

The COVID-19 pandemic shows how vital the broadband internet infrastructure is

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The COVID-19 pandemic has increased the demand for broadband internet, mostly because of remote working and online education. In Turkey, the number of fixed broadband subscribers has increased by more than half a million, and data usage increased dramatically during the first wave of the pandemic. Such increasing intensity of data usage, with additional subscribers, calls for a rethink of Turkey's internet infrastructure. By considering the effects of the COVID-19 pandemic, this article discusses the Turkish broadband market's main issues.

Introduction

The COVID-19 pandemic has hit industries and caused sharp declines in the demand for various goods and services. However, apart from the elementary food and hygiene products, the demand for internet access has increased sharply because of remote working and online education. The Information and Communication Technologies Authority's (ICTA) quarterly market reports indicate dramatic increases in the number of fixed broadband subscribers and average data usage per subscribers during the first wave of the pandemic. Such an increasing intensity of data usage with additional subscribers calls for a rethink of Turkey's internet infrastructure. In this short article, I will share my thoughts about the main issues in the Turkish broadband market, considering the effects of the COVID-19 pandemic.

The current state in the Turkish broadband market

In the last decade, the Turkish broadband market has experienced significant progress. On the supply side, fiber internet has become a prominent technology for broadband access, while fiber network length has more than doubled (TELKODER, 2020). On the demand side, the fixed broadband subscription has increased by more than 60 percent and the number of fiber subscribers has reached 23 percent of the total broadband subscribers (ICTA, 2010; ICTA, 2019).

At first glance, such progress may look like a significant improvement for the Turkish broadband market. However, broadband penetration in society still indicates a poor outcome. Moreover, comparing it with the other countries reveals a severe gap. Figure 1

shows that the OECD average fixed-broadband penetration rate (per 100 inhabitants) is 31.8, while Turkey's penetration rate is just 17.3, which represents the third-lowest penetration rate in the OECD, ahead of only Mexico and Colombia (see Figure 1).

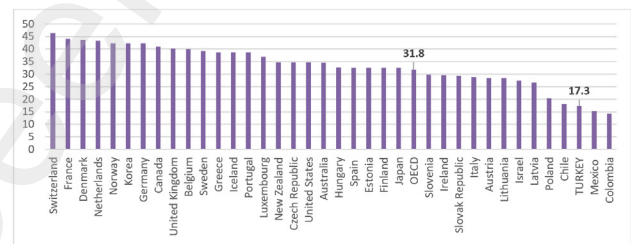


Figure 1. Broadband penetration rates in OECD countries, as of December 2019

Source: OECD (2020)

Despite the fiber network investments and the increasing number of subscribers in the last decade, the international comparison signifies Turkey's relatively poor performance. Turkey falls back to the OECD averages not only in penetration rates, but also in quality indicators. Whereas the OECD average is 73 percent, only 7 percent of Turkish subscribers use high-speed (over 25/30 Mbit/s) internet (OECD, 2020).

Digital targets for the 100th anniversary of the Republic and the current state

Some countries define clear targets based on penetration rates or the broadband internet speed for their digital development. For instance, the European Union (EU) expressed the targets for the penetration of high-speed broadband access for 2020 under the

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name of the Digital Agenda for Europe, later extending those targets for 2025. The new document, called the European Gigabit Society, aims to provide at least 100 Mbit/s broadband speed to all EU citizens as an ultimate target (European Commission, 2016).

As a candidate country, Turkey is not obliged to adopt the targets of the EU. However, in recent years one can see qualified objectives for the digital society in official documents. Among them, the National Broadband Strategy and Action Plan (2017–2020) is the most up-to-date document with a motto of “broadband from everywhere to everyone” (Ulaştırma Denizcilik ve Haberleşme Bakanlığı, 2017). Under this motto, the plan offers 25 supply and demand-side actions. On the supply side, most of the actions indicate facilitating fiber infrastructure deployment, including the development of new secondary regulations. The actions related to the demand side indicate cutting taxes and other fiscal burdens on broadband services.

