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Evaluation of E-Petition Portals in the World/Türkiye and CİMER in the Context of Governance Principles and Artificial Intelligence/Big Data Perspective*

Dünyadaki/Türkiye'deki E-Dilekçe Portalları ile CİMER'in Yönetişim İlkeleri ve Yapay Zekâ/Büyük Veri Perspektifi Bağlamında Değerlendirilmesi

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ABSTRACT

The Presidential Communication Centre (CİMER) is an electronic government public relations platform that promotes democratic participation by mediating the exercise of the right to petition and right to information in Türkiye. The research problem concerns the lack of a collective petition option in CİMER, the non-publication of petitions, and the lack of AI integration, which limits the effective implementation of governance principles. The aim of this study is to examine the participatory practices of e-petition systems in Türkiye and worldwide, as well as the efficiency-based findings obtained from empirical research on AI and big data technologies, in order to provide governance-focused recommendations to CİMER. In the study, a total of 13 e-petition environments were selected as the sample, including one national government platform each from Europe and North America (Germany, United Kingdom, Russia, Estonia, Canada), two each from India and Türkiye; three international official systems from the European Union; and one unofficial portal (Change.org). The thematic analysis method was used, and the sample was evaluated within the framework of the principles of participation, accountability, transparency, and efficiency. The findings showed that some platforms increased interaction through collective petition and citizen participation tools, that making petition content publicly available strengthened transparency and accountability, and that AI applications contributed to increased efficiency. In this context, recommendations have been developed for CİMER, such as a "public signature system," the ability to publish petition texts and responses, and the ability to submit petitions at the legislative level. In the context of AI, the following six recommendations were presented: classification; summarization; petition/response text writing; spell check tool; identification of urgent petitions; and chatbots. It was concluded that the proposals could support efficiency by ensuring the accuracy of petitioning processes and preventing duplicate petitions, strengthen transparency and accountability by ensuring that citizens perceive the feedback mechanism as effective, and increase citizen participation by offering opportunities for collective interaction.

Keywords: CİMER, Petition, Government Public Relations, Artificial Intelligence, Big Data.

ÖZ

Cumhurbaşkanlığı İletişim Merkezi (CİMER), Türkiye'de dilekçe ve bilgi edinme haklarının kullanımına aracılık ederek vatandaşların demokratik katılımını sağlayan elektronik bir kamusal halkla ilişkiler platformudur. Araştırmanın sorunsalı CİMER'de kolektif dilekçe seçeneğinin bulunmaması, dilekçelerin yayınlanmaması ve yapay zekâ entegrasyonunun eksikliğinin yönetişim ilkelerinin etkin uygulanmasını sınırlandırmasıyla ilgilidir. Çalışmanın amacı, Türkiye'de ve dünyada e-Dilekçe sistemlerinin katılımı artırıcı uygulamalarını ve yapay zekâ ile büyük veri teknolojilerine dair ampirik araştırmalardan elde edilen verimlilik temelli bulguları inceleyerek CİMER'e yönetişim odaklı öneriler sunmaktır. Araştırmada, Avrupa ve Kuzey Amerika ülkelerinden (Almanya, Birleşik Krallık, Rusya, Estonya, Kanada) birer, Hindistan ile Türkiye'den ikişer ulusal devlet platformu; Avrupa Birliği'nden üç uluslararası resmî sistem ve bir gayriresmî portal (Change.org) olmak üzere toplam 13 e-Dilekçe ortamı örneklem olarak belirlenmiştir. Tematik analiz yönteminden yararlanılan çözümlemede, örneklem; katılımcılık, şeffaflık, hesap verebilirlik, verimlilik ilkeleri çerçevesinde değerlendirilmiştir. Bulgular, bazı platformların kolektif dilekçe ve vatandaş katılımı araçları ile etkileşimi artırdığını, dilekçe içeriklerinin kamuya açık olmasının şeffaflık/hesap verebilirliği güçlendirdiğini ve yapay zekâ uygulamalarının verimliliğe katkı sağladığını göstermiştir. Bu doğrultuda CİMER için "kamuoyuna açık imza sistemi", dilekçe metni ile yanıtların yayınlanabilmesi ve kanun düzeyinde dilekçe başvurusu yapılabilmesi gibi öneriler geliştirilmiştir. Yapay zekâ bağlamında ise sınıflandırma, özetleme, dilekçe/yanıt metni yazımı, yazım denetimi, acil dilekçelerin tespiti ve sohbet robotu olmak üzere altı öneri sunulmuştur. Önerilerin dilekçe işlemlerinde isabetliliği ve mükerrer dilekçelerin önlenmesini sağlayarak verimliliği destekleyebileceği, vatandaşların geri bildirim mekanizmasını etkin görmesini temin ederek şeffaflık ve hesap verebilirliği güçlendirebileceği ve kolektif etkileşim imkânı sunarak vatandaş katılımını artırabileceği sonucuna varılmıştır.

Anahtar Kelimeler: CİMER, Dilekçe, Kamusal Halkla İlişkiler, Yapay Zekâ, Büyük Veri.

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Introduction

Contemporary understandings of communication assume that sources and receivers send/receive messages simultaneously, the interaction process is understood as a continuum, and the purpose of public relations is positioned in terms of "understanding" rather than "persuasion" (Grunig & Grunig, 1992: 289; Johnson & Hackman, 2018: 10). Timothy J. Shaffer (2022: 275-276) has argued that such a perspective is appropriate for governments that revitalize "public engagement" efforts by taking citizens' ideas and experiences of a public nature seriously. He points out that this strengthens citizen participation and increases the feasibility and resilience of decisions. Mordecai Lee (2022: 17), on the other hand, emphasizes that the main objective of "government public relations" is to "listen" to the public at multiple levels. An important reflection of this approach, which can be considered to be parallel to the "governance" approach in the context of public administration, is the e-petition portals that allow citizens to establish two-way communication with the state, contribute to the development of laws/public policies, and support rapid/qualified delivery of public services and efficiency in public affairs (Suh et al., 2010: 7255; Cantador et al., 2020). On the other hand, the difficulty of analyzing the unstructured "big data" contained in e-petition platforms makes it difficult for these systems to reveal their participatory potential. However, it is emphasized that the automation of e-petition systems through artificial intelligence (AI) technologies will save labor and allow public officials to focus on more important governance tasks (Kim & Hong, 2021; Li et al., 2023: 2).

