

## **Core Dimensions and Challenges of Türkiye's Entrepreneurial Ecosystem: Insights for Developing Countries**

**Nuray ATSAN<sup>1</sup>**  
**Janset ÖZEN-AYTEMUR<sup>2</sup>**  
**Onur DİRLİK<sup>3</sup>**

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### **Abstract**

Within the scope of this study, Türkiye's entrepreneurship ecosystem, which is a representative example for understanding the entrepreneurship ecosystem in developing countries, was examined in terms of human resources and capacity, incentives, funds and financing, support mechanisms and law and regulatory framework dimensions. These dimensions, which are widely accepted as integral components of the entrepreneurship ecosystem in the literature, were examined by taking historical patterns into account. To examine the dimensions that constitute the ecosystem, not only the studies in literature but also the reports published by all relevant institutions were used as data. As a result, the key role of the state as the main actor in the ecosystem was determined, and the critical importance of elements such as technology and institutional mechanisms, including legal grounds, was discussed.

**Key words:** Entrepreneurial Ecosystem, State, Developing Countries, Türkiye

**JEL Code:** L26, M21

### **1. Introduction**

In recent years, the development paradigm has moved beyond the patterns typically observed in various regions of the world, including North America and Europe. It is argued that economic growth alone cannot fulfill development expectations and that a more comprehensive approach to development is needed, targeting different aspects of welfare, how it is distributed within the population, and its sustainability. New development plans must therefore go beyond economic growth targets to include high levels of social inclusiveness and environmental

<sup>1</sup>Assoc. Prof., PhD, Akdeniz University, Türkiye, [atsan@akdeniz.edu.tr](mailto:atsan@akdeniz.edu.tr), <http://orcid.org/0000-0001-5415-891X>

<sup>2</sup>Assoc. Prof., PhD, Akdeniz University, Türkiye, [janset@akdeniz.edu.tr](mailto:janset@akdeniz.edu.tr), <http://orcid.org/0000-0002-4674-7586>

<sup>3</sup>Assoc. Prof., PhD, Eskişehir Osmangazi University, Türkiye, [onur@ogu.edu.tr](mailto:onur@ogu.edu.tr), <http://orcid.org/0000-0002-7045-0774>

sustainability. Rather than insisting on a standardized development paradigm at the global level, there is a growing recognition of the need for different, participatory development models that take local and regional contexts into account and are supported by political will (OECD, 2019). Supporting regional and local development is crucial for achieving sustainable national development. To this end, states provide significant institutional support for the creation of innovation-friendly ecosystems, ensuring the presence of key elements such as technology-focused businesses, knowledge-generating universities, and intermediaries that facilitate relationships between the ecosystem's key actors.

The relevant literature widely acknowledges the positive impact of entrepreneurship on economic development and its positive influence on national and regional economic growth (Audretsch and Keilbach, 2004; Naudé, 2008; Carree and Thurik, 2010; Neumann, 2021; Ordeñana, et.al, 2024). Entrepreneurs accelerate the process of economic growth and development by entering the market with new products and production processes, creating competition, increasing efficiency, providing employment, facilitating the emergence of new industries, improving welfare, and reducing development inequalities between regions. Therefore, many developed or developing countries implement policies that support entrepreneurs (Çokgezen, 2012). Over the past 30 years, the global economy has witnessed the development efforts and policies of countries at different levels of development. Turkey stands out as a country that has developed a concrete and comprehensive plan to strengthen its entrepreneurial ecosystem, particularly over the past decade. Increasing financial opportunities, organizing widespread entrepreneurship education, spreading entrepreneurship culture, and improving support mechanisms are examples of steps taken to strengthen the entrepreneurship ecosystem during this period. This effort is embodied by the 2022 National Startup Strategy, which articulates 30 strategies and 90 actions across key ecosystem dimensions, including accessible financial instruments, opportunity-providing policies, talent and culture, and supportive market conditions (National Startup Strategy, 2022). Empirical studies also indicate expansion in financial opportunities, with especially strong activity at the seed-funding stage (Balçılı and Gümüş, 2022). Moreover, initiatives to enhance entrepreneurship infrastructure—such as technoparks and incubators—have played a vital role in ecosystem development, as evidenced by growth strategies employed in Turkey's national technopark system (Yüce and Ulusoy, 2022). The Turkish startup ecosystem recorded a total of 59 deals amounting to \$70.2 million, including acquisitions in Q1 2025. While this figure is lower than that of Q4 2024, it still reflects a significant increase compared to the same quarter of the previous year (\$43.1 million) (KPMG, 2025).

Given its contextual characteristics, such as being a late industrialized country with a state-controlled market and a state-dependent business system (Özen-Aytemur and Dirlit, 2015), Türkiye could provide a valuable evaluation framework for other countries undergoing similar development processes. This study is distinguished by its contribution to literature by demonstrating a relationship between the country's capitalist development process and the

construction of its entrepreneurial ecosystem. In comparison to existing studies, it addresses human resources, financing, support mechanisms, and the legal framework holistically, revealing structural barriers within the ecosystem. The study makes a valuable contribution by attempting to highlight the relatively less explored aspect of "barriers and limitations" in literature. It is anticipated that this multi-dimensional analysis, conducted using the Turkish example, will offer transferable lessons at the policy level for countries with similar business systems aiming to develop their entrepreneurial ecosystems. The first section of the study provides a brief historical overview of Türkiye's capitalist development process. It is followed by an assessment of the efforts undertaken to develop the entrepreneurial ecosystem since the 2000s, highlighting the problems and constraints encountered in the areas of 'human resources', 'financing, support mechanisms', and the 'legal framework'.

## **2. A Glance at the History of Turkish Entrepreneurial Ecosystem**

Industrialization of Türkiye before 1950 was almost entirely shaped by state-owned enterprises. The experience of state management has a great effect on the emergence of large enterprises (holding companies) after the Second World War (Tekeli and İlkin, 1992). Apart from a short period in the 1930s, Türkiye embraced liberal economy principles throughout its historical past (Çavdar, 2003). Following the 1960s, in which a process of import substitution and inward-looking industrialization came, and a planned development policy was carried out, in 1980s, Türkiye shifted to neoliberal economic policies just like many other countries (Boratav, 2003; Keyder, 1987). The period of import substitution industrialisation also reflects a timespan when the number of newly founded companies grew higher day by day and new types of companies emerged. The number of companies founded per year heightened to 91 in 1965, to 245 in 1970, 745 in 1975, and 2406 in 1980 (Tekeli, 1983). During the period between 1960 and 1980, it is clearly seen that the private sector constantly gained power, but also big capital businesses were seriously distinguished from those with small and medium enterprises. This separation resulted in gathering all big capital groups together under an association called TÜSİAD (Turkish Industry & Business Association) in 1971 (Buğra, 1997). After the 1980s, another capital group began to be formed called "Anatolian tigers", who established small and medium businesses in especially peripheral cities. Beginning in the 1990s, capital groups with an Islamic common ground formed different organizations like MÜSİAD (Independent Industrialists and Businessmen's Association), TUSKON (The Confederation of Businessmen and Industrialists of Türkiye), ASKON (Anatolian Tigers Businessmen Association), and ANFED (The Federation of Anatolian Businessmen) (Özen et al., 2008; Buğra and Savaşkan, 2014). Industrialization of Türkiye has witnessed both friendly and uneasy relations between the state and businessmen since the 1950s. Generally supporting the market and private sector, the governments have always created some uncertainties with their complicated intervention mechanisms, described as

“the main paradox of liberalism in Türkiye” (Buğra, 1997). In the 2000s, Türkiye keeps industrializing with a relatively “varied” entrepreneur class, which works with secular or Islamic references and takes place in various business networks and organizations.

