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A Discourse Analysis on Digital Transformation within the Framework of Development Plans (2001–2028)

National development plans aim to guide the government over five-year periods by outlining the current situation, ongoing practices, goals, and adaptation to the global order. This article examines the evolution of the discourse on digital transformation through five national development plans covering the period from 2001 to 2028. Concepts such as digital transformation, e-government, digital state, R&D, and technology are analyzed. Supported by academic sources and official documents, the findings reveal a shift from infrastructure-based approaches to citizen-centered digital governance, while emphasizing the growing importance of a sustainable global order for future policy directions.

Keywords: Public Administration, Development Plans, Digital Transformation.

Kalkınma Planları Çerçevesinde Dijital Dönüşüme İlişkin Bir Söylem Analizi (2001–2028)

Kalkınma planları, mevcut durumu, devam eden uygulamaları, hedefleri ve küresel düzene uyumu ana hatlarıyla belirleyerek hükümete beş yıllık dönemler için rehberlik etmeyi amaçlamaktadır. Bu makale, 2001–2028 dönemini kapsayan beş kalkınma planı üzerinden dijital dönüşüm söyleminin evrimini incelemektedir. Dijital dönüşüm, e-devlet, dijital devlet, AR-GE ve teknoloji gibi kavramlar analiz edilmiştir. Akademik kaynaklar ve resmî belgelerle desteklenen çalışma, altyapı temelli yaklaşımlardan vatandaş odaklı dijital yönetişime geçişi ortaya koymakta; sürdürülebilir bir küresel düzenin gelecek politika yönelimleri açısından artan önemini vurgulamaktadır.

Anahtar Kelimeler: Kamu Yönetimi, Kalkınma Planları, Dijital Dönüşüm.

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A Discourse Analysis on Digital Transformation within the Framework of Development Plans (2001–2028)*

1. Introduction

Today, the understanding and functioning of public administration are increasingly changing due to advancing technology and ongoing digital transformation efforts. One of the most defining elements of this process is digital transformation itself. This transformation, which fundamentally reshapes how public services are planned and delivered, is clearly reflected in Türkiye's national development plans issued between 2001 and those covering the period up to 2028. These strategic documents not only outline economic and social goals but also highlight the growing role of digital tools in governance.

The first concrete strategies related to digitalization in development plans emerged with the 8th Development Plan. While earlier plans did not include direct policy objectives on this issue, they did contain indirect references to information technologies. Therefore, this article focuses primarily on the period starting with the 8th Development Plan. The process from the 8th to the 12th Plan reveals a clear shift from a technology infrastructure-oriented approach to a citizen-centered model integrated with sustainability and digital governance.

At first, the plans concentrated on problems such as infrastructure deficiencies, inadequate R&D investments, and limited digital literacy. In this period, digitalization was mostly seen as a secondary tool supporting economic and industrial development. However, over time, the conceptual framework and strategic direction of these documents changed significantly. This shift culminated in the emphasis on "digital government" and "green transformation" in the 12th Development Plan. This rhetorical and strategic transformation reflects not only technological progress but also a shift in the mindset of public administration: digitalization is no longer an optional modernization effort, but a structural necessity for aligning with the global model of sustainable governance.

This article examines Türkiye's digital transformation process through five national development plans. It analyzes how frequently and in what context key terms such as "R&D," "technology," "digital transformation," "e-Government," and "digital government" are used. As a result, the study highlights that this transformation extends beyond technical infrastructure and underlines how the evolving understanding of governance and sustainability will play a critical role in shaping the future.

2. Defining Public Administration: Key Concepts and Perspectives

Management refers to the process of planning, decision-making, and effective implementation of actions necessary to achieve a specific goal. This process involves the appropriate allocation and use of resources, the determination of strategies required to reach objectives, and the monitoring of these strategies. The fundamental basis of the concept of management lies in the fact that all these activities are carried out with a certain group of people. Two crucial elements of management are the specific group of individuals and the common activity or objective they pursue.

Another fundamental pillar of public administration, aside from management, is

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undoubtedly the concept of the "public." According to the Turkish Language Association, the term kamu refers to all state organs serving the public (Turkish Language Association, 2024). Public administration is often defined as "government in action—the management of public affairs or the implementation of public policies" (Shafritz & Russell, 2017: 6). The activities carried out within the scope of public administration should encompass not just a part of the country, but the entire nation. Holzer and Schwester define public administration as the creation, implementation, and execution of public policies (Holzer & Schwester, 2011: 32). Basu (2004: 2) further explains that public administration operates public affairs at all levels—national, state, and regional.

