Türkiye'nin İstiklali: Milli Teknoloji Hamlesi

Edited by Burhanettin Duran, Ferhat Pirinççi, *and* Gloria Shkurti Özdemir
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The Fourth Industrial Revolution, has caused unprecedented global change, advanced existing technologies and significantly impacted the international system. Countries such as China and South Korea, aiming to lead this change and strengthen their competitive advantage, are increasing their investments, recognizing the importance of technology and innovation on the global stage. They are challenging the technological dominance that has enabled the United States of America to maintain global leadership since the Cold War. Similarly, Türkiye, which seeks to redefine its global standing, has launched its national strategy through the National Technology Move, introduced in 2019 in Industry and Technology Strategy by the Ministry of Industry and Technology. Uniquely representing the Fourth Industrial Revolution nationally and originally, this strategy is a response to the monopolization of science and technology by entities lacking values such as justice and compassion, driven by a self-centerd and materialistic approach.

The book, edited by Burhanettin Duran, Ferhat Pirinççi, and Gloria Shkurti, titled *Türkiye'nin İstiklali: Milli Teknoloji Hamlesi* (*Türkiye's Independence: National Technology Move*) aims to ensure a clear and accurate understanding of Türkiye's technological strategy and to increase public awareness about the National Technological Move. Including a foreword by the current Turkish Minister of Industry and Technology, Mehmet Fatih Kacır, the book presents Türkiye's efforts from the past to the present and provides comparative analyses based on Türkiye's international position regarding how this initiative has impacted different sectors. The first chapter, co-authored by Gloria Shkurti Özdemir and Ferhat Pirinççi, establishes a foundational basis for understanding the National Technology Move, which transcends any single sector or framework due to its extensive vision and mission. It provides a comparative analysis of the global context following the innovations of the Fourth Industrial Revolution and examines Türkiye's technological transformation within this framework. This chapter delineates the historical development of the National Technology Move in three stages since the 1960s: as a shift in mindset, policy changes, and ultimately, implementation, portraying it as a result of Türkiye's efforts to enhance its social welfare and independence in terms of national security. It addresses the priorities set within the framework of 'local, national, and original,' which is the foundation of the National Technological Move and analyses in detail the existing technological ecosystem in Türkiye. Additionally, the chapter touches upon the impact of the National Technology Move on different sectors.

The health sector is one of the areas most significantly impacted by the National Technological Move. The second chapter, authored

by Deputy Minister of Health Şuayip Birinci, addresses this issue in detail. Supported by rich graphics and reliable data, it facilitates international comparisons and emphasizes the substantial advancements Türkiye has made in medical technologies. The chapter highlights the development of more innovative and effective solutions in the healthcare sector alongside the National Technology Move. It offers suggestions to enhance Türkiye's standing in healthcare and establish itself as a pharmaceutical production and export hub. Additionally, it underscores the need to continuously evaluate technological advancements and the importance of policy and infrastructure regulations to ensure fair access for all.

The third chapter, authored by Safa Uslu and Atilla Aydın, focuses on the progress of digital transformation in the public sector in Türkiye with a special focus on the Digital Transformation Office of the Presidency of Türkiye, which plays a pivotal role in institutionalizing digital transformation. Furthermore, the chapter assesses Türkiye's global ranking in terms of digitalization. It then discusses a series of projects and policies developed by Türkiye to advance digitalization.

The defense and energy sectors are regarded as the most significant areas where the impact of the National Technological Move has been most evident. These sectors, along with their connection to the National Technological Move, are thoroughly examined in the fourth and fifth chapters by Rıfat Öncel and Büşra Zeynep Özdemir, respectively. Both chapters highlight how this technological initiative has enabled Türkiye to diversify its resources, increase domestic production, and consequently reduce its external dependence.

Investments in human capital are increasingly crucial for technology's production and use. Education, as one of the fundamental investments, is key to global competitiveness and economic strength. Didem Koca and Ülkü *İ*stiklal Ortakaya focus on the impact of the National Technology Move on education, particularly in STEM education, coding, and robotics. They highlight projects such as "TEKNOFEST," "DENEYAP Technology Workshops," "Uni-Veri," and "1 Million Coders." The increasing participation and number of applications each year demonstrate the effectiveness of these initiatives.

The next chapter, penned by Bilal Bağış, examines the impact of the National Technology Move on Türkiye's economy and industry, analyzing various aspects, including investments in R&D and innovation, and the role of technology in exports, using tables and graphs. It underscores the significance of indigenous and national technology production, innovation, entrepreneurship, and human resource development in supporting economic and industrial transformation. Furthermore, strategies and recommendations are provided for utilizing technology to support Türkiye's sustainable growth and development.

The final chapter, written by Dursun Balkan, focuses on how effective R&D activities are in indigenous technology production and underscores their critical importance for strengthening the country's technological infrastructure. Therefore, strategies and recommendations are presented to support technological transformation by reducing Türkiye's dependence on foreign sources and connecting domestic technology production to indigenous R&D activities.

This valuable work serves as a guide to introduce Türkiye's efforts, achievements, and groundbreaking projects aimed at producing indigenous and national technology to the

public. It also presents a vision for Türkiye's technological future and offers solutions. By addressing future technology trends and economic and strategic objectives, this book sheds light on how Türkiye can shape its technological transformation. Written in a clear, understandable, and concise style, it ensures that the content is comprehensible to everyone, while covering wide ranging topics such as defense, technology, economy, and industry. Furthermore, it provides sufficient explanations and examples to aid understanding while using reliable data and sources, resulting in strong and persuasive arguments, supported by primary and secondary sources.

In particular, considering the fact that the public has relatively more interest and knowledge in certain areas, it contributes to a wider awareness of Türkiye's development initiatives and achievements across various sectors, ranging from energy to health, education to industry, and economy to defense. Moreover, it targets a diverse audience, including academics, business leaders, policymakers, technology developers, and anyone interested in Türkiye's technological progress. Therefore, it serves as a fundamental resource initially to provide a general understanding and subsequently for those seeking in-depth research in the field.