In Türkiye, in the context of e-petitions, the Presidential Communication Center (CİMER), established in 2018, stands out with the high number of petitions[1] it receives. CİMER is a digital government public relations platform that mediates the exercise of citizens' right to petition and information (Directorate of Communications, 2023b). The main problem addressed by the study is the need to make CİMER more effective in line with governance principles. While CİMER enables every citizen to submit individual petitions, the absence of a collective petition option for social issues may limit citizen participation. CİMER's reliance on individual petitions can result in many similar petitions on the same subject being submitted, creating a significant workload for public officials. Another consequence of individual petitions is that transparency and accountability may be limited, as the petition texts and responses are not made public. Furthermore, CİMER's lack of AI integration may cause inefficiencies in both the petitioning process for citizens and public personnel activities such as responding to, forwarding, and analyzing petitions (Özalp, 2025). The basic assumption[2] of the research is that adapting the participatory

[1] In Turkish administrative practice, and specifically within CİMER, these submissions are labeled as applications (Turkish: başvurular), rather than petitions (Turkish: dilekçeler) as they are commonly referred to in international contexts. This terminology partly reflects that CİMER processes seven types of submissions within a unified system: six correspond to the Law on the Exercise of the Right to Petition (request, appreciation, complaint, participation in governance, opinion-suggestion, share your dream for the Century of Türkiye), which form the legal basis for petitions in general, and one corresponds to the Right to Information Law (right to information), which is distinct in its legal foundation. The choice of the term applications thus likely serves to emphasize the separate legal bases of petitions and right to information submissions, while also aiming to avoid confusion for citizens regarding their rights and the relevant procedures. Using applications instead of petitions in English could cause confusion for international readers. It might also create ambiguity due to the dual meaning of application in technological contexts, as used in this article (e.g., natural language processing applications). To avoid such confusion, this article consistently uses petition for submissions to CİMER and other e-petition platforms. As an exception, submissions to initiative platforms (European Citizens' Initiative, Rahvaalgatus, Russian Public Initiative) are referred to as initiatives, while those on Change.org are described as campaigns. Likewise, entries made through ombudsman platforms (European Ombudsman, The Ombudsman Institution) are categorized as complaints.

[2] This study is based on a qualitative research design. Rather than testing causal hypotheses by accurately measuring variables, it demonstrates the plausibility of constructivist and transformative qualitative assumptions within the context of interpretive/critical social science principles. The distinctive aspects of the case and the impact of the unique context are analyzed through research questions (Creswell, 2017: 18, 139; Neuman, 2022a: 170, 295; 2022b: 806-807, 821).

practices observed in foreign e-petition systems and the findings of AI/big data-based studies in the literature that support efficiency to CİMER would strengthen the system's quality in the context of contemporary government public relations and governance principles. It is anticipated that citizen participation will increase, transparency and accountability will be strengthened, and efficiency in public administration will be achieved through the collective use of citizenship rights based on interaction within CİMER.

In this context, the study aims to examine the aspects of e-petition portals in Türkiye and foreign countries that increase democratic participation and the findings of empirical studies on AI/big data technologies based on efficiency, and to present recommendations to CİMER that support governance principles. The sample included 12 official and one unofficial e-petition portals from Europe (UK, Germany, Russia, Estonia), North America (Canada, US), Asia (Türkiye, India), and the European Union. Through the document analysis technique, the general functioning and practices of these portals and what kind of participatory elements they contain were compared/discussed with CİMER. The thematic analysis method was used and the evaluation was conducted in the context of four basic governance principles: "participation", "transparency", "accountability" and "efficiency". The study aims to address the following questions in this regard:

1. What contributions do the e-petition platforms included in the sample make to governance principles in terms of their petition systems, tools for increasing participation, methods for preventing duplicate or out-of-scope petitions, and AI/big data applications?

2. What strengths do studies on the development of e-petition systems within the scope of AI/big data reveal in terms of governance principles?

3. How can the findings from questions 1 and 2 be uniquely adapted to strengthen governance principles within the CİMER system?

Most of the analyses on CİMER are based on studies that link BİMER (Prime Ministry Communication Center, the predecessor of CİMER)/CİMER with the principles of the contemporary understanding of public administration, citizen participation, and trust (Turan et al, 2015; Çiçekli, 2016; Karkın & Zor, 2017; Eroğlu Durkal & Korkmaz, 2017; Uçacak, 2017; Batal, 2019; Darıcı, 2020; Gündüz & Artar, 2023) and studies based on the opinions of public employees (such as educators) who interpret CİMER petitions (Aksan, 2014; Güneş & Günbayı, 2017; Acar, 2018; Eski et al., 2019; Yüksel, 2019). There are also studies that evaluate CİMER in the context of public relations (Selvi et al., 2019; Durmuşoğlu & Genel, 2022; Göksu & Avcı, 2025), citizen-state relations, digital governance (Demirci, 2015; Dede, 2024), and criticize CİMER's capacity for democratic participation (Uysal, 2021; Ezikoğlu, 2024). However, these studies did not establish a link between AI/big data studies and CİMER and did not include e-petition systems in other countries of the world in their analysis. This study is considered to be important because it establishes a relationship between CİMER and AI/big data, which stand out as "valuable" fields today, and tries to strengthen the participatory structure of the system by comparing CİMER with foreign e-petition portals. Abdülkadir Özalp (2025), on the other hand, automated the process of forwarding synthetic CİMER petitions related to the Ministry of National Education, the Ministry of Health, and the Ministry of Transport and Infrastructure to the relevant institutions using deep learning (DL) methods, such as Convolutional Neural Networks and BERT. He achieved 99.986% validation accuracy and 99.924% test accuracy with the BERT model. However, our research does not include detailed technical modeling related to software development processes. The study identifies concrete areas, such as the automatic classification of petitions by AI, and discusses types of AI applications that could increase efficiency. From a social science perspective, the study presents a framework that evaluates CİMER within the context of governance principles and develops recommendations by relating them to AI/big data applications in the literature. Therefore, while the study does not develop a technical model, it

provides an instructive framework for engineers by discussing the participatory practices of e-petition systems and the potential of AI/big data, thereby indicating the direction in which automation activities could progress.