Individuals form groups, groups form societies, and societies constitute states. According to Aktan, wherever human communities exist, management and managers have always been present. "Government is a necessary organization for a civilized social life. The most important issue is to understand, agree on, and implement the rules and institutions essential for designing an ideal government and establishing good governance" (Aktan, 2015: 51). The state represents an organizational framework that actively safeguards the rights and interests of its citizens, fulfilling its legitimate mandate by providing optimal public services. To execute this mandate, the state employs various organizational and functional mechanisms at the national level. Among these mechanisms, public administration stands out as a critical structure, representing the state's interface with society (Parlak, Doğan; 2022 :1).

Public administration has been shaped by Weber's bureaucracy model, which is based on hierarchy, rational-legal authority, and rule-bound conduct (Weber, 1946). However, this model has been criticized for limiting flexibility and individual initiative. In the 1970s and 1980s, New Public Management (NPM) emerged, adopting private sector management techniques in the public sector by emphasizing decentralization, competition, and performance orientation (Hood, 1991). In NPM, citizens were viewed as customers, a perspective that generated dissatisfaction among the public (Denek, 2019).

In the 2000s, the Digital-Era Governance (DEG) paradigm developed, highlighting integration, user-centered service design, and real-time decision-making processes through digital technologies (Dunleavy et al., 2006). Digital transformation encompasses not only technological advancements but also structural and cultural reforms, emphasizing transparency, flexibility, and citizen collaboration (Mergel, Edelmann & Haug, 2019).

3. An Overview of Development Plans in Türkiye

Following the May 27, 1960 coup, the Constituent Assembly in Türkiye adopted development plans as a tool aimed at raising the country's economic level to that of developed nations. The period that began in 1960 is referred to in the literature as the era of planned development, during which the State Planning Organization (Devlet Planlama Teşkilatı-DPT) was established and the process of planned development officially commenced. The 1961 Constitution made the preparation and implementation of development plans a constitutional obligation, laying the foundations for a planned period aimed at guiding the country's economic growth and development. The 1961 Constitution envisaged shaping the economic and social order based on justice, full employment, and living conditions befitting human dignity. Within this framework, the state was explicitly tasked with increasing national savings, directing investments according to societal benefit priorities, and preparing development plans. The principle of conducting development in a planned manner was introduced, and the establishment and duties of the State Planning Organization (DPT), which would manage this process, were regulated by a special law (Turkish Constitution, 1961, Articles 41, 129). Thus, development and industrialization began to be conducted through plans and overseen by the DPT during this new constitutional period (Tepecik, 2017). Furthermore, the establishment of the DPT was supported by a broad coalition including the military, the Republican People's Party (CHP), bureaucracy, and intellectuals, while the leading international organization of the time, the OECD, also supported the process. Development experts such as Jan Tinbergen provided consultancy to the DPT, laying the groundwork for planning (Pamuk, 2012: 235-236).

However, following the adoption of neoliberal economic approaches after the 1980s, significant changes occurred in the understanding of planning, and the functions of the DPT gradually weakened. In the 1990s, the acceleration of Türkiye's full membership process with the European Union brought about the adoption of more localized and participatory models in planning. In line with the EU's regionalization policies, Development Agencies were established at the local level in Türkiye to benefit from financial support, and these agencies were designed as key instruments of regional development (Fedai, 2016:417-418). Accordingly, the State Planning Organization (DPT) was transformed into the Ministry of Development with Decree Law No. 641 issued in 2011. With this change, a more strategic and coordination-focused model was adopted in development planning. However, this structure was replaced by the Presidency of Strategy and Budget following the transition to the Presidential Government System in 2018. The Presidency was officially established with Presidential Decree No. 1, published in the same year, and its duties and authority were further detailed with Decree No. 13, reorganizing the institutional structure of the organization (Bedir, 2022). In line with the institutional transformations brought by the Presidential Government System, the Presidency of Strategy and Budget, established in 2018, has taken a central role in development planning, budget preparation, and coordination of public investments in Türkiye. The Presidency collaborates with relevant public institutions, primarily the Ministry of Treasury and Finance, throughout the entire process from preparing development plans, medium-term programs, financial plans, and annual programs to their implementation (Presidential Decree No. 13, 2018).

Development can be defined as the progress of a country in economic, social, cultural, and in line with the needs required by the era. The concept of development does not only encompass economic concerns but also includes many goals aimed at improving and enhancing the quality of life of people (Gönel, 2010). Especially for developing countries, development means not only increasing production capacity but also raising the welfare level of society and achieving structural transformations. Therefore, development should be evaluated within a broader framework that includes both quantitative and qualitative changes (Erdinç, 2018:17). A development plan is a document prepared with the aim of achieving these goals. In Türkiye, development plans are generally prepared in five-year periods and determine the roadmap to be followed for reaching the country’s development objectives.