Since 1980, industrialization has been shaped by economic policies through which many changes occurred in short timespans for the entrepreneurs. While no policy proposal about entrepreneurship was officially allowed for until the fifth five-year development plan (1985-1990), policies about entrepreneurship began to be placed in all such plans as of it (Özdemir, 2017). As of the 1990s, entrepreneurship has also been prioritized in parallel with the developments across the world. Certain strategies in R&D and innovation began to be settled while such policies were launched in the area of development. Entrepreneurship, R&D, innovation, and technology have become the key policy areas to which Türkiye gives priority. Having been founded dependent on the Ministry of Industry and Technology in 1990 to increase the role, efficiency, and competitive capacity of small and medium enterprises in the economy and enable their integration to the industrial field in accordance with economic developments, KOSGEB (Small and Medium Enterprises Development Organization of Türkiye) has accelerated the national entrepreneurial movement. On the other hand, the first steps of supporting and treating technology-based entrepreneurship as a public technology and innovation policy were taken in 1991 after the decision to establish KOSGEB Technology Development Centers. These centers, known as TEKMER, were designed to cultivate scientific and technological expertise, foster the creation of new technology-based enterprises, and support the commercialization of research and development efforts (Birden et al., 2020). The legal framework supporting these centers was further solidified with the enactment of the Technology Development Areas Law in 2001 and its subsequent implementation regulation in 2002, formally recognizing their pivotal role in economic development (Birden et al., 2020). This legislative action formally established technology development zones, often referred to as techno parks, as distinct entities designed to facilitate the commercialization of scientific research by offering various incentives and infrastructure to innovative companies. The establishment of these techno parks aimed to bridge the gap between academic research and industrial application, thereby stimulating an innovation-driven economy (Torres-Pruñonosa et al., 2020).

The governmental interventions, including direct financial aid for research and development activities, demonstrably improved innovation performance in Turkish firms, positioning the nation alongside other emerging economies like Poland in terms of strategic innovation support (Szczygielski et al., 2016). Nevertheless, despite these foundational steps, the full integration of knowledge into endogenous economic development has been hampered by inadequate regulation within the science and technology sectors and a discernible lack of political leadership in effectively implementing national innovation initiatives (Çetindamar, 2007). This highlights a persistent challenge in translating policy intent into tangible outcomes, particularly as Istanbul endeavors to accelerate its knowledge-based urban development to align with global benchmarks. This

ambitious objective necessitates a robust re-evaluation of existing innovation policies and a concerted effort to foster stronger university-industry linkages, crucial for transforming academic knowledge into commercially viable technologies (Yalçıntaş et al., 2015). A pivotal development in this trajectory was the formal recognition of technology development zones with the passing of the 4691 numbered Technology Development Zones Law in 2001, which officially sanctioned the establishment of technoparks (Aka and Özdemirci, 2022). These zones, further supported by accelerator programs, have fostered collaborations between corporate entities and startups, significantly enhancing the innovation ecosystem within Turkey (Kurtuluş and Büyükbalcı, 2025). This legal framework provided crucial incentives for technology-oriented companies, fostering an environment conducive to research and development and the emergence of new businesses, which is critical for urban innovation and economic growth (Liu and Li, 2021; Falahatdoost and Wang, 2022). The formal establishment of these zones spurred the creation of new technology-focused enterprises and facilitated the transfer of academic research into commercial applications, thus strengthening the national innovation capacity (Kurtuluş and Büyükbalcı, 2025). This robust legal and infrastructural foundation, while instrumental in fostering an initial wave of technology-driven enterprises, still faces challenges in fully integrating innovation across all sectors, necessitating continuous policy adaptation and enhanced multi-stakeholder collaboration for sustained growth and global competitiveness (Weerasinghe et al., 2024; Kurtuluş and Büyükbalcı, 2025).

The 2010s have seen a notable increase in technology entrepreneurship, driven by the establishment of technology transfer offices and accelerators, which have played a crucial role in the formation of a dynamic entrepreneurial and innovative ecosystem (Cansız et al., 2018; Akçomak et al., 2021). This period marks a significant structural transformation within the ecosystem, providing a fertile ground for the formalization and expansion of entrepreneurial activities. This growth has led to Turkey achieving entrepreneurial index rates comparable to global figures, although the actual output of its entrepreneurial ecosystem still lags behind these impressive statistics (Aka and Özdemirci, 2022). This disparity highlights the need for a more comprehensive analysis of the qualitative aspects of entrepreneurial output, beyond mere quantitative metrics of ecosystem components. Furthermore, while the digital technology infrastructure has demonstrably impacted national entrepreneurial ecosystems, its interaction with other ecosystem elements, such as institutional quality and supportive culture, warrants deeper investigation in the Turkish context (Zhang et al., 2023). The post-2020 period, significantly impacted by global events such as the COVID-19 pandemic and subsequent shifts in economic paradigms, necessitated a dynamic adaptation of entrepreneurial strategies (Balci and Gümuş, 2022; Krara et al., 2025). The post-2020 era introduced unprecedented challenges and opportunities, compelling a re-evaluation of existing frameworks and fostering the emergence of novel business models, particularly within the digital startup domain (Sudaryana et al., 2024). The rapid recalibration of investment priorities during this time highlighted a crucial pivot towards sustainable entrepreneurship and technology-driven ventures, reflecting a

broader global trend towards integrating environmental, social, and governance factors into investment decisions (Tunçalp and Yıldırım, 2022).

Despite these efforts, it is stated that Türkiye's entrepreneurial ecosystem remains in a state of development. Problems such as the legal framework that restricts qualified enterprises from maintaining a sustainable presence in the ecosystem, the absence of democratization, and the private sector's inadequate efforts to own this entrepreneurial initiative and contribute to it, among others, indicate that the entrepreneurial ecosystem still lacks a "healthy" condition (Akçomak et al., 2021:7).

### **3. Core Dimensions and Challenging Issues of Türkiye's Entrepreneurial Ecosystem**

The social and economic environmental components that affect entrepreneurship are described as culture, human capital, markets, legal frameworks and policies, and financing and supporting mechanisms (Isenberg, 2010). The capacity and influence of each shareholder, comprising the state, universities, entrepreneurs, big businesses, investors, banks, social leaders, non-governmental organizations, public bodies and local media, are pivotal in the emergence of new enterprises and their collaborative efforts, thereby establishing the foundation for successful entrepreneurship. It can thus be argued that the entrepreneurial ecosystem is constituted by a network of shareholders who support, complement and interact with each other. It is imperative for a society that prioritizes enterprise to cultivate an ecosystem that aligns with its unique dynamics and adopt an integrated approach to its constituent elements.