Petition/Right to Information and CİMER in the Context of Government Public Relations and Governance

In the seventeenth and eighteenth centuries, the democratic struggle waged by the people against the "secret politics of the prince" based on anger and feelings of justice came to the fore, and gains such as the freedom of the press and the freedom to organize public meetings began to be achieved (Schmitt, 2000: 49). With the French Revolution, the people shifted their allegiance from the monarch to the state and the nation, and were recognized as equal citizens with important rights and freedoms. At the same time, with the rise of the bourgeoisie, direct violence was excluded from labor relations, and a new form of government based on "passive control measures" was developed for the employment and management of the emerging working class (Eroğlu & Yağmurlu, 2020: 147). The modern nation-state, which is founded on rational authority, based on a system of separation of powers, and shaped by the principle of the rule of law based on constitutionalism, had to produce the active consent of the people for the aforementioned fundamental reasons, despite having a monopoly on the legitimate use of force (Pierson, 2011: 4-27). As a matter of fact, after the manifestation of the modern nation-state, there has been a significant change and transformation in the forms of the relationship between the state and the public (Eroğlu & Yağmurlu, 2020: 147). In this sense, it can be said that the main situation that determines the direction of public relations today is both an effective public will and the state's efforts to make the governed loyal to it (Kazancı, 2011: 1, 5). In this regard, it can be argued that government public relations has been in the nature of public administration since the past, although not with a direct institutional orientation (Lee, 2022: 12).

A recent important stage in the transformation of public relations has been the "new public management" and governance approach, which was based on the neoliberal mindset in the 1980s and structured the state with a "private sector logic". It has been argued that rapid and multidimensional changes and transformations are taking place in the economic, political and social spheres under the influence of globalization and new information and communication technologies. Accordingly, it has been pointed out that the traditional understanding of public administration and, in particular, of the relationship between the state and the public, cannot keep pace with this turbulent period characterized by chaos and crises (Eroğlu & Yağmurlu, 2020). In contrast to traditional public administration, these new approaches emphasized values such as "individualism, personal benefit, limited state, the sovereignty of economic values, administrative accountability, professionalism, and competition". In fact, it reflects a dual perspective based on the development of democratic freedoms that place the individual at the center and on efforts to remove obstacles to capital (Karcı, 2008: 60). Especially in the 1990s, it was emphasized that "decentralization, multi-activity, participation, and dialogue are the basis instead of centralized, unilateral, top-down and authoritarian management approach" (Eroğlu & Yağmurlu, 2020: 160). In the context of the governance paradigm, it is pointed out that government public relations is "mandatory" for the state to fulfill its democratic responsibilities in contemporary society. It is argued that this approach reflects a communication model that addresses the public from a sensitive, responsible, transparent, egalitarian, and accountable position (Lee, 2022). According to Shaffer (2022: 276-277, 286), the fundamental principle of governance is public relations, and "... governance is shaped by citizens engaging as co-creators in the sense that their voice is an essential element of public decisions and policy making".

In this study, the four principles of governance are used as an important analytical framework in the context of the evaluation conducted through

thematic analysis. Participation is defined as "a function of those who engage in collective action and decision making, communication between parties, and discussions linking policy with public action" (Wittemyer et al., 2014: 44). According to Archon Fung (2006: 66, 74), public participation should involve a structure that works in synergy with representation and administration to bring about desirable outcomes of these processes. Indeed, participation can serve the "legitimacy, justice, and the effectiveness of public action". Transparency can be explained as "any attempts (by states or citizens) to place information or processes that were previously opaque in the public domain, accessible for use by citizen groups, providers or policy-makers" (Joshi, 2013: 531). As a mechanism to prevent and combat the abuse of political power, accountability refers to "subjecting power to the threat of sanctions; obliging it to be exercised in transparent ways; and forcing it to justify its acts" (Schedler, 1999: 14). Efficiency, which is "an accepted criterion that shows the success of a management as a value corresponding to the ratio of output to input", is discussed in current debates along with the use of technologies such as AI (Ekinci & Karakoyunlu, 2023: 65-67).[3]

These governance principles are complementary and dynamic. In modern democracies, the principle of transparency enables access to information about the work of the administration and participation in decision-making processes. This principle has a direct impact on accountability, which includes public officials' obligation to report on their use of public resources and performance targets. Therefore, transparency establishes mutual understanding and trust between the government and citizens, combats corruption and mismanagement, and is the fundamental basis of the administration's legitimacy and accountability. Conversely, when transparency and accountability weaken, public officials are more likely to make decisions in their own interests. Furthermore, strong transparency and accountability encourage citizen participation and contribute to the effective functioning of the decision-making process, thereby improving the efficiency and performance of public administration. Citizens sensitive to democratic participation demand services based on public interest and justice and greater accountability from the administration. Participation is strengthened by publishing decisions and responding to demands regarding administrative decision-making processes. This positively affects the assessment of the quality of the decision-making process and the determination of success. Indeed, citizen participation, not limited to voting, directly transforms the administration into an accountable one, making public administrators more sensitive to performance criteria (Mudacumura, 2014: 42–45; Jashari & Pepaj, 2018).

This study is based on the four governance principles mentioned above, as well as three governance models: participatory governance, collaborative governance, algorithmic governance. Participatory governance emerged in response to the democratic deficit, emphasizing deliberative practices and strengthening democratic participation. Citizens are viewed as active participants in current issues, not merely as voters or watchdogs. In this approach, "essentials are a more equal distribution of political power, a fairer distribution of resources, the decentralization of decision-making processes, the development of a wide and transparent exchange of knowledge and information, the establishment of collaborative

[3] In fact, this explanation refers more to the concept of "productivity". Ozan Zengin (2011: 1) emphasizes that there are different uses of productivity. In management science and public administration disciplines, the term productivity is associated with and used together with concepts such as efficiency, "economy" and "effectiveness". The concept of efficiency, which is related to inputs, "refers to the full and correct use of inputs" (Suiçmez, 2002: 179), while effectiveness refers to "the degree of realization of objectives" (Zengin, 2011: 18). As a principle, the concept of economy explains "meeting the demands of society, in other words, current and potential customers, with the resources available to the firm by working in such a way that the target output is produced with the least resources or the most output is produced with the available resources" (İleri, 1999: 14). As a matter of fact, it can be stated that the analysis and evaluation conducted in this study mostly emphasize the aforementioned meaning implication(s). Therefore, it is preferred to use the concept of efficiency in the general context.

partnerships, an emphasis on inter-institutional dialogue, and greater accountability" (Fischer, 2012: 457-458). Another governance model, collaborative governance, aims to negotiate the different and sometimes conflicting interests of public institutions and non-state stakeholders through dialogue. This approach assumes that mutual interaction can reveal common ground and gains, and that public policies developed on this basis can be more inclusive and effective. Therefore, collaborative governance is notable for its transformative effect on the state's interaction with citizens and CSOs, strengthening democratic consent by promoting participation in the formation, planning, and regulation of public policy (Ansell, 2012: 498-502). Furthermore, developments in big data, AI, and machine learning (ML) have introduced a new dimension to governance processes by bringing the algorithmic governance model to the fore. This model is notable for its active use of algorithms in the design, implementation, and evaluation of public policies. Algorithms provide a high level of automation by minimizing the need for human intervention in decision-making processes. Thus, they have the potential to enhance the efficiency, accuracy, consistency, and fairness of governance systems (Davutoğlu, 2025).