4. Understanding Digital Transformation in the Public Sector

The term "digital" generally carries a broader meaning than just electronic devices; it primarily refers to the process of processing and displaying data in a digital environment. In this context, digitalization can be defined as the process of converting data into meaningful information (Bozkurt, Hamutoğlu, Liman Kaban, Taşçı & Aykul, 2021). Digital transformation is a comprehensive process that reshapes business processes, organizational structures, social interactions, and the functioning of public administration through the use of digital technologies and innovative information systems. Digital transformation is not merely a technological innovation but also aims to create fundamental changes in how institutions operate. This process seeks to transform the digital infrastructure of the state to provide public services more quickly, effectively, and transparently. Digital transformation involves the use of innovative technologies to increase efficiency and social welfare. In this regard, governments and various organizations are developing long-term strategies (Ebert & Duarte, 2018).

Digital transformation in public administration involves the integration of technologies such as e-government applications, digital citizen services, data analytics, artificial intelligence, and automation. This transformation enables public services to become more efficient and accessible. Digital transformation can also be defined as the determination of digital maturity levels, the implementation of business and process-based transformation, and the identification of appropriate software requirements for this process, aiming for public institutions to achieve an efficient, effective, and transparent service structure (Tübitak Bilgem, n.d.).

Today, technological advancements have significantly changed the nature and delivery methods of public services. Particularly, the widespread use of the internet and information technologies has enabled public services to be delivered more effectively, rapidly, and at lower costs (Yavuz & Çarıkçı, 2009). Additionally, digital transformation allows public administration to reduce bureaucratic obstacles, accelerate processes, and utilize resources more efficiently. This process enables both public employees to perform their tasks more efficiently and citizens to access services more easily. Digital technologies have encouraged reforms in public administration and accelerated the search for reliable data and evidence. These technologies increase the speed, accessibility, and quality of services while allowing big data sources to be analyzed more quickly and in greater detail. This development has provided public managers and policymakers with the opportunity to make decisions better aligned with citizens' demands (Gül, 2017).

5. Research Design

5.1. Aim and Scope of the Study

This study aims to examine how digital transformation has been conceptualized and discursively constructed in five Turkish national development plans covering the period between 2001 and 2028. The primary focus of the research is to explore how digitalization is defined through planning documents, what kinds of meanings are attributed to it, and how this discourse has evolved over time. In this context, the study seeks to uncover insights into how public administration has redefined its priorities in the digital age by analyzing the transformation of the discourse surrounding digital transformation.Through an in-depth examination of the narratives related to digitalization in the development plans, the study provides a comprehensive analysis of how public policy in Türkiye has undergone change, the conceptual frameworks within which this transformation has taken place, and how the understanding of public service delivery has been restructured in this process.

5.2. Methodology

This study employs a dual-method approach combining qualitative and quantitative techniques to provide a robust understanding of the discourse around digital transformation:

1. **Discourse-Historical Analysis (DHA):** The first stage of the research utilizes Discourse-Historical Analysis, a branch of critical discourse analysis, to explore how key digital transformation-related concepts—such as *Science and Technology*, *Information and Communication*, *Research and Development*, *e-Government*, *Digital Government*, and *Digital Transformation*—are ideologically and contextually framed within policy documents. This method is particularly suitable for tracing the evolution of institutional language and political priorities over extended periods. By situating discourse within its historical and sociopolitical context, DHA allows for the identification of implicit assumptions, shifts in meaning, and discursive strategies adopted by state actors in defining digital transformation.

2. **Quantitative Content Analysis:** To complement the qualitative insights from DHA, the second stage employs a quantitative content analysis, using a manual word count technique to track the frequency and visibility of selected key terms across the five development plans. This step serves a dual purpose: (i) to validate the patterns observed in the qualitative analysis, and (ii) to visualize the increasing emphasis on digitalization in state discourse over time. The integration of both methods enhances the reliability and depth of findings, allowing for triangulation between semantic content and discursive frequency.

The data corpus consists of five national development plans covering the years 2001 to 2028. In total, 1,015 pages were reviewed. The procedure followed these steps:

- **Step 1:** Selection of key concepts including 'e-Government', 'Digital Transformation', 'Digital State', 'Technology', and 'R&D'.

- **Step 2:** Manual extraction and detailed analysis of all sentences containing these terms.
- **Step 3:** Mapping of semantic shifts using Discourse-Historical Analysis.
- **Step 4:** Tabulation of word frequency data to observe longitudinal patterns.

