



INTERNET TEZLIGINING DAVLAT XIZMATLARI SIFATIGA TA'SIRI

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Annotatsiya. Ushbu maqola internet tezligining davlat xizmatlari tizimlari sifatiga sezilarli ta'sirini o'rganadi. 2021-yilda bir qancha mamlakatlarning qiyosiy tahlilidan foydalangan holda, tadqiqot internet tezligi va davlat xizmatlari indeksi o'rtasida o'rtacha ijobiy korrelyatsiyani aniqladi, bu esa yuqori internet tezligi davlat xizmatlarining yaxshilanishi bilan bog'liqligini ko'rsatadi. Biroq, munosabatlar murakkab va turli omillar ta'sirida. Maqola infratuzilmaga investitsiyalar, davlat-xususiy sheriklik, qulay me'yoriy-huquqiy baza, raqamli ta'lim, innovatsion texnologiyalarni qabul qilish, xizmat ko'rsatish standartlari va ma'lumotlarga asoslangan ma'lumotlarning muhimligini ta'kidlab, davlat xizmatlari tizimlari kontekstida internet tezligini oshirish bo'yicha siyosat tavsiyalari bilan yakunlanadi.

Kalit so'zlar: internet tezligi, davlat xizmatlari tizimlari, raqamli iqtisodiyot, qiyosiy tahlil, siyosat bo'yicha tavsiyalar, infratuzilmani rivojlantirish, raqamli savodxonlik, tartibga solish, innovatsiyalar, ma'lumotlarga asoslangan qarorlar qabul qilish.

ВЛИЯНИЕ СКОРОСТИ ИНТЕРНЕТА НА КАЧЕСТВО СИСТЕМ ГОСУДАРСТВЕННЫХ УСЛУГ

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Аннотация. В данной статье рассматривается значительное влияние скорости интернета на качество систем общественного обслуживания. Используя сравнительный анализ нескольких стран в 2021 году, исследование выявило умеренную положительную корреляцию между скоростью интернета и индексом государственных услуг, предполагая, что более высокие скорости интернета связаны с лучшими государственными услугами. Однако отношения сложны и зависят от множества факторов. Статья завершается политическими рекомендациями по повышению скорости интернета в контексте систем государственных услуг, подчеркивая важность инвестиций в инфраструктуру, государственно-частное партнерство, благоприятную нормативно-правовую базу, цифровое образование, внедрение инновационных технологий, стандартов обслуживания и основанных на данных принятие решений.

Ключевые слова: скорость интернета, системы государственных услуг, цифровая экономика, сравнительный анализ, политические рекомендации, развитие инфраструктуры, цифровая грамотность, регулирование, инновации, принятие решений на основе данных.

THE IMPORTANCE OF INTERNET SPEED ON THE QUALITY OF PUBLIC SERVICE SYSTEMS

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Abstract. This paper examines the significant impact of internet speed on the quality of public service systems. Utilizing a comparative analysis of several countries in 2021, the study identifies a moderate positive correlation between internet speed and the public service index, suggesting that higher internet speeds are associated with better public services. However, the relationship is complex and influenced by a variety of factors. The paper concludes with policy recommendations for improving internet speed within the context of public service systems, emphasizing the importance of infrastructure investment, public-private partnerships, conducive regulatory frameworks, digital education, the adoption of innovative technologies, service standards, and data-driven decision making.

Keywords: internet Speed, Public Service Systems, Digital Economy, Comparative Analysis, Policy Recommendations, Infrastructure Development, Digital Literacy, Regulation, Innovation, Data-Driven Decision Making.

Introduction. In the era of the digital revolution, where nearly every aspect of our lives is under the influence of technology, the role and importance of Internet speed cannot be overstated. The quality, accessibility, and efficiency of public services are profoundly influenced by the degree of Internet connectivity. Public service systems, such as education, healthcare, and government services, have been progressively digitized, making them heavily dependent on Internet speed.

The digitization of these services has been accelerated by the global pandemic, which pushed governments around the world to fast-track their digital transformation efforts. However, the transformation and subsequent service delivery are only as effective as the speed of the Internet that supports them. Slow Internet speeds can cause delays, hinder access to essential services, and lead to user dissatisfaction.