In the context of governance, it is argued that the state, which does not have the right not to respond to complaints, must also share documents and reports in a transparent manner and, in particular, pursue the goal of strengthening citizens' political participation (Lee, 2022: 16). In this sense, the right to petition and right to information is considered one of the important rights that citizens of many states can claim in the twenty-first century. The right to petition, which precedes the right to information, is a manifestation of citizens' need to interact with political power. With this right, individuals can criticize the actions of political authorities and the functioning of public services and influence public administration to change public policies (Asrak Hasdemir, 2019: 46). Jürgen Habermas (1993: 81-83), argued that "the constitutional state as a bourgeois state established the public sphere in the political realm as an organ of the state so as to ensure institutionally the connection between law and public opinion", emphasized that in the constitutional structure, the functions of the "public sphere", where rational and critical debates take place, are clearly specified in the laws. In this sense, Habermas included the right to petition among the political functions specified in the political public sphere in the context of private people and considered it as a constitutive element of the political public sphere. The right to petition, which is considered to contribute to the formation of public control, was included in the constitutions of 1924 and later in Türkiye.

The right to information, on the other hand, is argued to play a unique and central role in the survival and functioning of democracies. It is a prerequisite for the exercise of fundamental human rights, such as freedom of expression, and a necessary condition for citizens, specific interest groups, or CSOs to participate in certain political debates on the public agenda (Peled & Rabin, 2011: 358-361, 401). It is argued that the right to information constitutes a normative basis for the transparency and accountability of public institutions and positions "publicity" against the absolutist principle of "raison d'état" that evokes the rule of the monarch. Right to information, which is also the basis of governance policies, is understood as a right that revitalizes democratic participation, makes political actions accountable, and at the same time contributes to the legitimacy of the state. In Türkiye, the right to information, which came to the agenda during the European Union (EU) accession process in the early twenty-first century, was included in the legislation in 2003 (Asrak Hasdemir, 2019: 47, 54-55). In fact, petitions and the right to information, which are directly related to government public relations, are democratic tools that are effective in the control of the state by citizens and develop mutual understanding and acceptance (Canöz, 2008: 151).

How the CİMER System Works

After the 2000s, Türkiye carried out public reforms on the governance axis, and regulations based on "two-way symmetrical communication" were introduced. Among them, BİMER and CİMER,

the digital platforms through which citizens can exercise their rights under the Law on the Exercise of the Right to Petition and the Right to Information Law towards the executive branch, have come to the fore (Eroğlu & Yağmurlu, 2020: 152, 160). BİMER was established in 2006 based on the view that the local public relations instruments that were established in municipalities in Türkiye in the 1990s and early 2000s could be generalized to the whole country (Directorate of Communications, 2023a: 75-80). CİMER, which is empowered to resolve citizens' individual petitions and acts as an intermediary in transforming them into public policies, was constituted in 2018 with the establishment of the new presidential system. CİMER, which replaced BİMER, began to provide public services to citizens as a portal with a more advanced system and more participation tools (Directorate of Communications, 2023a: 85-88).

CİMER is an important component of the e-government ecosystem in Türkiye. The e-Government platform, established in 2008, serves as a cornerstone in this context by delivering public services to citizens through a single system. The platform aims to reduce bureaucratic procedures and costs while ensuring transparency, equal access, and rapid service delivery. It offers 24/7 access via websites and mobile devices and integrates many public institutions. Transactions can be carried out in many areas, such as social security, taxation, health, and education (Selvi et al., 2019: 20). Similar developments can be observed in the digitization of the judicial, security, education, and health sectors in Türkiye. Thanks to the National Judicial Network Project (UYAP), launched in 2005, citizens can track their court cases, access information about judicial processes, and pay fees online (Uçacak, 2017: 18-19). Furthermore, the online platform of the General Directorate of Security (EGM) (n.d.) allows citizens to submit reports electronically. Since its establishment in 2012, the Ministry of National Education Communication Center (MEBİM) has allowed citizens to report, lodge complaints, or exercise their right to information on education-related issues by telephone. The status of these submissions can be viewed via e-Government (Aksan, 2014: 5). The Ministry of Health Communication Center (SABİM) (n.d.) allows citizens to submit health-related complaints and suggestions by telephone or live support. The Open Door, launched within the Ministry of Interior in 2017, is an electronic system through which complaints, opinions, and suggestions regarding various public services at the provincial and district levels can be submitted (Güler & Yılmaz, 2019: 365-367). Other official e-petition portals currently operating in Türkiye include the Petitions Commission of the Grand National Assembly of Türkiye (GNAT) (n.d.), where petitions can be submitted to the legislative body, and the Ombudsman Institution (n.d.) platform, which acts as an ombudsman.

Most services on the e-Government platform can be accessed through CİMER. However, while e-Government is more focused on public services, CİMER serves more as a participation tool, allowing citizens to submit suggestions, opinions, and complaints regarding public policies. Furthermore, CİMER does not process disputes arising from private law relationships or matters falling within the scope of judicial bodies or the duties and powers of judicial authorities (Directorate of Communications, 2023b: 23-26). In this respect, CİMER differs from UYAP and EGM. However, “report” petitions regarding administrative matters (e.g., complaints about a public official) can be submitted through CİMER. Complaints in the fields of education and health can be submitted through MEBİM, and SABİM, as well as CİMER. Furthermore, petitions made through the Open Door largely fall within CİMER's scope. However, Open Door operates at the local level, while CİMER operates as a central structure at the national level (Güler & Yılmaz, 2019: 367). Unlike the Petitions Commission of the GNAT, CİMER accepts petitions directed at the executive branch but not those concerning legislative activities. Unlike the Ombudsman Institution, CİMER does not have Ombudsman status, but it does accept maladministration complaints (Directorate of Communications, 2023b: 23-26). If citizens are not satisfied with CİMER's responses, they can submit

their petitions to the Petitions Commission of the GNAT or the Ombudsman Institution. In conclusion, while CİMER overlaps with other e-government platforms in certain areas, it plays a unique role in Türkiye's e-government ecosystem. It enables citizens to access services, and participate in and provide feedback on public policies.