The suitability of Discourse-Historical Analysis (DHA) in this context lies in its ability to uncover institutional narratives, policy frameworks, and historical layers embedded in official discourse. By moving beyond surface-level meanings, this method facilitates the identification of deeper ideological constructions and semantic shifts within state planning texts.

5.3. Limitations

The main limitation of this study is its exclusive reliance on document analysis, without incorporating qualitative data collection methods such as surveys, interviews, or stakeholder consultations. However, this limitation is largely mitigated by the use of comprehensive, publicly accessible primary sources that reflect Türkiye's official policy discourse. Furthermore, as the study does not involve personal data or fieldwork, ethical approval was not required.

6. Discourse and Quantitative Content Analysis of Concepts Related to Technology and Digitalization in Development Plans

In this section of the article, how the concepts of digitalization, R&D, and some related terms have changed discursively in development plans, how they have been strategically addressed, and how many times these concepts appear in each development plan are compared.

In the simple quantitative content analysis part, the numerical changes of certain concepts were observed and compared based on the current texts of the 8th, 9th, 10th, 11th, and 12th development plans. This comparison will analyze both how the language of the development plans has changed and how much the importance of the digitalization process has evolved within the framework of development plans. No software was used in the quantitative content analysis part; only a simple counting method was applied to analyze how many times the relevant concept was used in the existing documents.

6.1. Discourse Analysis

A comparative analysis of the tables of contents in the development plans reveals a progressive evolution in the conceptual focus over time. The Eighth Development Plan is characterized by an exclusive emphasis on technological innovation. In the Ninth Development Plan, research and development (R&D) and innovation began to be addressed as distinct elements within the broader development strategy, and the concept of e-government was introduced for the first time. Although the Tenth Development Plan did not allocate a separate heading to R&D, it maintained the emphasis on technology and e-government. The Eleventh Development Plan went a step further by incorporating the concept of digital transformation, in addition to the previously mentioned themes. In the Twelfth Development Plan, a noticeable shift in the conceptual framework can be observed. The inclusion of the heading "Competitive Production through Green and Digital Transformation" highlights an integrated approach to sustainability and digitalization across all sectors. Notably, the term e-government no longer appears as a standalone heading; instead, it is replaced by the broader concept of digital government.

From this perspective, the Ninth Development Plan is a critical turning point regarding the concept of e-government; during the Tenth Development Plan period, the existing system was maintained; with the Eleventh Development Plan, the concept of digital transformation began to be addressed; and with the Twelfth Development Plan, this process evolved into the concept of digital government.It can be stated that the e-Türkiye Initiative gradually transformed into the e-government concept, which in turn evolved into the understanding of digital government.

6.1.1. Science and Technology

The title Science and Technology is addressed commonly in the 8th, 10th, 11th, and 12th Development Plans. However, this title does not appear as a separate heading in the 9th Development Plan. When comparing the development plans within the framework of the concept of science and technology, it is observed that in the 8th Development Plan, this title is included under the main heading "Development Goals and Policies Related to Social and Economic Sectors"; in the 10th Development Plan under "Innovative Production, Stable High Growth"; in the 11th Development Plan under "Competitive Production and Productivity"; and in the 12th Development Plan under "Competitive Production with Green and Digital Transformation."

The change in these main headings alone shows that the purpose of science and technology has shifted from socio-economic development to innovative and competitive production, and from there, with the prominence of the sustainability concept in today's world, towards the goal of green and digital transformation.

In the 8th Development Plan, under this subject heading, it was stated that sufficient resources were not allocated for R&D expenditures and that the number of researchers was inadequate; at this point, it was expressed that science and technology centers would be established. Additionally, the necessity of creating the legal infrastructure required for technoparks and technology development zones was emphasized, and it was stated that the National Aerospace Organization would be established.

In the 10th Development Plan, it was noted that important steps had been taken during the period of the 9th Development Plan, but R&D investments had not reached the targeted level. Within this framework, not only an increase in resources but also the efficient use of resources was emphasized. The commercialization of produced technologies and the use of public procurement as an incentive in this process were expressed as necessary. Additionally, increasing the country's technology capacity, strengthening domestic technologies, and gaining competitive power in the international market were among the fundamental goals.