Table 1

The Importance of Public Service Systems in Serving the Needs of Citizens

Public Service System	Role and Importance
Education	Ensures all citizens have access to quality education, contributes to social mobility, and shapes the future workforce.
Healthcare	Protects and improves the health of the population, provides preventative care, and responds to public health emergencies.
Public Transportation	Connects citizens to jobs, schools, healthcare facilities, and reduces traffic congestion, pollution, and energy consumption.
Social Security	Provides financial support in situations of unemployment, sickness, disability, old age, and death, helps to alleviate poverty and reduce income inequality.
Law Enforcement	Protects citizens from crime, maintains order, and ensures justice, contributing to a stable and secure society.

Source: comparative analysis by author.

Conversely, high-speed Internet can facilitate real-time communication, promote accessibility, enhance user satisfaction, and ultimately increase the efficiency and effectiveness of public service delivery.

Public service systems play a fundamental role in maintaining the well-being of citizens and the overall functioning of society. They provide a wide array of essential services that aim to meet citizens' diverse needs, contribute to social equity, and foster economic development. These systems encompass various sectors, including but not limited to education, healthcare, public transportation, social security, and law enforcement.

Education: Public education services ensure that all citizens have access to quality education, regardless of their socio-economic status. They shape the future workforce, stimulate creativity and innovation, and are critical to social mobility.

Healthcare: Public health services aim to protect and improve the health of the population. They provide preventative care, treatment for diseases, and respond to public health emergencies, making them vital to the overall well-being of society.

Public Transportation: Public transportation services are essential for connecting citizens to jobs, schools, healthcare facilities, and other important destinations. They also contribute to reducing traffic congestion, pollution, and energy consumption.

Social Security: Social security systems provide financial support to citizens in situations like unemployment, sickness, disability, old age, and death, helping to alleviate poverty and reduce income inequality.

Law Enforcement: Public safety and law enforcement services protect citizens from crime, maintain order, and ensure justice, contributing to a stable and secure society.

As these examples illustrate, public service systems are a cornerstone of any society, providing critical services that individuals often cannot procure for themselves. They reflect the commitment of the state to protect and promote the welfare of its

citizens. As the world becomes increasingly digitized, it is crucial to understand how elements like Internet speed can impact the delivery and quality of these vital services.

The purpose of this research is to investigate the impact of Internet speed on the quality of public service systems in the digital economy. As our world continues to digitalize at an unprecedented rate, public services are becoming increasingly reliant on Internet connectivity. The speed of this connectivity, therefore, can have profound implications for the quality, accessibility, and efficiency of these services.

The goals of this research are threefold:

Understanding: To develop a comprehensive understanding of how Internet speed affects various aspects of public service delivery, including real-time communication, accessibility of services, user satisfaction, and overall efficiency.

Identification: To identify specific areas within public service systems that are particularly sensitive to Internet speed variations and to ascertain the potential consequences of slow and fast Internet speeds in these areas.

Recommendation: Based on the research findings, to recommend strategies and best practices for optimizing the use of Internet connectivity in public service delivery. This may include technical recommendations, policy suggestions, and guidance for service design.

By achieving these objectives, this research hopes to contribute to the ongoing efforts to optimize public service systems in the digital age, improving their quality and accessibility for all citizens. Ultimately, the aim is to help create a more efficient, effective, and equitable digital public service landscape.

Literature review. Service quality has been much discussed and researched in the last twenty years with leading service quality measurement models being developed. According to R.Oliver's research, customer satisfaction or dissatisfaction arises as a result of using the service.[1] According to V. Zeithaml, the perceived quality of service can

be defined as a judgment of the superiority or perfection of a product as it is perceived, value is the buyer's overall assessment of the usefulness of the product based on the perception of what is received and what is given.[2]

Much of the literature on service quality tends to come from the profit-driven private sector, where motivation and results are often easier to measure. Collins and Butler see the introduction of quality-of-service rhetoric in the public sector as a new sector.[3]

There is an intuitive appeal to the concept of quality of service, measuring and improving the quality of services in the public sector, but implementation can be more problematic. Given the diversity of motives and goals of public service organizations, defining and measuring service quality can be difficult to achieve. Chapman and Cowdell have identified potential difficulties in applying traditional marketing theory to the public sector.[4] However, much of this tends to be at the conceptual level with little attempt to test or understand the realities of implementation.