At CİMER, personnel working in public institutions in Türkiye carry out the tasks of classifying petitions according to their content, forwarding them to the relevant authorities, evaluating them, and responding to them manually. CİMER involves a large administrative and technical structure and carries out these tasks and procedures through approximately 90,000 public personnel registered in 60,000 administrative units (Directorate of Communications, 2023a). In the context of the CİMER petitioning process, citizens can submit petitions to the institution of their choice. However, when the "Directorate of Communications" is selected, the petition is read and evaluated by the Directorate's staff and forwarded to the relevant institution. When an institution other than the Directorate of Communications is selected, the institution's officials first read incoming petitions and then forward them to CİMER users working in sub-units. Users authorized to prepare responses send their documents to CİMER response-approval authorities for approval or return (Directorate of Communications, 2023b: 24-25). Where deemed necessary, petitions may be forwarded to more than one institution and may be responded to by more than one institution. If a petition is determined to fall outside the scope of the relevant institution, the petitioner is informed, and the petition is forwarded to the appropriate institution. In the event of a conflict of authority, a final decision is made at the request of one of the relevant institutions or as a result of an assessment by the Public Relations Department of the Directorate of Communications (Directorate of Communications, 2023b: 48-50).

Each person in the system has the right to submit one petition per day on their own behalf. There are three stages to the CİMER petitioning process: "identity information," "petition details," and "complete petition." In the first stage, the petition type is selected, and identity information is confirmed. In the second stage, a petition text of up to 3,000 characters is written. In the final stage, the identity information, petition type, and text are reviewed, and the public institution to which the petition will be sent is selected. Note that there is also a screen where petitions can be queried. Table 1 shows the characteristics of the seven different types of petitions that can be made to CİMER in relation to the first stage (Directorate of Communications, 2023b: 23-27, 35-37).

On the other hand, analysis and reporting, as well as investigation and audit activities, are carried out within the Directorate of Communications. Analysis activities include obtaining and analyzing data such as the number of petitioners/petitions in the system, distribution of petitioner variables (e.g., education, gender, age), petition methods (e.g., internet, mail), petition types, petition subjects, and units to which petitions are forwarded through the SQL system and business intelligence program (Directorate of Communications, 2023a). Reports are prepared based on this big data analytics. However, the qualitative phase of reporting activities involves manual processes such as reading, classifying, and summarizing petition texts by CİMER staff. These reports include the Agenda of the Public, Weekly Bulletin, CİMER Spotlight, CİMER Appreciation, and CİMER Participation in Governance. Issues highlighted in citizens' opinions, requests, and complaints are compiled and sent to the highest level of government, thereby supporting participatory democracy. Within the scope of review and audit activities, responses from public institutions and organizations are manually checked for form and procedure to improve the quality of the petitioning process. The Petitioning Process Review Report examines specific time periods and is sent to institutions. Feedback is obtained from the relevant parties. This report includes data such as the average processing time for petitions, the number of responses, and the number of unprocessed petitions, as well as satisfaction scores. Additionally, the report includes examples of petitions with incorrect responses and erroneous processing (Directorate of Communications, 2023a: 101-103).

Table 1

Features of CİMER Petition Types

Petition Type	Purpose	Legal Basis	Procedural Flow
Request	To make a specific request or service request.	Article 74 of the Constitution of the Republic of Türkiye, Law No. 3071 on the Exercise of the Right to Petition	Petitions must be responded to within 30 days. If a petition is rejected or not responded to within the legal time limit, or if the response is unsatisfactory, an administrative lawsuit may be filed within 60 days. Petitions may also be submitted to the Petitions Commission of the GNAT or the Ombudsman Institution.
Appreciation	To convey a message of satisfaction regarding a public institution, its staff, or a public service.		
Complaint	To file a complaint for the purpose of obtaining justice in relation to individual harm.		
Participation in Governance	To submit policy or implementation proposals within the scope of topics determined by CİMER (e.g., Zero Waste Project, Stray Animals).		
Opinion-Suggestion	To submit solution proposals for the better implementation of public services or policies.		
Share your Dream for the Century of Türkiye	Submit policy proposals in areas such as communication, production, or efficiency within the scope of the Century of Türkiye program.		
Right to Information	Request access to information and documents held or required to be held by public institutions.	Article 74 of the Constitution of the Republic of Türkiye, Law No. 4982 on The Right to Information	Petitions must be responded to within 15 business days. However, if a petition requires the opinion of another institution or concerns more than one institution, the response period may be extended to 30 business days, provided an interim response is given through CİMER. If a petition is rejected or not responded to within the legal timeframe, or if the response is unsatisfactory, an appeal may be filed with the Review Board of Access to Information within 15 days. Alternatively, an administrative court may be approached. The Board must notify its decision within 30 business days.

Artificial Intelligence and Big Data Applications in Public Administration Context

Rich et al. (2010: 3) define AI as "the study of how to make computers do things which, at the moment, people do better". It is argued that important research in ML, recently operationalized through the system of "feature engineering", shows that one should be optimistic about the social contribution that AI can make. The benefit of ML lies in its ability to analyze sample data sets to perform complex tasks and make certain predictions. The achievement of such success is closely related to developments in the field of DL, which reflects "methodologies that rely on deep neural networks". Unlike ML, DL, which does not require feature engineering, has the ability to learn specific sets of features from sample data (Muthukrishnan et al., 2020: 393-394). According to John D. Kelleher (2019: 1), this technology is "the subfield of artificial intelligence that focuses on creating large neural network models that are capable of making

accurate data-driven decisions... particularly suited to contexts where the data is complex and where there are large datasets available."