In the 11th Development Plan, the primary goal in the field of science, technology, and innovation remained the same as in previous plans: offering high value-added products and services. Accordingly, it was emphasized that cooperation with universities is necessary, and it was stated that certain resources would be allocated to universities to support R&D and innovation activities. Publicly supported R&D projects, increasing the number of scholarship holders, and improving doctoral scholarship programs were among the targeted implementations. Within this scope, the expansion of Deneyap Technology Workshops aimed at the technological development of thousands of students was planned. Furthermore, preparations for establishing a base in Antarctica to strengthen Türkiye's international position within the scope of polar research were mentioned, alongside the preparation of the National Space Program and the enhancement of the capacity of the Turkish Space Agency.

Similarly, the 12th Development Plan envisaged the development of high value-added products and services, increasing the number of qualified researchers, and the continuation of state support in these fields. However, unlike previous plans, the development of technologies compatible with green and digital transformation was identified as a fundamental objective. In this context, increasing the effectiveness of technology transfer offices and supporting licensing and commercialization activities were emphasized. Additionally, it was stated that original solutions were developed in areas such as space, semiconductor technologies, and polar sciences; alongside this, qualified human resources and project supports were provided for future technologies such as artificial intelligence, quantum technologies, hydrogen energy, and renewable energy.

A common goal across all development plans is observed to be the development of high value-added products and services, increasing the number of qualified researchers, and the state providing economic support in this area. The 8th Development Plan mentioned the establishment of the National Aviation and Space Organization; in the 11th Development Plan, it was stated that a base would be established in Antarctica to strengthen Türkiye's international position and that the capacity of the Turkish Space Agency would be enhanced.

From this perspective, it is observed that each development plan is connected to one another and that each plan, in terms of core issues, serves as a continuation of the previous one. In the current 12th Development Plan, the main aim is sustainable development and digital transformation; it has been emphasized that the country should progress not only in technologies such as artificial intelligence and space sciences but also in sustainable technology.

When a general analysis is made, it can be said that sustainability will occupy a much more important place in development plans for future periods.

6.1.2. Information and Communication

The heading of information and communication has been addressed in all development plans. In the 8th Development Plan, it was stated that rapid progress was made in software, hardware, and content areas along with developing technologies; accordingly, new applications emerged in the fields of telecommunications and broadcasting. During the plan period, the aim was to increase competitive power and to raise economic and social welfare in the relevant sectors. The need for progress in mobile communication and internet access was emphasized; it was also pointed out that developments in information and communication technologies carry the risk of violating personal rights, and therefore necessary legal measures should be taken.

In the 9th Development Plan, the goal was to increase competition in the electronic communications sector, and to provide fast, secure, and cost-effective access to information through advanced infrastructure services. It was stated that individuals' access to the internet should be increased during the transition to the information society, and various actions would be implemented in line with the Information Society Strategy. Furthermore, it was emphasized that the software sector had started to play an effective role in the information technologies field, necessary strategies would be applied in this area, and Türkiye's international position would be strengthened.

In the 10th Development Plan, it was noted that Türkiye had taken a step towards the information society process with the e-Transformation Türkiye Project in 2003, and that significant progress had been made in recent years regarding broadband internet access. However, it was emphasized that effective and conscious use was not at a sufficient level, infrastructure was neither high quality nor cost-effective, and there was also a shortage of qualified human resources. This plan also stated that important steps had been taken in the field of cybersecurity, the Cybersecurity Board was established within the Ministry of Transport and Infrastructure, and legal regulations were needed regarding the protection of personal data. It was expressed that digital transformation in broadcasting, increasing efficiency in electronic communications, the widespread implementation of projects such as the FATİH Project, smart city applications, and technological developments beneficial to the public should be encouraged.

In the 11th Development Plan, the main objective was to increase economic efficiency and competitive power. Accordingly, it was stated that critical elements such as increasing broadband access, fiber optic infrastructure, base stations, and right of way needed to be regulated. Frequency resources and the existing electronic communication infrastructure were planned to be adapted to 5G and post-5G mobile communication technologies, and it was emphasized that international standards would be followed throughout this process. It was highlighted that the public sector would support private sector investments, and that the Türksat 5A and 5B satellites, as well as the domestically developed Türksat 6A satellite, would be put into service. Additionally,

the establishment of the Türkiye Open Source Platform was announced, and it was stated that domestic software would be developed through public-private partnerships. A roadmap would be prepared to popularize artificial intelligence technologies in production processes, and to prevent issues such as gender inequalities that might arise during this process, training and seminars for women entrepreneurs would be organized.

In the 12th Development Plan, in addition to the above goals, it was stated that internet exchange points would be established in accordance with current needs, and that telecommunication infrastructure would be ensured to provide fast and uninterrupted service during disasters. The 5G technology foundations laid in the 11th Plan would continue in this plan period with 6G studies, and it was emphasized that developments in the field of cybersecurity needed to be sustained. Moreover, the spread of digital literacy, cooperation between the public sector, private sector, and universities in the field of artificial intelligence, strengthening international connections, and aligning the legal infrastructure with these technologies were also targeted.