Research methodology. The study of existing scientific research on the wide application of information technologies in the provision of public services, management and regulation, the study of statistical data in the evaluation of the efficiency of public services and economic comparison, analysis, logical thinking, scientific abstraction, grouping of information, analysis and synthesis, induction and deduction and mathematical methods are widely used.

Analisis and results. The Internet plays a fundamental role in the functioning of modern public service systems, effectively enabling a more efficient and user-centric model of service delivery. Here are some of the ways in which the Internet shapes these systems:

Enhanced Access and Reach: With the Internet, public services can be accessed from any location, increasing the reach and availability of these services. This allows for more inclusive and universal service provision, especially beneficial to those in remote or rural areas where physical public service offices might be lacking.

Table 2.

Comparative Analysis of the Role of the Internet in Public Service Systems

Aspect of Public Service Systems	Role of Internet: Advantages	Challenges/Considerations
Access and Reach	Enables universal service provision by removing geographical barriers.	Digital divide issue: Not everyone has equal access to internet, especially in remote or rural areas.
Efficiency and Cost Reduction	Speeds up processes, reduces time and costs associated with physical service delivery.	Requires initial investment in digital infrastructure and maintenance.
Transparency and Accountability	Enhances information availability, and enables easier tracking of processes.	Need to balance transparency with privacy and data protection concerns.
Citizen Participation	Facilitates citizen engagement in public affairs.	Requires efforts to ensure all citizens can participate equally, regardless of digital literacy levels.
Service Customization	Allows services to be tailored to individual user needs, enhancing user experience.	Requires careful management of user data to avoid privacy breaches.
Innovation and Improvement	Facilitates constant service monitoring, feedback, and adjustment.	Requires continual technology updates and adaptation to keep pace with digital advancements.

Source: comparative analysis by author.

Efficiency and Cost Reduction: Online service delivery often cuts down on time and costs associated with traditional means of delivering public services. Processes that might have taken days or weeks through manual methods can be completed within minutes or hours online. This saves valuable time for both the public and the service providers, and reduces the financial costs related to physical infrastructure.

Transparency and Accountability: The use of the Internet can enhance transparency in public services. Information can be made readily available online, and the digitization of processes makes tracking and auditing easier, thus promoting accountability.

Citizen Participation: The Internet can facilitate citizen participation in public affairs. For

instance, e-governance initiatives can include online platforms for citizens to voice their opinions, participate in public consultations, or vote in elections.

Service Customization: Online platforms can collect and analyze user data (within the boundaries of privacy laws and regulations), allowing public services to be customized to the individual needs and preferences of citizens. This can greatly enhance the user experience and the effectiveness of the service.

Innovation and Improvement: The Internet enables constant feedback, monitoring, and adjustment of public services. Service providers can quickly identify and respond to problems or gaps in service provision, leading to continual service improvement.

Varying levels of internet speed can have a significant impact on the quality of public service systems. Here's how this plays out:

Access and User Experience: Higher internet speeds generally allow for smoother, quicker access to online public services, resulting in better user experience. Slow internet speeds, on the other hand, can lead to long loading times, frequent buffering or disconnections, and even complete inability to access certain services, especially those that require significant data transfer, such as video consultations or interactive online platforms. This can lead to user frustration and decreased use of online public services.

Efficiency of Service Delivery: Fast internet speeds can enable quicker processing and completion of online transactions, enhancing the efficiency of service delivery. On the contrary, slow internet speeds can lead to delays in processing, undermining the efficiency gains associated with online service delivery.

Capacity to Handle User Traffic: Public service systems need to be able to handle high volumes of user traffic, especially during peak times

or in times of emergency. High internet speeds can support this capacity, ensuring that the system doesn't crash or slow down significantly under heavy traffic. Low internet speeds, however, can limit this capacity, potentially leading to system overloads and crashes.

Innovation and Improvement: High-speed internet can enable the use of advanced technologies in public service delivery, such as artificial intelligence, big data analysis, and multimedia applications. This can lead to continual service innovation and improvement. However, slow internet speeds can limit the ability to adopt and benefit from these advanced technologies.

Equity and Inclusion: Varying internet speeds across different regions or population groups can lead to disparities in the quality of public service delivery, undermining efforts to ensure equity and inclusion. For instance, rural or low-income users with slower internet speeds may not be able to access or effectively use online public services, while those with faster internet speeds can do so more easily.