Natural language processing (NLP) is important for this research because it is related to developments in ML/DL, especially in e-petition systems. Among the definitions of NLP, Jacob Eisenstein's (2019: 1) view provides an insightful summary: "the set of methods for making human language accessible to computers". For K. R. Chowdhary (2020: 604), it is understood as "a collection of computational techniques for automatic analysis and representation of human languages, motivated by theory". In another definition, it is "a tract of Artificial Intelligence and Linguistics, devoted to make computers understand the statements or words written in human languages... the process of producing phrases, sentences and paragraphs that are meaningful from an internal representation" (Khurana et al., 2023: 3714).

It can be said that NLP technology has become an important part of daily life in contemporary society. Text classification is critical for effectively performing tasks in detailed NLP studies. One of the most common applications of text classification is sentiment and opinion analysis. This tool can automatically analyze the sentiment and opinion polarities of comments related to products or social media content. Relevant research examines reactions to products and services, how factors such as weather affect emotions, how emotions and opinions spread on social networks, and the relationship between emotions in novels and plot. Another application of text classification is determining word meaning. Some words have multiple meanings, creating ambiguity. In this context, word sense disambiguation is a field that addresses the problem of determining the intended meaning of words (Eisenstein, 2019: 67-71). Overcoming this problem is important for achieving accuracy and reliability in NLP. In addition to dictionary-based methods, word embedding techniques serve this purpose as well. These approaches analyze the positions of words in context and the relationships they establish with other words to understand true meaning structures and eliminate semantic ambiguity (Cingiz, 2020: 473-474).

Spam filtering is another important application of text classification. These systems use filters based on content, subject lines, blacklists, and user-defined criteria to determine if emails are spam. These filters analyze message content and subject lines, as well as blacklisted recipients, to detect spam. Another important application in the field of NLP is information extraction, which identifies specific expressions in textual data. This approach allows for summarization by extracting elements such as names, places, events, dates, times, and prices. It serves purposes such as creating databases, determining keywords, and classifying texts according to predefined categories. Additionally, dialogue systems support users and enable actions. Following a development process that began with home cinema systems, these technologies now allow people to interact with robots using natural language. Examples of these technologies include *Cortana, Siri,* and *Alexa* from *Windows, Apple*, and *Amazon*, respectively (Khurana et al., 2023: 3725-3727). Automatic text summarization applications produce short, concise texts about documents, enabling faster access to sought-after information. These tools contribute to the extraction of important data and increased time efficiency in decision-making processes. Question-answering systems analyze questions in natural language, providing answers that closely resemble natural language (Eyecioğlu Özmutlu, 2021: 146-147).

Big data analysis, which is associated with AI-related technologies, refers to the analysis and evaluation of quantitatively dense, heterogeneous/variable data that is difficult to analyze using traditional methods on the axis of analytical/parallel tools (Aktan, 2018: 10-11). Data mining, which is related to this analysis, is defined as "the study of collecting, cleaning, processing, analyzing, and gaining useful insights from data" (Aggarwal, 2015: 1). Text mining, which is related to extraction of implicit information from text-based data structures, performs "classification,

clustering, and association" tasks (Jo, 2019: 3-4). It is emphasized that big data cannot be handled independently of technologies related to AI: "The purpose of collecting, storing, transmitting, and managing big data is to utilize big data, and it will not be possible without machine learning" (Zhou, 2021: 16). In addition, tasks related to NLP (such as language modeling, word segmentation, part-of-speech tagging, named entity recognition, and parsing) are also strongly related to big data (Gudivada et al., 2015: 205-218).

Today, it is noted that states are turning to AI tools to make public services effective. These technologies, it is argued, are transforming the public experience of citizens interacting with the state (Mehr, 2017: 1, 15). Among the contributions provided by the integration of AI and big data; there are issues such as improving the decision-making process, making the functioning of public administration efficient, providing financial savings, accelerating IT processes, and improving the quality of public services, especially for citizens (Al-Sai & Abualigah, 2017: 580). ML analysis conducted by the state on big data can enable the automation of "drudgery", reveal the issues contained in citizens' requests, clarify complex political and social phenomena, and provide innovative solutions in public services. Indeed, AI is understood to be supportive in saving labor and making public services efficient (Pi, 2021: 205-206; Alexopoulos et al., 2019: 354-356). It is argued that it is important for contemporary liberal democracies based on e-governance, which explains the implementation of governance principles together with new information and communication technologies, to turn to instruments such as NLP (Ghosh & Fatima, 2009). This is because governments have to deal directly with and analyze large amounts of data, such as petitions, archives, and legal content. In particular, NLP applications enable their evaluation and make public administration faster and more efficient. These seem to be applicable in many areas ranging from interactions with citizens, demand/complaint records, legal regulations, and public policy changes (Wijeratne et al., 2019: 1). Although big data analysis is conducted at CİMER, AI is not directly used in the analysis and petitioning process.

Thanks to ML analyses conducted on the massive amounts of data collected by public institutions and organizations, citizens' demands and needs from the state can be clearly understood, and innovative services can be enhanced (Pi, 2021: 205-206). This predictive potential enables the government to improve internal processes and support citizen participation and policy feedback loops. For instance, sentiment analysis powered by ML increases interaction between the government and citizens, ensuring that actions are based on sound decisions. This allows citizens' contributions and feedback regarding existing or new services to be systematically evaluated and integrated into the policy design process. Thus, modern states create data-driven, evidence-based policies using advanced big data analysis techniques and strengthen citizen-focused governance (Alexopoulos et al., 2019: 354-357).

However, algorithmic governance shaped by AI and big data technologies raises various ethical concerns. DL models, in particular, often work with large data sets that include personal and private information, which can lead to security and privacy issues, such as leaks or the malicious use of data. Smart personal assistants that run continuously in the background can create additional security risks by learning users' interests and behaviors. Additionally, the millions of connections established between different neural networks in DL models create complex, difficult-to-understand structures, or "black boxes." The opacity of these models' inner workings raises issues of explainability, interpretability, and trust in decision-making processes. Algorithmic bias and the risk of algorithmic discrimination are other notable ethical issues with AI systems. These systems can perpetuate racist biases in the justice system or gender discrimination in employment. Furthermore, it has been suggested that AI could lead to job losses and mass unemployment within certain occupational groups. On the other hand, political actors can increase the risk of manipulation by designing appealing messages with the help of these technologies and big data. These risks underscore the importance of AI ethics and the need for these systems to be developed

and implemented in a manner that is fair, impartial, equitable, transparent, accountable, controllable, and respects user privacy and human dignity (Huang et al., 2023: 799-809).