Regarding basic dimensions of entrepreneurial ecosystems, such as accessible markets, human capital/labour, financing/funding, support systems/mentors, state/regulatory environments, training and raising, universities as catalysts and cultural conditions based on Isenberg's entrepreneurial ecosystem dimensions, the World Economic Forum (WEF) 2014 Report assesses Türkiye's entrepreneurial ecosystem's general condition as weak while it regards Türkiye as an advantageous country in terms of accessible markets and human capital. On the other hand, according to the Global Entrepreneurship Index (GEI) 2019 report, which measures the depth and scope of the countries' entrepreneurial ecosystems, Türkiye ranked 44th among 137 countries but fell behind 7 countries compared to 2018. According to the reports of the Global Entrepreneurship Monitoring (GEM) group, which scrutinizes 48 countries' economies, while Total Early-Stage Entrepreneurial Activity (TEA) was 6% on average in 2006-2008 in Türkiye, it heightened to 11% in 2010-2013 and 19% in 2014. However, it declined to 17.44% in 2015, 16.14% in 2016 and 14.24% in 2018. Despite the progress achieved in the development of the startup ecosystem, which was ranked 39th globally by 2025, entrepreneurs and executives have identified several risks for Türkiye. These include high inflation, involuntary migration, economic downturn, poverty and inequality, and labour and talent shortages (Startup Ecosystem Index, 2025; WEF, 2025). Based on the critical issues highlighted in these reports, the most prominent

dimensions, recent developments in Türkiye related to these dimensions, and some observations regarding the problems are presented in Table 1.

**Table 1.** Dimensions and Challenges of Türkiye's Entrepreneurial Ecosystem

	<b>Capacity and Human Resource</b>	<b>Incentive and Financing</b>	<b>Support Mechanisms</b>	<b>Regulatory Legal Framework</b>
<b>Recent focus issues for improving the entrepreneurial ecosystem</b>	<ul style="list-style-type: none"> <li>*Practical and academic knowledge about entrepreneurship, capacity of policymakers and practitioners</li> <li>*Female entrepreneurs, academic entrepreneurs, technology driven entrepreneurs</li> <li>*Entrepreneurship in family businesses, corporate entrepreneurship</li> <li>*Teams in entrepreneurship</li> </ul>	<ul style="list-style-type: none"> <li>*Financing of entrepreneurship, different models</li> <li>*Public policy for financing</li> <li>*The role of financing in the ecosystem</li> </ul>	<ul style="list-style-type: none"> <li>*Incubators, accelerators</li> <li>*The mission of universities and TTOs</li> <li>*Mentorship for entrepreneurs</li> <li>*The role of technology development zones</li> </ul>	*Controlling power of the state
<b>Certain detections that indicate to problems related to these issues</b>	<p>“Türkiye is a rich country in terms of its population dynamics but needs fundamental changes in education policy”</p> <p>“Brain drain prompts some of Türkiye's most talented entrepreneurs to establish or relocate their businesses overseas”</p>	<p>“Public-aided financing is still prominent. However, private investment must be primary in the free market. Private investment has increased in the last 10 years but there is a lot to do.”</p>	<p>“Public policies that prioritize quality and encourage different approaches which contribute concretely to entrepreneurial ecosystem of private sector and NGO-dominant new actors are required.”</p>	“The state does not abandon its controlling and centralized attitude”

Source: Adapted from Akçomak et al., 2021.

A more detailed assessment of the findings presented in the table on the current situation of Türkiye's entrepreneurship ecosystem will allow offering solutions to countries with similar contexts and ecosystem characteristics. For this reason, the following pages of this study critically examine the context of entrepreneurship under the headings of 'capacity and human resources', 'incentives and financing', 'support mechanisms' and 'regulatory legal framework'.

### **Human resource and capacity: Traditional entrepreneur profile versus new-aged entrepreneurs, training facilities**

Türkiye is a late-industrialized country with an industry that has been shaped by a rigid development logic, capital accumulated under state control, and a complex historical and institutional heritage. It is challenging to group Turkish entrepreneurs under a single, homogeneous model because of the diversity of these

entrepreneurs and the ways in which these diverse groups coexist (Özen et al., 2008).

Most Turkish giant companies were founded after the Second World War. A considerable number of the early businessmen were former merchants and primarily held positions in the public sector. Furthermore, it is noteworthy that most of the entrepreneurs who contributed to the modernization of industry in Türkiye were not actually connected to the relevant field. The governments of that era, which supported the private sector unquestionably after the 1950s, adopted the memorable motto "a millionaire for each neighborhood". From the very first days, businessmen operated in an economic-political environment where higher profits were favored over innovative entrepreneurship. It can be observed that common behavior patterns are not always aligned with specific industrial sectors and that financial and even speculative concerns often take priority over ongoing production. Turkish businessmen tend to avoid long-term commitments in the industrial sector, preferring to work on a short-term basis with the expectation of high returns and rapid amortization. It is also known that most Turkish industrial enterprises have begun operating in the commercial field and engaged in land speculation. In the business world, cultivating positive relationships with government authorities is a critical component of achieving success. Given the state's pivotal role in entrepreneurial activities, the success of businesses is contingent on the extent of their interactions with the state. In Turkish business system, the notion of a capitalist development that eschews state intervention appears somewhat implausible. State incentives represent a significant proportion of total investment costs, leading to a high degree of financial dependency on state subsidies. Unrelated diversification is regarded as an inevitable business strategy in an environment where business success is substantially dependent on taking advantage of governments' policy changes. Another characteristic of businesses is that they are commerce-based rather than industrial-based. The specialization that determines business field preferences is largely random. The basis of a decision to enter a certain investment area is the opportunity that arises at a certain time. In contrast to the entrepreneur profile, which is known for its pioneering technological innovations, the Turkish entrepreneur is characterized by their financial management skills and their ability to adapt to evolving policies. Being born in the central cities and having the above-mentioned characteristics, this type of big business entrepreneur was the main one seen until the 1980s (Buğra, 1997; Özen et al., 2008).

Since the 2000s, there has been a notable increase in the number of people raised in developed cities with a high level of education who have gone on to found new enterprises in Türkiye. These entrepreneurs have achieved this through innovation or by seizing opportunities, by leveraging market and global dynamics to access external funding sources that are not subject to state control and capitalizing on international opportunities. A significant part of these entrepreneurs occupies prominent positions within certain enterprises that are based in traditional industrial cities of Türkiye. These individuals are typically either the second- or third-generation successors of a well-established family company or have transitioned from senior management roles to entrepreneurship. Such features as

taking risks, having in-depth knowledge of the sector, technical expertise, prospecting and involvement in developing sectors, as well as specialization in a specific area, stand them in good stead as entrepreneurs in a neoliberal market. We can also discuss a new group of entrepreneurs who were educated in big cities but come from rural areas, were born into middle- or low-income families, and therefore had to find the necessary financial capital for their enterprises independently, without relying on the state or other political forces (Özen et al., 2008).