Information and communication technologies have been addressed in development plans with an increasingly strategic and holistic approach; while infrastructure development and digital access were prioritized initially, recent plans have focused on advanced digital transformation areas such as artificial intelligence, cybersecurity, and domestic software production. In each new plan, shortcomings of previous periods have been attempted to be remedied, and the goal has been to transform technological advancements into societal benefits.

6.1.3. Research and Development

Although the discourse of R&D (Research and Development) is present in all development plans, this concept has not been addressed under an independent heading in each plan. Therefore, the approach of the development plans to R&D should be comparatively evaluated based on how the R&D concept is used throughout the plan texts.

In the 8th Development Plan, it was emphasized that the resources allocated to R&D activities in past years were insufficient, and this situation could hinder the implement ability of the plan. In line with Türkiye's 2023 targets, it was stated that R&D expenditures needed to be increased to enhance the competitiveness of the Turkish industry. Within this scope, it was targeted to raise the share of R&D expenditures in GDP to 1.5%.

During the period of the 9th Development Plan, it was indicated that as of 2002, the share of R&D expenditures in GDP was 0.67%, and this ratio was highlighted as quite low compared to developed countries. It was stated that financial support mechanisms such as tax exemptions would be introduced to encourage R&D activities. Accordingly, the target was to increase the share of R&D expenditures in GDP to 2% by 2013.

In the 10th Development Plan, it was expressed that as of 2011, the share of R&D expenditures in GDP had risen to 0.86%. However, despite this increase, it was emphasized that this level was still considerably behind the European Union averages. It was stated that R&D activities needed to be improved both quantitatively and qualitatively, and necessary supports should be provided to compete internationally in this field. At the end of the plan, it was projected that the share of R&D expenditures in GDP would be 1.80% by 2018.

During the period of the 11th Development Plan, it was observed that R&D expenditures increased as of 2017, but they never reached the targeted level. In this period, the goals included increasing the number of R&D personnel, strengthening cooperation between universities, public institutions, and the private sector, and diversifying R&D activities. It was planned that the share of R&D expenditures in GDP would reach 1.8% by 2023.

In the 12th Development Plan, it was noted that as of 2021, R&D expenditures had reached the level of 1.40%. For this period, the new target was set at 2.05% for the year 2028. With this plan, it can be seen that R&D activities are approached from a multidimensional perspective, not only in terms of economic competition but also linked to green transformation, digitalization, and sustainable development goals.

A common observation across the development plans is that the targeted R&D expenditure ratios have never been fully achieved in any plan period. In every plan, the importance of R&D activities has been emphasized and the need to allocate more resources to this area has been stated. However, in practice, either public and private sector investments have been insufficient, or these investments have not been at a scale to sufficiently incentivize activities. Furthermore, it can be said that the R&D production capacity of universities and research institutions has remained limited compared to developed countries.

In conclusion, although Türkiye's development plans on R&D have continuously set new targets, it is understood that fundamental factors such as structural capacity strengthening, resource efficiency, improvement in human capital quality, and policy continuity have been lacking to realize these goals.

6.1.4. e-Government and Digital Government

Although the e-government discourse has not been explicitly included as a direct heading in all development plans, from the 9th Development Plan onward, policies in this area have been systematically addressed. In the 9th Development Plan, under the heading of "widespread adoption and activation of e-government applications," it was stated that one of the main objectives was to provide public services more efficiently, transparently, and accessibly. Within this scope, restructuring of public administration was targeted; it was emphasized that many public institutions, including local governments, should be integrated into the existing system, and that the e-government system should be restructured in compliance with international standards.

In the Tenth Development Plan, it was stated that during the previous plan period, the time and cost burdens for citizens and businesses arising from public services were reduced, approximately six hundred services were launched, and by 2012, the number of e-government users had reached 14 million. In this period, elements such as personal data protection and information security were prioritized in the delivery of e-government services.

The Eleventh Development Plan emphasized the necessity of delivering public services with a citizen-centric approach; it aimed to increase the number and quality of services and strengthen accessibility to public services through mobile applications. Furthermore, to enhance transparency, accountability, and efficiency in services, it was indicated that next-generation digital technologies such as artificial intelligence, cloud computing, big data, the Internet of Things, and blockchain would be utilized. Projects facilitating data sharing among public institutions and strengthening data flow between central and local administrations were planned during this period.