Research on the Use of Natural Language Processing in E-Petition Systems

CİMER, which records the textual content of petitions in an electronic system, is suitable for integration with NLP technologies. For this reason, it is important to mention the research related to NLP. In the analysis conducted by Woo Yun Hui and Hyon Hee Kim (2020) on South Korea's national e-petition system, DL was used in the context of topic analysis, and "long-short-term memory" was utilized. A prediction model was created and a detailed structure of the topics was revealed with a clustering algorithm. Jong Hwan Suh et al. (2010: 7255, 7267) applied clustering analysis with text/data mining techniques in their analysis of the same system. As a result of the study, the process of reading the petitions and classifying them could be automated, and significant accuracy was achieved in interpreting the trends of the petition content. Loni Hagen et al. (2015) included "We the People", the official e-petition platform of the US, as a sample in their study. In the research, human classification and NLP-based categorization of petitions yielded nearly identical results. Another study examined citizen reviews of care centers in the UK. As a result of the NLP analysis, it was determined which elements were particularly evident in these petitions, and important inferences were made about which organizations/units public institutions could refer them to (Wijeratne et al., 2019: 7). Narang Kim and Soongoo Hong (2021) used both supervised and unsupervised DL analysis to analyze transportation requests in Boston. The researchers achieved 90% classification accuracy with the application they developed.

Zheng Su & Tianguang Meng (2016: 52) used big data analysis to examine the content of a forum called the "Local Leadership Message Board", which allows the Chinese government to communicate with citizens. Among the findings of the study, it was found that the government responded to the requests promptly, but responded differently/selectively depending on the type of social identity the citizens reflected and the political content of their requests. It was also found that collective requests, focused on a specific issue and related to economic growth were more likely to be answered than other requests. Ting Xue and Huiqi Liu (2019: 135, 140) used search engines (*Baidu, Google*) and the so-called "Granger causality analysis" approach to predict petitions in China. Among the findings of the study are that economic-related issues are prominent in the petitions analyzed and that the perception of risk associated with this issue motivates the reactions of the petitioners. Li et al. (2023) used DL to analyze a large dataset from "Message Board for Leaders", a prominent e-petition portal in China. In the study, they correctly identified what was expected from the petitions in contexts such as help, suggestion, and complaint at a rate of 93%. The model they developed also showed that the urgency of some petitions was overstated, while others were understated.

Garren Gaut et al. (2018) conducted a study based on ML to improve the efficiency of the "Sistema Atención Ciudadana", a system that resolves individual citizen requests in Mexico. The analysis showed that petitions that could be partially automated include the acceptance or rejection of requests, the handling of referrals, and the classification of requests. Junxiang Wang et al. (2018: 545) contribute to making the e-petition system more efficient by developing a learning system that identifies petitions that are more likely to succeed. Olfa Belkahla Driss et al. (2019: 560, 567) used NLP to analyze the content of Tunisian Facebook pages. By extracting meaning from the text, they developed an application that can provide data from this medium that may be important to the government. Iván Cantador et al. (2020) analyzed the "Decide Madrid" platform, where citizens living in Madrid can discuss and make suggestions about the city's problems. Through their computational approach, they identify the most prominent proposals, find out which ones have the most support, and infer which external factors influence them. In fact,

they emphasized that issues that affect all city residents receive significant support and are translated into public policy. Stephen D. Clark and Nik Lomax (2020) sought to understand what makes petitions circulating on electronic platforms popular/influential through NLP analysis. They found that the first 24 hours after a petition is posted are important and that the number of signatures received during this time is an indicator of popularity. As a result, it is believed that these studies can support big data and AI activities that can be implemented in CİMER, and suggestions are made in the empirical section in this regard.

Methodology

In this study, the e-petition systems in Türkiye and abroad were analyzed through thematic analysis and discussed in comparison with CİMER. As these procedures were carried out in 2024, it can be stated that the findings and evaluations are within the scope of the functioning of the sampled systems in that year. A total of 13 e-petition portals were included in the study. Foreign national official platforms include "UK Government and Parliament" (UK); "German Bundestag" (Germany); "Parliament of Canada" (Canada); "Rahvaalgatus" (Estonia); "Russian Public Initiative" (Russia); "MyGov" and "Centralised Public Grievance Redress and Monitoring System (CPGRAMS)" (India). The three official EU platforms "European Parliament", "European Citizens' Initiative" and "European Ombudsman" were also included in the study. From Türkiye, two official e-petitions systems were analyzed, namely "the Petitions Commission of the GNAT" and "The Ombudsman Institution". CİMER was chosen as a sample for this study because it is a platform that attracts a great deal of attention from citizens and is a much larger electronic public relations platform than other official e-petition portals in Türkiye. The reason for including portals that are similar to CİMER in the sample of the study is related to the aim of determining what kind of functioning is based on the practices in foreign countries that operate public services and citizen participation through electronic systems and evaluating them in order to improve CİMER on the axis of governance principles.

Additionally, to support and systematize the qualitative analysis, e-petition platforms were evaluated based on six objective criteria and scored as "low," "medium," or "high" using a comparative table. The criteria were participation, transparency/accountability, accessibility, use of AI, response time, and prevention of duplicate/out-of-scope petitions. In terms of participation, individual petition systems received low scores, collective petition systems received medium scores, and those with both collective petition and signature systems received high scores. Ombudsman-type platforms were not evaluated under this criterion because they inherently allow individual petitions. MyGov was not evaluated because it does not offer a traditional petition system. In the context of transparency and accountability, low scores were given if no petitions or responses were published, medium scores if some were published, and high scores if all were publicly available. In terms of accessibility, a low score was assigned if the system did not provide any accessibility features or accessibility information; a medium score was given if the website contained WCAG-compliant accessibility information; and a high score was given if there were special accessibility applications. In the AI usage category, systems without AI received low scores, systems with chatbots received medium scores, and systems using automatic text writing and text analysis tools received high scores. In the response time assessment, platforms with a legal response time exceeding 6 months were rated low, those between 1-3 months were rated medium, and those responded to within 2-4 weeks were rated high.[4] In terms of preventing duplicate and out-

[4] Since MyGov does not have a traditional petition system, the response time criterion was excluded from the evaluation. This criterion has not been applied to Change.org because there is no obligation for an official authority to respond. The response time criterion has also been excluded from evaluations of the German Bundestag, the European Parliament, and the European Ombudsman because response dates are unclear. Furthermore, submission processes in initiative systems are comprehensive by nature, so response times can be longer. Therefore, low scores on these platforms can be interpreted as a structural limitation rather than a deficiency. Additionally, in the cases of the UK Government and Parliament and Parliament of Canada, only government-answered petitions

of-scope petitions, providing information only on the website is classified as low, filtering duplicate/out-of-scope petitions through questions is classified as medium, and pre-screening petitions for duplicates is classified as high. These criteria enabled the analysis of different platforms in a comparable manner and systematically revealed their strengths and weaknesses.