The plan also sets targets to be achieved by 2023, the 100th anniversary of the Turkish Republic. Table 1 provides the targets in the plan in terms of fixed broadband penetration, the number of fiber subscribers, and availability of 100 Mbit/s and 1 Gbit/s speed for households in 2023.

	as of 2020 Q2	2023 targets
The fixed broadband penetration rate	18.4 percent	30 percent
Number of fiber subscribers	3.5 million	10 million
Availability of 100 Mbit/s connection for households	-	100 percent
Availability of 1 Gbit/s connection for households	-	20 percent

Table 1. Comparison of the current state (as of 2020 Q2) with 2023 targets

Sources: Ulaştırma Denizcilik ve Haberleşme Bakanlığı (2017); ICTA (2020)

Table 1 also compares the current situation (as of the second quarter of 2020) and the targets for 2023. The current broadband penetration rate is 40 percent lower than the goal for 2023. On the other hand, to achieve the 2023 targets, the number of fiber subscribers must increase almost three-fold. Considering these gaps, one could argue that accomplishing the targets in the coming three years is unlikely.

The targets indicate the homepass infrastructure’s capacity to provide at least 100 Mbit/s and 1 Gbit/s speed for the availability of connection speeds. However, the ICTA has not published home-pass statistics of the network providers. Although it is hard

to estimate the current situation for the availability of those ultra-high-speed connections, the number of subscribers with 100 Mbit/s connection currently represents only 0.1 percent of the total number of subscribers.

The COVID-19 pandemic and the Turkish broadband market

The COVID-19 pandemic has shown how a broadband internet infrastructure is vital for an economy. During the pandemic, remote working and online mass education quickly became widespread and most traditional entertainment activities have been replaced by online activities. Those developments create a dramatic increase in the demand for broadband internet services. Since the provision of these services relies on the infrastructure, fiber deployment and quality of the broadband networks exhibit critical importance.

The ICTA’s quarterly market report (ICTA, 2020) indicates a 5 percent increase in the number of fixed broadband subscribers and a 25 percent increase in average data use per subscriber during the first wave of the pandemic. Such a rise in the usage intensity, with additional subscribers, increases the importance of achieving the targets related to the availability and the speed of the broadband internet.

Deployment of communication networks, especially fiber deployment, requires infrastructural investments that may only be returned in the long run. Therefore, sharing existing infrastructural elements may be seen as a feasible way of sustaining those investments. Regulatory policies play a crucial role in ensuring such a cooperative environment. In practice, the design and the implementation of rights-of-way and facility sharing regulations are critical.

In Turkey, the rights-of-way regulation was enacted in 2012 to force the infrastructure owners to share their existing infrastructure. However, the implementation of the regulation indicates two significant problems in practice. First, the regulation does not explicitly compromise some public utilities with the country-wide infrastructure, such as highways, pipelines, and railways. Second, infrastructure owners may apply exclusionary and exploitative conducts towards the operators (Ulaştırma Denizcilik ve Haberleşme Bakanlığı, 2017). Therefore, the right-of-way regulation requires consistent updates considering the implementation problems in practice.

On the other hand, facility sharing regulation has

both design and implementation problems. First of all, the regulation's design is insufficient to achieve the required coordination between the existing network owners. Second, some public infrastructure owners have denied sharing their facilities in practice, and others have prevented the sharing of facilities built by the operators on their infrastructure (TELKODER, 2020). Therefore, proper updates in the facility sharing regulation are required, ensuring transparency and assuring the responsibilities of the infrastructure owners.

Besides the aforementioned regulatory issues on the supply side, the COVID-19 pandemic has also brought the demand side of broadband into question. Although the number of fixed broadband subscribers has increased by more than half a million during the first wave of the pandemic, the digital inequalities persist.

According to the Turkish Statistical Institute (TURKSTAT, 2020), only half of the country's households have fixed broadband access, and household access decreases going from west to east. Moreover, socio-economic and demographic differences affect households' internet adoption and individuals' usage (Anil & Köksal, 2016). With the COVID-19 pandemic, these differences, which signify digital inequalities, become more critical. Especially in education, the inequalities can become a severe problem in terms of future waves of the pandemic (see EĞİTİM SEN, 2020). Therefore, public resources should immediately be devoted to decreasing digital inequalities.

Conclusion

In Turkey, as in other countries, the COVID-19 pandemic has increased the demand for broadband internet. The number of subscribers in Turkey has increased by more than half a million, and data usage has increased dramatically. However, such a boost in demand is far from being a trigger to achieve the targets set out for the Republic's upcoming 100th anniversary. While regulatory problems on the supply side indicate a more comprehensive approach to handle this demand increase, digital inequalities on the demand side require immediate actions to avoid deepening the digital divide. Therefore, the COVID-19 pandemic should be considered a threat rather than an opportunity for the Turkish broadband market.

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