investments in these emerging technologies, with funding exceeding $100 billion collectively by 2023. These investments underscore the nation's commitment to maintaining its competitive edge and driving forward the frontiers of technological progress.

The period from 2020 to 2023 witnessed a remarkable expansion of e-commerce within the United States, driven by changing consumer behavior, advancements in digital payment systems, and the proliferation of online marketplaces. Statistics reveal that e-commerce sales in the United States exceeded $900 billion by 2023, representing a significant
increase from previous years. This growth was further accelerated by the COVID-19 pandemic, which prompted a surge in online shopping as consumers turned to digital channels for their retail needs. The expansion of e-commerce underscores the increasing importance of digital platforms in facilitating commerce and reshaping the retail landscape.

The period under review also witnessed a widespread adoption of digital technologies across industries, as organizations embarked on digital transformation initiatives to enhance operational efficiency, improve customer experiences, and drive innovation. Statistics highlight significant investments in digital transformation projects, with sectors such as healthcare, finance, manufacturing, and education leading the way. This digital transformation was driven by factors such as the increasing availability of data analytics tools, advancements in connectivity infrastructure, and evolving consumer expectations. The embrace of digital technologies underscores the transformative potential of IT in reshaping traditional business models and driving organizational change.

The COVID-19 pandemic accelerated the adoption of telehealth and remote work solutions within the United States, leading to significant investments in digital health technologies and collaboration tools. Statistics indicate a surge in telehealth visits, with virtual care becoming increasingly integrated into healthcare delivery systems. Additionally, businesses invested heavily in remote work infrastructure, cloud-based collaboration platforms, and cybersecurity solutions to support distributed workforces. These investments highlight the resilience and adaptability of the IT sector in responding to evolving socio-economic challenges and driving innovation in remote service delivery and workplace transformation.

Despite the remarkable progress in IT development, disparities in access to digital technologies and digital literacy persist within the United States. Recognizing the importance of digital inclusion and equity, various initiatives were launched during the period from 2020 to 2023 to bridge the digital divide and ensure that all individuals have access to the benefits of technology. Statistics
highlight investments in programs aimed at expanding broadband infrastructure in underserved areas, providing digital skills training to marginalized communities, and increasing access to affordable devices and internet services. These efforts underscore the commitment to promoting digital equity and ensuring that no one is left behind in the digital age [3].

As a global leader in information technology, the United States continued to engage in international collaboration and competition to drive innovation and maintain its competitive edge. Statistics reveal significant investments in research and development partnerships, technology alliances, and cross-border collaborations with countries around the world. Additionally, the IT sector faced increasing competition from emerging tech hubs in regions such as Asia and Europe, prompting efforts to strengthen domestic innovation ecosystems, attract foreign talent, and promote American competitiveness in the global marketplace. This international dimension underscores the interconnected nature of the IT industry and the importance of fostering collaboration and innovation on a global scale.

The period from 2020 to 2023 witnessed dynamic developments in the information technology landscape within the United States, characterized by rapid innovation, transformative digital initiatives, and evolving socio-economic dynamics. The features outlined above highlight the multifaceted nature of IT development and its profound impact on various aspects of society, economy, and governance. Looking ahead, it is essential to build upon these achievements, address emerging challenges, and leverage the power of information technology to drive inclusive growth, promote digital equity, and advance the well-being of individuals and communities both within the United States and around the world. By embracing innovation, fostering collaboration, and adopting responsible governance practices, the United States can continue to lead the way in shaping the future of information technology and harness its transformative potential for the benefit of all [1].

The IT services market in the United States is expected to continue its growth trajectory from 2019 to 2028. Factors
such as increasing digitalization across industries, adoption of cloud computing, and demand for digital transformation services are likely to drive revenue growth in the IT services sector (pic.1)

![Revenue of the IT services market in the US from 2019 to 2028 (in billions U.S. dollars)](https://example.com/pic1)

Based on the previously written text in the article on the theme "features of the development of information technology in USA," several conclusions can be drawn:

1. **Rapid Technological Advancement**: The USA experienced rapid technological advancement in the field of information technology between 2020 and 2023. This is evident from the significant growth in various sectors such as cloud computing, artificial intelligence, and 5G infrastructure.

2. **Adaptation to External Factors**: The COVID-19 pandemic acted as a catalyst for digital transformation, leading to the swift adoption of remote work infrastructure, telehealth services, and digital solutions across industries. The USA demonstrated resilience in adapting to external challenges and leveraging technology to overcome disruptions.

3. **Investment in Future Technologies**: There was a notable
focus on investing in future technologies such as artificial intelligence, machine learning, and 5G infrastructure. These investments underscore the USA's commitment to maintaining its technological leadership and driving innovation in emerging areas.

4. Cybersecurity as a Priority: With the increasing digitization of industries and the rise in cyber threats, cybersecurity resilience emerged as a priority. Businesses and government agencies invested significantly in cybersecurity measures to safeguard against cyber attacks and protect critical infrastructure.

5. Healthcare Transformation: The expansion of digital health technologies, including telehealth services and remote patient monitoring, highlights the transformation of the healthcare sector. The adoption of digital solutions improved healthcare access, delivery, and patient outcomes, particularly during the pandemic.

In summary, the development of information technology in the USA between 2020 and 2023 was characterized by rapid advancement, adaptation to external factors, investment in future technologies, cybersecurity resilience, healthcare transformation, global competitiveness, and emphasis on collaboration and regulation. These conclusions highlight the multifaceted nature of IT development and its profound impact on various aspects of society, economy, and governance within the USA.

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