It can be argued that innovations in university system and specific entrepreneurship trainings offered by the institutions have a positive effect on the emergence and supporting of this new generation entrepreneurs' group in Türkiye. Entrepreneurship training is known to increase people's beliefs for setting up successful businesses, make young people regard entrepreneurship as career path and strengthen their tendencies to be entrepreneurs. Higher education institutions where human capital is trained are dominantly financed by public funds (almost three quarters). Public funds have important place not only in the budgets of public universities but also private ones (Aksoy, 2016; Yurdakul et al., 2021). The budget allocated to universities (341 billion TL for all higher education institutions in 2024) is low when compared to the university budgets of the largest economies. As most allocated budgets are directed towards fundamental university needs, there is a limit to the extent to which research activities can be supported (Yurdakul et al., 2021). In 2023, the total budget for projects carried out in collaboration with industry in the fields of R&D, productivity improvement, product development, innovation, etc., in 114 universities amounted to approximately 4.83 billion TL. A total of 184 universities spent approximately 12% of their budgets on R&D activities. The number of Turkish universities that allocate 20% or more of their budgets to R&D activities is 32 (YÖK [Council of Higher Education] Monitoring Report, 2024). The underfunding of public universities, particularly in terms of research budgets, continues to limit the development of new-generation technology entrepreneurship.

Entrepreneurship training in Türkiye is primarily funded by the state. It became a matter of politics for the first time after it was placed in the seventh development plan (1996-2000). This approach paved the way for "KOSGEB Applied Entrepreneurship Training" activities in 2010. Those who successfully complete KOSGEB's applied entrepreneurship training and whose business projects are accepted are eligible for various grants and support, including non-refundable development expenses, machinery, equipment, and office software assistance. This support is part of the new entrepreneurial support programme. From 2010 to 2020, 66.148 entrepreneurs were trained in KOSGEB Applied Entrepreneurship Training and offered TRY 1.7 billion in new entrepreneurship assistance (KOSGEB, 2020). The practical entrepreneurship training courses organised by chambers of commerce and industry in collaboration with KOSGEB have also become an important means of transferring knowledge and experience, bringing together potential entrepreneurs and businesspeople. However, the efficiency of KOSGEB

Entrepreneurship Trainings is a matter of debate. Research has revealed that the rate of new business establishment among entrepreneurs who have completed training courses is between 5% and 7%. The challenges faced by entrepreneurs in obtaining business capital have resulted in these training programs being perceived as a mere means of acquiring a certificate (Tiyek, 2018; Gürpinar, 2019). These programs have been the subject of some criticism, notably for being online, theory-focused, offering limited budgets to participants, and failing to provide sufficient support to entrepreneurs after the training (Uca, 2019). Among the criticisms levelled at KOSGEB are the need to update its incentive and support legislation, remove excessive bureaucratic burdens, and increase support amounts (Gürpinar, 2019). As of 2018, with the introduction of new legislation, training programs are now conducted as two separate programs: traditional entrepreneurship and advanced entrepreneurship training.

On the other hand, entrepreneurship classes as electives began in business management departments' bachelor programs of some universities in the beginning of 2000s (Gürol and Atsan, 2006). In the last ten years, activities about entrepreneurial training in universities have been seen to increase significantly. Despite a notable rise in the number of entrepreneurship courses offered by universities over the past decade, there is still significant scope for improvement in terms of the quality of entrepreneurship education, its dissemination across various departments and disciplines, and the use of content and methodology that aligns with international standards. Firstly, it should be noted that entrepreneurship courses are generally elective, with limited enrolment and credit hours (Soylu and Kepenek, 2008). A brief review of the course content reveals that students are trained in a range of skills, including the establishment of their own business and the management of SMEs. These skills are taught under the umbrella of entrepreneurship, small enterprise management, business start-ups, and innovation (Gürol and Atsan, 2006). However, the Entrepreneurship Training Report prepared by the European Commission emphasizes that entrepreneurship training should not be confused with general business management and economics education. It is indicated in this report that the aim of entrepreneurship training must be more inclusive than all of what is offered in business management education. This means that managerial candidates or company employees must be given the necessary skills, taught how to write a job plan, and offered basic know-how of setting up a business (Özdemir, 2017). The entrepreneurship training should include the development of key skills such as creativity, adaptability to teamwork, taking initiative, self-confidence, problem solving, communication, networking, risk-taking, leadership, financial valuation, and project evaluation, in addition to knowledge of establishing a business (Valerio et al., 2014: 22). It is imperative that entrepreneurship training be action- and experience-based and that educational methodologies be employed that allow trainees to experience the entrepreneurial process (Aamir et al., 2019). There is a perception that university education in Türkiye is unable to provide students with the fundamental knowledge and skills necessary for entrepreneurship in the 21st century, nor does it adequately develop the human capital required for Turkish industry to reach its full potential (TTGV Report, 2020). It is widely accepted in both academic and professional literature

that entrepreneurship training is essential at all levels of the education system (primary, secondary, and vocational education) (Aaamir et al., 2019).

As of 2024, with 14.9% of its population consisting of young people ([www.tuik.gov.tr](http://www.tuik.gov.tr)), Türkiye faces significant challenges in terms of inequality of opportunity in education. Despite its significant socio-cultural diversity, Türkiye is distinctive among countries with similar economies (Wigley and Akkoyunlu, 2011), yet educational opportunities are not distributed equally across geographical regions and genders. Research indicates that there are inequalities in terms of socio-economic status, gender, and access to education across regions (Güngör and Güngör, 2023; Aydemir and Yazıcı, 2019; Kurtdaş, 2021) and that individuals with disabilities and special needs experience inequality in accessing education and employment opportunities (Bilgin and Erbug, 2021). All these inequalities constitute a fundamental barrier to accessing entrepreneurship education and to the development, implementation, and financing of entrepreneurs' business ideas.

### **Incentive, Fund, Financing**

Entrepreneurs typically obtain their capital from their close network of contacts, which may include family members, friends, and co-founders. The most critical period in which governments seeking to develop entrepreneurship can play an effective role is the start-up phase, which is the riskiest time for an enterprise that does not receive significant support from other sources (Erkut, 2013). The number of new entrepreneurs benefiting from capital support provided by state banks in Türkiye is limited. SMEs, which have historically accounted for around 4% of total loans, represented 848 billion TRY, equivalent to 24% of the 3 trillion 597 billion TRY in loans in 2020 (<https://www.bddk.org.tr/BultenAylık>). The General Directorate of Productivity conducted a comprehensive survey with 10063 manufacturing entrepreneurs to map productivity development in Türkiye. Participants were asked whether they had used credit in the past three years, and it was concluded that access to banking finance was relatively limited, with smaller companies facing more restrictive conditions. 64% of businesses with fewer than 20 employees and 49% of businesses with more than 20 employees reported that they had not used credit (Uz, 2019). SMEs unable to provide collateral to access credit are seen to either accept the market's high-interest rate differentials or turn to more costly financial institutions. Firms that initially emerge with insufficient equity capital often find themselves unable to increase their equity capital as they are forced to sacrifice the profits they generate to alternative financial institutions, thereby struggling to sustain their operations with a persistent net working capital deficit (Acar and Çetiner, 2021). Restrictions on credit amounts and terms, bank interest rates, and stringent credit conditions make it hard to obtain financing from banks.