Table 3

Internet speed and Public Service Index of selected countries

Countries	Internet speed (Mbps)	Public Service index
United Arab Emirates	238.06	5.2
South Korea	202.61	2.2
Norway	177.72	1.6
Qatar	172.18	2.9
China	165.38	5.3
Kuwait	157.18	3.3
Saudi Arabia	155.97	4.4
Cyprus	144.64	3.3
Bulgaria	142.27	4
Switzerland	135.70	1.6

Source: World Bank database.

Public services index, 0 (high) - 10 (low), 2021 - Country rankings: The average for 2021 based on 173 countries was 5.67 index points. The highest value was in the Central African Republic: 10 index points and the lowest value was in Iceland: 1.2 index points.

This table appears to present data on two distinct factors for a selection of countries: Internet Speed (in Mbps) and Public Service Index. Here's a brief analysis of the data:

Internet Speed: The United Arab Emirates has the highest reported Internet speed at 238.06 Mbps, while Switzerland has the lowest of the presented countries at 135.70 Mbps.

Public Service Index: The Public Service Index is highest for China at 5.3, suggesting a highly rated public service system. Norway, however, has the lowest index at 2.2, indicating a lesser-rated system compared to the other countries in the table.

A correlation of 0.5 suggests a moderate positive relationship between the two variables. In the context of your data, this means that as internet speed (Mbps) increases, the public service index also tends to increase, and vice versa.

Recommendations. Infrastructure Investments: Policymakers should prioritize and allocate funds for the development and maintenance of robust digital infrastructures. This includes investments in broadband networks, particularly in rural or under-served areas, to ensure universal access.

Public-Private Partnerships (PPPs): Collaboration between the public and private sectors can drive innovation and accelerate infrastructure development. Governments can incentivize private sector participation through various mechanisms such as subsidies or favorable regulatory conditions.

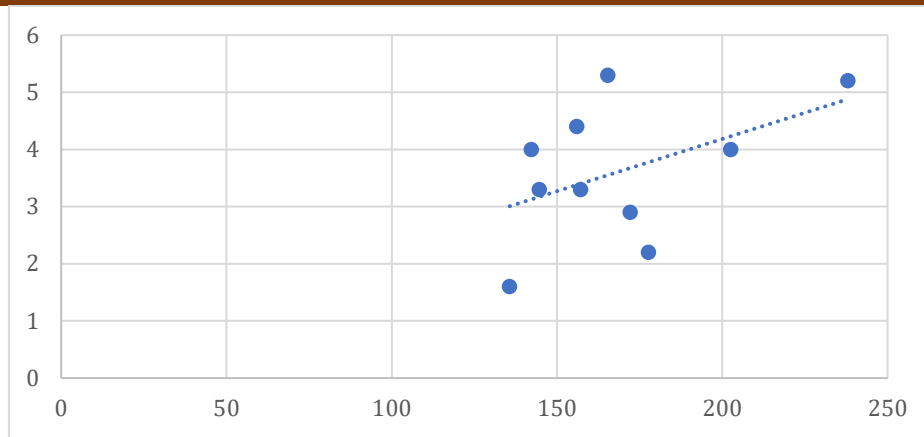


Figure 1. Correlation between internet speed and Public Service Index

Source: author's compilation.

Regulatory Frameworks: Policymakers should create conducive regulatory environments for competition among Internet Service Providers (ISPs). This could include measures such as ensuring fair access to network infrastructure, which can help drive down prices and improve service quality.

Digital Literacy and Education: Improving digital literacy is critical for maximizing the potential benefits of faster internet. Governments can invest in educational programs to equip their citizens with the necessary digital skills.

Adoption of Innovative Technologies: Policymakers should encourage the adoption of innova-

tive technologies, such as 5G, to improve internet speed. They can support research and development activities, pilot projects, and the rollout of new technologies.

Service Standards and Accountability: Establishing and enforcing service standards for ISPs can ensure high-quality service delivery. Policymakers can also set up mechanisms for monitoring ISP performance and handling consumer complaints.

Data-Driven Decision Making: Policymakers should use data and analytics to inform their decisions. For instance, they can use data to identify areas with poor internet service and target interventions.

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