With the Twelfth Development Plan, the term "e-government" was replaced by "digital government". In this new era, the primary goal was defined as delivering digital public services in a user-focused and efficient manner. Within this framework, the quality and number of public IT personnel were planned to be increased, and the establishment of a Digital Government Academy was proposed to provide training for this personnel. Additionally, supporting public IT companies, enhancing data management and advanced data analytics capacity to facilitate inter-institutional data sharing, and completing national and institutional data dictionaries were targeted. Strengthening the legal infrastructure for artificial intelligence and analytics projects and thereby developing reliable digital public services were also among the important goals of this period.

From the Ninth Development Plan onward, e-government has been systematically addressed to increase efficiency, transparency, and accessibility in public services; subsequent plans have highlighted the number of services, data security, and mobile access. With the Twelfth Plan, this approach evolved into the concept of "digital government," aiming to provide user-focused and integrated public services through technologies such as artificial intelligence and advanced data analytics.

6.1.5. Digital Transformation

The discourse on digital transformation in Türkiye began to appear in development plans both as a separate chapter and as a policy concept especially starting from the 11th Development Plan. During this period, digital transformation was addressed with the aim of increasing productivity and competitiveness in priority sectors. In particular, emphasis was placed on digital transformation in the manufacturing industry. Within the scope of the plan, it was envisaged to establish a Digital Transformation Platform in Industry; under this platform, permanent committees would be created for digital education, data communication, and technological developments. Additionally, the preparation of a Digital Transformation Terminology Dictionary was planned in order to adopt international digital standards in Türkiye and to develop a common digital understanding. Alongside these developments, it was emphasized that the knowledge levels of both public institutions and private sector enterprises regarding digitalization needed to be increased.

The 12th Development Plan, on the other hand, offers a multidimensional approach by addressing the concept of digital transformation not only in the context of economic competitiveness but also through the lens of environmental sustainability. The plan is structured around five main themes, one of which is directly defined as digitalization and environmentally focused production. This approach highlights that technological advancements at the global level, rapid progress in information and communication technologies, and dynamics such as climate change necessitate holistic policies that integrate digitalization with environmental compatibility.

The Development Plan also states that Türkiye must strengthen its digital infrastructure to adapt to this transformation process, and it is equally essential to make this infrastructure compatible with sustainable development goals. In this context, the widespread adoption of sustainable development and digital-environmentally compatible technologies by 2053 is among the country's long-term objectives.

A comparative analysis of these two development plans is important in demonstrating the discursive evolution of the digital transformation concept. While the 11th Development Plan defined digital transformation primarily as an industry and technology-based modernization process, the 12th Development Plan integrates this process within the context of climate change and sustainable development, treating digital transformation not only as an economic but also as an environmental and social transformation. Thus, the concept of digital transformation has been redefined within a broader framework that includes not only technological advancement but also a development understanding compatible with green transformation.

6.2. Quantitative Analysis

Complementing the discourse analysis, this section presents a quantitative evaluation of the frequency of selected digital transformation-related terms in Türkiye's national development plans from 2001 to 2028. Rather than using automated text analysis tools, a manual word count was performed to ensure contextual sensitivity. The terms "R&D," "Technology," "Digital," "Digital Transformation," "e-Government," and "Digital Government" were selected based on their relevance to digital governance and transformation literature.

Table 1: Word frequency of selected digital governance terms in Türkiye's national development plans (2001–2028).

Development Plans / Concepts	8th	9th	10th	11th	12th
R&D	48	50	84	106	106
Technology	229	110	240	298	405
Digital	1	0	3	86	267
Digital Transformation	0	0	0	39	81
e-Government	0	10	36	23	20
Digital Government	0	0	0	0	12
Number of Pages	252	101	212	198	253

This quantitative analysis of the usage of digital transformation-related concepts in Türkiye's national development plans covering the period from 2001 to 2028 clearly demonstrates the increasing strategic importance of digitalization. Firstly, the frequent presence of the terms "R&D" and "Technology" throughout all development plans indicates that Türkiye consistently and sustainably maintains a science- and technology-based development approach. Particularly from the 11th development plan onward, there is a noticeable increase in the usage of the term "Technology." This rise is a concrete indicator of Türkiye's growing emphasis on R&D investments and technology development to support economic and social development. Therefore, the focus on R&D and technology reflects not only a textual increase but also a shift in policy and implementation priorities.

The visibility of the concept of digitalization in the texts shows an even more dramatic increase. While the term "digital" appeared only once in the 8th development plan and did not appear at all in the 9th plan, its usage began to increase rapidly from the 10th plan onward. In the 11th and 12th development plans, the term appears 86 and 267 times respectively. This rise indicates that digitalization has become a central and prioritized issue within Türkiye's development strategies. The growing adoption of digital technologies in economic, social, and administrative fields has significantly amplified the importance of this concept. The sharp increase in the use of the term "digital" also signals a strategic transformation in public policies aimed at developing digital infrastructure, enhancing digital skills, and expanding digital services.