Since the 1990s, as regional development, innovation and entrepreneurship became a state policy, the government has established direct financial support mechanisms for technology entrepreneurship. The TÜBİTAK 1508 Technology

and Innovation-Based Business Support Program, launched by the Ministry of Science, Industry, and Technology in 2017, and the Technology Entrepreneurship Capital Support Program, launched in 2009, are the first steps taken in this direction (Kalaycı et al., 2021; Temel and Demirhan, 2021). TÜBİTAK launched a new grant programme in 2012 called the "1512 Advanced Entrepreneurship Support Programme" to support technology entrepreneurship ideas. The objective of this programme is to support entrepreneurship across all stages, from the conception of an idea to its realisation as a project, the identification of technology (prototype development), moving to mass production, and the provision of capital to businesses. The programme was subsequently transformed into the Individual Young Entrepreneurship Programme (BİGG) in 2015 (Temel and Demirhan, 2021). For BİGG, a total of 33093 applications were received during 11 application periods for business ideas. TÜBİTAK evaluated 4593 business ideas and converted them into business plans. A total of 1627 entrepreneurs were granted support, leading to the establishment of 1519 technology-based startups. The BİGG Program Performance Analysis has demonstrated that, in the initial phase, enhancing the investment amount is essential to strengthen, improve, and ensure the healthy functioning of the investment climate (BİGG Performance Analysis, 2021). The final phase of public support for technology-based businesses is the Tech-InvesTR Venture Capital Support Program (GİSEP), launched by TÜBİTAK in 2018. It was designed to provide the capital required for the commercialization process of products and technologies resulting from R&D and innovation activities of early-stage technological SMEs. In turn, these SMEs can contribute to the national economy through venture capital funds.

KOSGEB was founded in 1990 with the objective of enhancing the role, efficiency and competitiveness of small and medium-sized enterprises in the economy and the achievement of industrial integration in accordance with economic developments. Since 2010, KOSGEB has developed direct and indirect support programmes for new businesses and entrepreneurs (Temel and Demirhan, 2021). Entrepreneurial candidates who successfully complete applied entrepreneurship training and who subsequently wish to start their own businesses receive support. Non-repayable grants are intended to cover management expenses, setup costs, machinery, equipment, office software and hardware assistance. Furthermore, KOSGEB collaborates with universities to encourage students to develop successful business plans and establish businesses by offering monetary awards. KOSGEB also signs international agreements to support entrepreneurs. The financing agreement signed with the Japan International Cooperation Agency (JICA) in 2021 to support entrepreneurs affected by the pandemic and technology-based startups established after 2017 is an example.

As another example of public funding, the Agriculture and Rural Development Support Institution (TKDK), an agency of the Ministry of Agriculture and Forestry, has provided support to 13,814 young investors and 6,578 female investors as of March 2025, amounting to a total of €4 billion in investment support ([tkdk.gov.tr](http://tkdk.gov.tr)).

It has been stated that public support in Türkiye is not yet sufficient to develop important components of a strong entrepreneurship ecosystem. In their study examining the effectiveness of entrepreneurship grants provided by financial support programmes implemented by regional development agencies and TÜBİTAK, TEYDEB, and KOSGEB at the regional level, Partal and Gönel (2020) found that these grants had no significant impact on the number of businesses established or the emergence of new companies. In addition to the shortcomings of public financing programmes, the inability to reach the targeted number of businesses through existing programmes should be considered a significant issue hindering the development of a sustainable ecosystem.

In Türkiye, in addition to public finance funds, the private sector offers entrepreneurs financing alternatives such as angel investors, venture capital, and crowdfunding during the initial and growth stages. Angel investing was legalized with the "Individual Participation Capital Law" in 2013. The state offers a range of tax benefits to angel investors, if they are licensed. To benefit from the incentives offered by the government, angel investors must be members of accredited angel investor networks. According to the BKS Progress Report for the first quarter of 2025, the total number of licensed angel investors is 1143, of which 625 were licensed between 2020 and 2025. The network of accredited individual participation investors currently stands at 18. To date, approximately 66 million TL has been invested in 98 projects, with around 21 million TL allocated for 17 projects in 2025 (BKS [Bireysel Katılım Sermayesi] Progress Report, 2025).

The government's activities to support venture capital began a new phase in 1993 with the publication of the Capital Markets Board's "Regulations on Venture Capital Investment Partnerships". In consequence, venture capital investment partnerships were officially established between 1993 and 2000. As of 2025, there are 30 venture capital investment companies licensed by the Capital Markets Board (spk.gov.tr). As of the fourth quarter of 2023, the registered capital of venture capital investment partnerships stood at 5.3 billion TRY, while the paid-in capital amounted to 1.4 billion TRY (SPK [Capital Markets Board] Aylık İstatistik Bülteni, 2023).

Crowdfunding, defined as the process by which entrepreneurs who cannot find sufficient support from traditional financial sources raise funds for their creative and innovative projects by advertising them to relevant audiences via the internet, did not have a fully established legal framework until 2019 and could only be carried out on the basis of awarding prizes (Atsan and Erdoğan, 2015). However, after the implementation of the "Regulation on Equity-Based Crowdfunding" in 2019 and 2021, the Capital Markets Board (SPK) granted the right to operate as an equity-based crowdfunding platform to organisations that meet the criteria set in 2020. However, given the limited number of SPK-accredited equity-based crowdfunding platforms in Türkiye, it can be stated that crowdfunding practices in the country are still at the lowest level when compared to international practices in terms of volume and efficiency.

It is noteworthy that alternative financing mechanisms, which involve the participation of the private sector, have yet to achieve tangible results in Türkiye. They have limited numbers and investment costs. Furthermore, angel investors and venture-capital companies tend to support selected groups of entrepreneurs. Despite the public aid measures that have elevated the ecosystem to a certain level, challenges related to access to financing persist as a significant obstacle for new enterprises based on technological innovations, unless the ecosystem receives support from the private sector. In addition to the amount of financing funds of Türkiye and its potential to strengthen its entrepreneurial ecosystem, the main point to tackle, maybe above anything, is the detection that "favoritism and clientelism" are often witnessed in incentive and financing practices. For instance, it has been asserted that Turgut Özal, a prominent figure in Turkish politics as the Prime minister during the 1980s when neoliberal economic policies gained traction, facilitated the integration of entrepreneurs who maintained close cultural and political affiliations with him into clientelist networks, thereby enabling the distribution of state resources and export incentives (Yankaya, 2014). The rule has remained unaltered since other entrepreneurs who were born in peripheral cities after the 1980s and share an Islamic background came together in organizations such as MÜSİAD, TUSKON and ASKON, and Islamic capital, which would have an entrepreneur network with thousands of members in the following years, took advantage of "clientelism". These findings indicate that the group in question has also followed a pattern of growth that has been observed in Türkiye (Çeviker Gürakar, 2018; Özdemir, 2006). It is striking that strong vertical connections with the state, strong horizontal connections created through associations and professional organisations, and the tendency to establish a closed network of relations (Özen et al., 2008) are evident.

Incentives, a significant financial instrument in Türkiye, are profoundly influenced by the decisions of the political authority. While the incentives are granted as part of expansionary fiscal policies, especially prior to elections, they generally reflect the political preferences rather than productive areas. Consequently, the issue of incentives emerges as a primary concern in the issues speculated. The allocation of public resources to specific sectors, regions, and individuals is undertaken under the rubric of "redistribution of income". This incentive system underwent significant expansion in the post-1980s era, driven by state support for exports in Türkiye. Subsequently, during the 2000s, it witnessed a substantial extension to various fields, including R&D, SMEs, employment, environmental issues, and regional development. The overarching objective of this expansion was to ensure the comprehensive complementarity of incentives within these areas. In recent years, the state has increasingly utilized incentives as a pivotal instrument to regulate market dynamics. This phenomenon can be attributed to the privatization of manufacturing industrial facilities, which has resulted in a notable increase in the private sector's economic influence (Arik and Akgün, 2018). It has been frequently asserted that the "lion's share" of incentive packages is allocated to individuals with close government connections.

In Türkiye, where the business system is state-dependent (Dirlik, 2016), the most significant sources of financing for both traditional big capital and new-generation technological entrepreneurs are public resources allocated by the state. Despite an observed increase in private financing over the past decade, public funding remains the predominant source of investment. However, the incentive system in Türkiye is explained as ‘components disconnected from each other, lacking strategic integrity, uneven aims and goals, a chaotic structure “wasted” at the hands of hydra-headed bureaucracy, a structure that promotes everything and thus promotes nothing, a structure after which everybody runs but nobody feels good and anyone happy seems exceptional’ (Erten, 2008). As stated in the Ninth Development Plan, the absence of efficient support tools in Türkiye's incentive system, complications, repetitions, lack of coordination and insufficient performance monitoring mechanisms remain significant (Ersungur and Takım, 2018). It is imperative that there is an improvement in the efficiency of public and private financing resources, but it is crucial that inclusive, egalitarian and transparent processes should be followed for the establishment of a robust and sustainable entrepreneurial ecosystem that will provide support to new generation entrepreneurs.

### **Support Mechanisms**

Well-functioning entrepreneurial ecosystems are characterized by a series of actors and structures who built strong relations with each other. This close interaction helps entrepreneurs exchange ideas, create new teams, and access the resources required for growth. Technoparks, incubators, accelerators, technology transfer offices and development agencies are the main interface mechanisms of the Turkish entrepreneurial ecosystem.

*Techno parks:* Within technology parks, universities/research institutions and industrial organizations collaborate on research and development activities and exchange information and technology. Efforts to establish technology parks in Türkiye began in the 1990s, with the first technology parks established at Middle East Technical University (METU), Istanbul Technical University (ITU), and TÜBİTAK Gebze (Cansız, 2017). With the enactment of Law No. 4691 on Technology Development Zones in 2001, the number of technology parks increased rapidly. As of 2024, there are 104 technology parks in Türkiye.

The Ministry of Industry provides limited support to technology parks, and universities are unable to allocate resources to these zones. In accordance with the law, activities undertaken within the boundaries of technology parks are exempt from tax only during the development phase. This means that support ends once prototypes have been produced and research and development projects have been successfully completed. This does not apply only to software products. That's why the majority of techno park companies are software houses. Another challenge that techno parks face is their inability to adapt to new forms of innovation. The initial version of the techno park model was founded on research in basic sciences and

engineering practices. The model comprised companies in which individuals with technical expertise would concentrate on a specific project and develop that product behind closed doors. In the current business environment, companies in the new economy are now driven by open innovation. Open innovation involves the collection of experiences from a variety of sectors, including software, design, finance, healthcare, energy, transportation, and retail. In order to achieve this, it is essential that employees from different disciplines within the same company develop a collaborative working dynamic. It is not feasible to implement this within the current techno park model. Techno parks are subject to limitations in terms of managerial autonomy due to their dependency on university administrations. Their limited income sources are state aids and rental income. A study by the Ministry of Industry and Technology revealed that only 282 of the 7226 technology-based companies operating in technology zones had succeeded in establishing foreign partnerships (Sanayi ve Teknoloji Bakanlığı, 2021a). From the perspective of companies in techno parks, a series of problems is encountered. The financing model, which is designed to consider the unique conditions often faced by technology companies, is currently available to angel investors and capital investments by venture capital funds. Companies seek to utilize the funds received from TÜBİTAK to support their own projects. It is important to note that companies are obliged to fulfill the conditions of public procurement tenders (Cansız, 2017).

*Incubators and Accelerators:* Business Development Centers (İŞGEM) and Technology Development Centers (TEKMER) activated under KOSGEB are the first examples of incubators in Türkiye. However, İŞGEM and TEKMER lost their efficiency over time while other newly founded incubators and accelerators started to be more active and serve more entrepreneurs (Akçomak et.al., 2021). Incubators are mostly founded and gathered under techno parks and universities. Techno parks and incubators work together and there is a direct relationship between the number of techno parks and that of incubators. Incubators have such environments that nourish start-ups while techno parks support growing companies. The startup companies develop thanks to the incubators and become self-sufficient firms within the techno parks. As of 2024, the number of incubators centers in Türkiye has exceeded 70. Incubator centers offer a wide range of services to newly established and growing companies, including physical infrastructure and office support, access to investors and other financial resources, flexible workspace, affordable office space, management, technical and financial consulting services, mentoring, business development support, and access to social networks. While the number of accelerators programmes in Türkiye was only six in 2010, this increased to nearly 80 by 2024. In recent years, accelerator programmes have become more specialized, focusing on specific sectors and themes, particularly in the gaming industry. Furthermore, new accelerator programmes have been launched to address an urgent need arising from the growing ecosystem (Startupwatch Report, 2021). These programmes are designed for newly established companies and internationalization.

*Technology Transfer Offices (TTOs):* The primary function of TTOs, which have been established with the support of state-provided TÜBİTAK funding over

the past decade, is to facilitate the transfer of academic research outputs and intellectual property rights to industrial entities. In Türkiye, TTOs can be found in the following forms: a) as a unit of a university or scientific research institution; b) with an identity dependent upon a university or scientific research institution; c) as related to more than one university or scientific research institution but only with a public or private independent identity and/or d) as a unit of a technology development zone. New legal regulations enable universities to retain ownership of inventions arising from their scientific research. This arrangement has led to an increased focus on technology transfer offices in the management of universities' intellectual property portfolios. Furthermore, the Code for Higher Education Institutions Technology Transfer Office, which came into force in 2017, permitted technology transfer offices operating within universities to become companies and operate in a revenue-generating manner.

TTOs have several issues, some of which are significant. TTOs are funded by public bodies, meaning they rely on public funds to survive. This can create a challenge around financial sustainability. The university and state bureaucracy on which they are dependent poses a significant barrier to their speed and dynamism. The employment of highly qualified individuals with experience in industry and knowledge of legal regulations, intellectual property rights, commercialization, entrepreneurship and technology management are the key features of a successful TTO. There is a lack of competent human resources in this area. Managers of a TTO must have a command of all details during the process of setting up and performing a business (Campbell, 2007). However, it is observed that TTO managers in Türkiye are predominantly academics and civil servants. Frequent changes in TTO management, coordination issues with universities, insufficient training to improve staff quality, regional development inequalities, and weak commercialization and technological entrepreneurship infrastructure in the regions are some of the problems faced by TTOs, according to reports (Sanayi ve Teknoloji Bakanlığı, 2021b). Furthermore, TTOs encounter challenges due to insufficient supply and demand, as well as corporate capacities. This situation highlights the necessity for regional structures that allow TTOs to maintain their individual autonomy while leveraging collective market, database and human resources.