The term "Digital Transformation" first appeared meaningfully in the 11th development plan, and its usage nearly doubled in the 12th plan. This indicates that digitalization has evolved beyond being merely a technological innovation to become the foundation of comprehensive structural changes and strategic objectives. The rise of the concept of digital transformation reflects Türkiye's effort to radically renew the ways of working in both public and private sectors, service delivery, and management models. In this context, digital transformation is not only a technical term but also a fundamental paradigm shift in planning and implementation processes.

The term "e-Government" held an important place in the 9th and 10th development plans, peaking in usage during the 10th plan. However, a decline in its frequency is observed in

subsequent plans. This decline suggests that digitalization strategies have evolved toward more inclusive and transformation-oriented concepts. Accordingly, the term "Digital Government" appeared for the first time in the 12th development plan, representing a broader vision beyond e-Government. It encompasses the integration of digital technologies into public administration and the migration of governance processes to digital platforms. This conceptual shift shows that Türkiye aims for much more than e-Government applications, embracing digital governance and comprehensive digital transformation of public services as strategic priorities.

Although the data have not been normalized by the total number of pages in the plans, the magnitude of the increase in the usage of these concepts in the 11th and 12th development plans suggests that digitalization and digital transformation have gained significant relative as well as absolute prominence in the texts. The rapid rise in terms carrying the "digital" prefix clearly demonstrates that technology-based structural transformations occupy a central role in Türkiye's development strategies. This indicates that digitalization is embraced not only as a means of improving technological infrastructure but also as a driving force behind profound changes in economic growth, public administration, education, healthcare, and other social sectors. In conclusion, the growing visibility of digital transformation concepts in Türkiye's development plans concretely reflects the country's process of adapting to the digital age and taking strategic steps in this field.

7. Conclusion

This study examined how digital transformation has been conceptualized and articulated in Türkiye's national development plans spanning from 2001 to 2028. Through a dual-method approach combining Discourse-Historical Analysis and manual quantitative content analysis, the research aimed to trace the semantic evolution and policy framing of key digital concepts such as "R&D," "technology," "e-government," "digital transformation," and "digital state." The findings highlight a significant discursive shift in the development plans—particularly from the 10th Plan onward—where digital transformation emerged not only as a technological priority but as a strategic axis for public governance and sustainability.

The integration of digital transformation with broader policy goals such as the green transformation and sustainability, especially in the 12th Development Plan, indicates a paradigm shift. The concept of digitalization has evolved beyond administrative efficiency to encompass ecological responsibility. This multidimensional framing aligns Türkiye's public policy discourse with international frameworks such as the European Green Deal and the UN Sustainable Development Goals, positioning digital technologies as enablers of environmentally conscious governance.

Discourse analysis further reveals the transition from general and aspirational language in earlier plans to more technically grounded expressions in later ones—referring explicitly to "data security," "artificial intelligence," and "cloud computing." However, the gap between discourse and implementation remains a critical issue. Despite the ambitious objectives outlined in development plans, challenges such as inter-institutional coordination, legal infrastructure gaps, and limited technical capacity have, at times, hindered effective policy realization.

In light of these findings, Türkiye's digital transformation journey—while gaining strategic prominence—requires stronger mechanisms to ensure policy continuity and implementation fidelity. The transformation is no longer confined to technological upgrades but represents a structural redefinition of public administration. To advance this agenda meaningfully, several strategic imperatives emerge:

- **Policy coherence and institutional alignment:** Development plans should be designed as cumulative and complementary rather than fragmented, with clearly defined roadmaps for inter-agency coordination.
- **Capacity building and talent development:** Investing in digital literacy and cultivating a

highly skilled public sector workforce are critical for driving innovation in service delivery.

- **Robust data governance frameworks:** Ensuring secure, transparent, and ethically responsible data management is foundational to a trustworthy digital state.
- **Inclusive digital participation:** Strengthening societal digital literacy and access can help bridge the digital divide and foster citizen engagement in public services.

Ultimately, this study provides a longitudinal and discourse-based perspective on the evolution of Türkiye's digital policy landscape. The analysis not only offers insights into how digital transformation has been framed over time but also proposes actionable directions for policymakers. In doing so, it contributes to the broader scholarship on digital governance and serves as a resource for aligning future strategies with both national objectives and global digital development trends.

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