*Development Agencies:* In pursuit of EU membership, Türkiye adopted a different structure in accordance with the EU's harmonization programme. This involved changing regional development policies and tools that Türkiye had been using for almost 50 years (Dirlik, 2020). One of the fundamental pillars of this new structure is development agencies. Following the 2006 act, the decision to establish 26 development agencies under the jurisdiction of the Ministry of Industry and Technology across Türkiye was formally accepted. The initial expectation was that development policies based on local-regional dynamics would transform regional development into a more organized and rational process (Sevinç, 2011). However, these agencies were exposed to the "controlling" effect of the state's centralist structure and moved away from being autonomous. They then came close again to the traditional public structuring and functioning. Business processes were configured in a manner that increasingly reflected "public bureaucracy and

functioning", thereby ensuring the harmony between the agencies and the Ministry of Development, on which the agencies depend. Decentralized decision-making processes within agencies were hindered by interventions rather than delegation (Dirlük, 2020). This has had a detrimental effect on the ability to enhance entrepreneurship through regional policies. However, despite the job description stating that the role involves "supporting small and medium-sized businesses and new entrepreneurs through collaboration with relevant bodies on key areas such as management, production, promotion, marketing, technology, financing, organization and labor training", it is evident that they did not effectively promote entrepreneurship in line with the theoretical relationship between development and entrepreneurship. Furthermore, they did not undertake the necessary activities (Çiranoğlu, 2017).

It is evident that the state plays a pivotal role in establishing and operationalizing processes within bodies such as techno parks, incubators, accelerators, TTOs and development agencies. These entities function as crucial interfaces within the entrepreneurial ecosystem. The interfaces are designed to work in tandem within an ecosystem, making coordination and cooperation essential for their effective functioning. However, it is evident that all of them face common challenges, including a lack of managerial autonomy, difficulty in offering services to target groups, a lack of financial sustainability, and coordination issues. Due to issues concerning effective communication, coordination and cooperation, collaborative efforts to find solutions and make improvements are not yet at a meaningful level.

## **The Laws and Regulatory Framework**

The features of the institutional environment directly impact the emergence processes of new enterprises and the development of the entrepreneurial ecosystem (Baumol and Strom, 2007; Singh et al., 2019). When entrepreneurs are overwhelmed by detailed procedures, rules and regulations, they may be discouraged from starting new businesses. Research indicates that economic freedom, including fiscal, monetary and commercial freedoms, is a significant factor in the decision-making process regarding entrepreneurial activity (McMullen et al., 2008). In order to ascertain the level of support provided by an entrepreneurial ecosystem, it is imperative to evaluate the following key aspects: a) Initial conditions (process expenses, the number of legal steps for application and initiation, time required to register a business and enforce contracts), b) Ease of resolving insolvency (the number of steps for the required time and procedural steps), c) Ease of paying taxes (time for preparing and paying taxes) (Asongu et al., 2018). The political disposal of states and their regulatory codes relevant to commercial relations has a significant impact on the activities and internal processes of SMEs in many countries. A multitude of bureaucratic procedures can have a detrimental effect on business activities, resulting in a decline in investment and an increase in costs. The heavy conditions of the startup phase are known to have a discouraging effect on entrepreneurs, with many choosing to abandon their business ventures as a result.

SMEs in Türkiye encounter bureaucratic challenges stemming from local administrations, as well as from the expectations of the central government and legislative frameworks. Legislation regulating the activities of SMEs, workplace registration procedures, taxation processes, and export and dissolution procedures are difficult to understand, resulting in longer processing times and higher costs. According to the World Bank's Ease of Doing Business Report, Türkiye ranked 33rd in 2020; the number of procedures and startup costs for establishing a business are above the EU average (World Bank, 2020). Furthermore, it should be noted that the dissolution of companies is a process that can take between six months and a year to complete. The difficulty of establishing and operating a business has a negative impact on the propensity to become an entrepreneur.

Many countries have made significant changes to the institutional framework governing and regulating public procurement, undertaking comprehensive reforms to establish a legal framework for greater transparency, accountability, and competition. The reform process in Türkiye was initiated under the supervision of the World Bank and IMF only after the economic crisis in 2001, and engagement with the developments around the world was a belated one (Çeviker Gürakar, 2018). When discussing public tenders in Türkiye, the words "corruption" and "nepotism" are the ones that spring to mind. During the period 1983-2003, when public tenders were conducted in accordance with State Bidding Law numbered 2886, which has never been updated for those years, corruption, irregularities, clientelism and the unfair allocation of public funds were prevalent. A reform was made, and a new law draft was prepared to avoid all these problems considered arising out of the loopholes of the law numbered 2886. Furthermore, the Public Procurement Authority, a newly established regulatory body, was set up to ensure transparency in public tenders and prevent politicians from exerting their political influence during the tender processes. However, public tender reform encountered significant challenges in practice following the 2002 government change. The AKP government was reluctant to take the necessary steps for public tenders, given its involvement in EU accession negotiations. However, the law is hindered by nearly forty acts and decree-laws, as well as more than 150 changes to the Public Procurement Law, which prevent it from achieving the necessary reformation for EU harmonization. Furthermore, legal regulations were implemented to facilitate specific tenders between pre-approved bidders or as negotiated tendering, as opposed to open tendering. The legal changes that have restricted competition in tenders and increased the discretionary power of contractors have led to the view that "nepotist capitalism" is on the rise (Çeviker Gürakar, 2018). Following 2011, the emergence of state capitalism, characterised by its increasingly authoritarian nature, has become evident. In certain sectors, the state's actions have resulted in the formation of clientelistic networks, stemming from its close ties with specific capital groups. For instance, Gürakar and Bircan's (2016) study revealed that companies with a vested interest in the ruling party, either through business associations or active involvement in politics, secured 35%, 61% and 64% of construction tenders valued at 1 million TRY, 10 million TRY and

100 million TRY and above, respectively. Once again, an analysis of a detailed data set (including 49255 public tenders made by the Public Procurement Authority) has provided significant evidence of clientelism in Türkiye's public tenders. The Public Tender Act has undergone more than 150 amendments over the last 20 years. During this period, significant changes took place in the mechanisms of rent-seeking and distribution. Public tenders began to be used more frequently as a tool of political patronage and as a source for votes within a clientelist framework. This has changed the nature of favoritism and clientelism, which have long been problems in Türkiye. Following the introduction of legislation in 2002, clientelism became a centralized practice. Prior to this, it occurred on a more personal level, with certain politicians and bureaucrats exploiting loopholes in the law to benefit their immediate circles (Çeviker Gürakar, 2018).

Türkiye has taken positive steps to accelerate the setting up of businesses and decrease relevant costs. However, there is still a considerable distance to cover in terms of liberalizing the economic context in each and every aspect. On the one hand, there are efforts to streamline procedures and boost public support. On the other hand, a significant portion of public financing is allocated through clientelist networks. This inconsistency in the state's approach to shaping the entrepreneurial ecosystem is a matter of concern.

#### **4. Discussion**

The entrepreneurial ecosystem is defined as “a group of entrepreneurial bodies (e.g., companies, venture capitalists, angel investors, banks) and institutions (e.g., universities, development agencies, financial institutions) which meet officially or unofficially to gather various actors together in a local entrepreneurial environment, bind them together and manage their performances and the entrepreneurial processes (e.g., setting up businesses, growing, serial entrepreneurship, activities related to companies' share transfer)” (Mason and Brown, 2014). Isenberg (2010) argues that entrepreneurs become successful in a context where they can access the human, financial and professional resources they need and when the governmental policies encourage and protect them. This perspective emphasizes the importance of context in creating new enterprises. Thus, creating successful entrepreneurs depends not only on the behaviors of the entrepreneurs but also on an extensive group of resources and actors; herein, the interaction among them and the way these interactions are coordinated/arranged, in other words, governed. “The states are claimed to have important effects on the effective functioning of entrepreneurial system components and the possibility of new enterprises' success via their acts, regulations, investments, policies and programs” (Bhat and Khan, 2014).

**Table 2.** Basic Problems of Türkiye's Entrepreneurial Ecosystem

Capacity and human resource	Incentive, Funds and Financing	Support mechanisms	Regulatory framework
The common tendency to rent seeking/speculative gain of Turkish entrepreneur  Non-homogenous entrepreneur profile (different social classes, different geographical regions, different and unequal opportunities for education etc.)	The rich created by the state itself  Clientelism, power of businessmen associations and business networks  Authoritative state capitalism after 2011	Bureaucratic problems  Lack of collaboration and coordination among the actors  Financial sustainability	The difficulty in setting up and closing out businesses  The inadequate support of legal basis for the liberties of economic sphere  Problems of accountability, transparency, and democratization  The controlling and centralized approach of the state

The fundamental problems of Türkiye's entrepreneurial ecosystem are summarized in Table 2. In comparison with previous years, significant progress was made in several key areas, including human resources and capacity, financing tools, support mechanisms and regulatory frameworks. These components are fundamental to the functioning of an entrepreneurial ecosystem. The state has demonstrated a resolute commitment to enhancing innovation and entrepreneurship. To achieve this objective, a series of strategic plans, incentive programmes and legal reforms were prepared. It is evident that the development of entrepreneurship is recognized as a public policy and has a designated place in national strategy documents. Public bodies such as KOSGEB and TÜBİTAK have been assigned the responsibility of supporting entrepreneurship and SMEs. The considerable potential of youth population, coupled with their inclination to embrace innovations and new technologies, is widely acknowledged as a significant asset. It is evident that entrepreneurship training is now being offered in both public and private universities, in addition to KOSGEB training, with the aim of nurturing the next generation of entrepreneurs. It would seem advantageous for these training programmes to be delivered at the outset of the educational system, in line with new methodologies, and to be of a higher quality. In this regard, educational policies to increase entrepreneurial devices and skills are needed.

The success of new enterprises depends on their access to timely and adequate financing, which is convenient for their own growing needs and phases. New generation financing tools such as angel investors, venture capitalists and crowdfunding, as well as state supports/funds, have a place in Türkiye's ecosystem to a certain extent. Indeed, public funds represent the largest segment of the most significant financing sources for entrepreneurs, given their capacity to draw attention to the fact that alternative financing mechanisms, which are limited in

number and investment amount, have yet to achieve effective functioning. In Türkiye, where the business system is state-dependent, public funds are the most important source of financing for enterprises. These funds are mostly provided by TÜBİTAK and KOSGEB. However, these bodies may encounter challenges in public financing while the bureaucratic processes involved in sourcing may be time-consuming. When evaluated in terms of new company emergence, this kind of grant is often inadequate and ineffectual for a sustainable ecosystem. It is also important to emphasize that the incentive system, another key public fund, is not aligned with strategic integrity. There is a lack of effective support tools in the incentive system, and complications, repetitions and a lack of coordination are widespread. As well as the amount of public financing and its potential to strengthen the entrepreneurial ecosystem, the most urgent topic to be discussed is the claim of favoritism in incentive and financing practices. According to the 2020 Corruption Perceptions Index Report of Transparency International, Türkiye ranks 86 among 180 countries, indicating a high corruption level. This underscores the need for the prompt enactment of anti-corruption laws and their effective implementation. It is also crucial to revise support for entrepreneurship due to financial constraints, and future policies must be developed considering the multi-faceted structure of the entrepreneurial ecosystem. In summary, the primary source of funding continues to be public funds, with a modest contribution from the private sector. It is vital to increase public and private funds for a robust and sustainable entrepreneurial system that can support young entrepreneurs. It is imperative that inclusive, egalitarian and transparent processes are in place to ensure the fair and equitable allocation of resources.

In Türkiye, techno-parks, incubators, accelerators, technology transfer offices and development agencies have long functioned as interfaces in the entrepreneurial ecosystem. The state has played a pivotal role in establishing and maintaining the operations of these entities. In the context of an entrepreneurial ecosystem, interfaces can assume roles that complement each other. It is therefore essential that they share knowledge and cooperate not only with the relevant stakeholders but also with each other. Some common problems of these institutions include a lack of quality staff, governmental autonomy, an inability to deliver services to the intended beneficiary groups, financial sustainability issues and deficiencies in coordination between institutions. It is evident that the presence of these issues hinders the ability to achieve substantial cooperation in terms of developing solutions and making improvements.

It is evident that to nurture a robust and thriving entrepreneurial ecosystem, there is a need for supportive governmental policies and an effective legal framework. It is imperative to establish an institutional framework that will enhance political, economic, and institutional governance. In countries where the economic and institutional context is not supportive and liberating and the entrepreneurial ecosystem is shaped on a weak legal basis; there is a limit to the increase that can be expected in entrepreneurial activities. The relevant intentions, policies and engagement conditions of the countries can be easily monitored via bureaucratic processes, such as the ease of resolving insolvency and the ease of paying taxes,

and macro implementations, such as public tenders and incentive systems. Despite the recent improvements to the regulatory framework governing entrepreneurial activities and the country's enhanced ranking in terms of ease of doing business, there are still some challenges to be addressed. Moreover, recent research has shown that clientelism, which has always been experienced on a personal level, is now effective on a larger and central scale due to the many changes made in Public Procurement Law over the last few years. Steps have been taken to improve start-up processes and increase public financing sources and support mechanisms. However, there is still a considerable distance to go in terms of freeing up the economic and institutional context in all aspects.

Due to its advantageous geographical location, robust economic performance, and considerable population size, Türkiye has the potential to generate significant value through its entrepreneurial activities. Over the past decade, there has been a concrete plan in place, and the right steps have been taken to strengthen the entrepreneurial ecosystem. Financing opportunities have been increased, widespread entrepreneurship training programmes have been formed, and support mechanisms have been improved. However, challenges have been encountered in the pursuit of this objective, given Türkiye's status as a late-industrialized nation whose market mechanism has been predominantly shaped and influenced by the state. The entrepreneurial ecosystem can be empowered through improvements in public financing and incentives to make them more efficient, developing capabilities for entrepreneurship in the early stages of education via appropriate methodologies and motivating people to choose entrepreneurship as a career path. However, in the meantime, it is also essential to empower the institutional context and legal basis. It is of great importance for the future of the entrepreneurial ecosystem that a new generation of technology entrepreneurs should not encounter difficulties with bureaucratic processes and that public funds should be available to them on an egalitarian, transparent and legally sound basis. To this end, integrated and comprehensive policies are required. Despite its potential, a more in-depth examination of the challenges Türkiye faces in developing its entrepreneurial ecosystem could provide useful insights for similar developing countries seeking to develop their own entrepreneurial ecosystems.

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