In the context of thematic analysis, an assessment was made on the basis of four principles that are important for contemporary government public relations and governance: Participation, transparency, accountability, and efficiency. The first section begins with a preliminary assessment of CİMER, followed by a table presenting a comparative evaluation of the platforms based on six criteria. Then, the type of petitioning system and participation tools offered by the examined systems were discussed in the context of the first three principles mentioned. In addition to these issues, the methods to avoid duplicate/out-of-scope petitions and the use of AI tools are analyzed under the principle of efficiency. In the second section, recommendations for CİMER to support all four governance principles are presented, using the issues analyzed in relation to the portals. Finally, recommendations are made for the CİMER system observed in the NLP research on e-petition portals and AI applications identified in the sample.

Findings and Evaluation[5]

Before analyzing the e-petition systems included in the sample and making recommendations for CİMER, a critical and constructive preliminary assessment of CİMER should be conducted within the framework of governance principles and models. CİMER enables citizens to exercise their right to petition and right to information rights digitally through various petition types, providing a direct feedback mechanism between the state and citizens. The system plays a central role in increasing citizen participation, contributing to public policies through reporting activities, strengthening transparency and accountability, and improving the efficiency of public service processes. Furthermore, the high number of petitions made to CİMER demonstrates the platform's participatory potential: 3,138,233 in 2019; 5,890,423 in 2020; 6,136,145 in 2021; 6,180,000 in 2022; 7,650,000 in 2023; and 4,590,000 in 2024. Additionally, the number of responses to petitions is at a satisfactory level: 3,525,590 in 2019; 5,805,320 in 2020; 5,500,000 in 2021; 5,287,184 in 2022; 7,366,950 in 2023; and 7,360,000 in 2024. Average response times largely comply with legal regulations: 14 days in 2019; 18 days in 2020; 17 days in 2021; 12 days in 2022; 25 days in 2023; and 12 days in 2024 (Directorate of Communications, 2019; 2020a; 2020b; 2021; 2022; 2023a; 2023c; Yıldızalp, 2024; Beyaz, 2025). Field studies on how CİMER is perceived by citizens also present favorable findings. Studies have shown that CİMER facilitates communication with the state, makes bureaucratic processes more transparent, and is seen as an authority in solving problems. It is also used when healthy communication with public institutions cannot be established (Durmuşoğlu & Genel, 2022). It has been stated that it is a trusted and accepted platform by different social groups (Gündüz & Artar, 2023). In this respect, it can be said that CİMER is an important step in supporting participatory governance in Türkiye. Additionally, CİMER's big data potential is noteworthy. The system allows for the analysis of extensive data, including the number of petitions and petitioners, petitioner demographics, petition methods, petition types and topics, and the units to which petitions are referred (Directorate of Communications, 2023a). These features offer significant opportunities in the context of algorithmic governance.

However, it is also important to acknowledge the limitations of CİMER and areas that require development in accordance with governance principles. For example, only accepting individual

were considered, and lengthy parliamentary debates can extend response times.

[5] The points highlighted throughout the study in relation to the e-petition systems examined are taken from the information and documents available on various pages of the websites of these platforms.

petitions can weaken the implementation of comprehensive public policy proposals and collective citizen participation. In this context, the absence of strong mechanisms that encourage institutional-level cooperation with organized citizen groups or CSOs limits the implementation of a cooperation-based governance approach. As Demirci (2015) observed in relation to BİMER specifically, this situation can lead to a focus on complaints, one-way communication, a top-down management approach, and participation that develops through the approval or criticism of given decisions. Similarly, the lack of public access to petition texts and responses may hinder citizens from seeing the effectiveness of the feedback mechanism and following the public policy formation process, which negatively affects transparency and accountability. As Demirci (2015) suggests, publishing data on the extent to which complaints and citizens' opinions have been evaluated and their impact is important. Although CİMER's periodic publications, such as Those Resolved with CİMER, document citizens' petitions regarding specific issues and their resolution status, these examples generally focus on local and everyday issues (e.g., garbage collection, road maintenance). Therefore, citizen participation in macro-level issues affecting policy processes (e.g., national health and education policies, environmental and energy strategies, public administration reforms) may not be sufficiently ensured when limited to the evaluation of individual petitions. It can be argued that this situation hinders the full realization of CİMER's functions in the context of both participatory governance and collaborative governance, making it necessary to strengthen collective petition mechanisms.

On the other hand, a structure based on individual petitions may result in repetitive petitions on similar issues, which increases the workload of public personnel. This may make it difficult for personnel to focus on higher-level governance tasks. Furthermore, CİMER's reliance on manual processes may negatively impact citizens' petitioning experience and increase the workload of public personnel. As will be discussed in later sections, automating processes such as selecting the subject of petitions, forwarding them, responding to them, analyzing/reporting and reviewing/auditing activities, and writing petition texts by citizens through AI systems has the potential to increase efficiency and citizen participation and develop an algorithmic governance approach.

As previously mentioned, indicators such as the number of petitions submitted, responses provided, and average processing times offer valuable insight into CİMER's operations. Furthermore, the ease of access via the mobile application and website shows that there are no technological access restrictions. However, these indicators do not directly reveal how many petitions are resolved or how effectively bureaucratic responsiveness functions. Therefore, data on citizen satisfaction with the results of their petitions is also important. Citizens can evaluate the service by filling out surveys based on their responses to CİMER petitions. These surveys include assessments of response time, response quality, and overall service effectiveness. According to the results obtained, the satisfaction rate increased by approximately 20% between 2017 and 2021 (Directorate of Communications, 2023a: 13). However, the lack of comprehensive data sharing and information on oversight processes, as well as the absence of independent reports on the subject, makes it difficult to evaluate the system's performance and participatory structure holistically.

This study examines national and international e-petition platforms to evaluate the functioning of CİMER and identify potential areas for improvement. Before the qualitative evaluation, Table 2 presents a comparative analysis of the relevant platforms. The table shows that most platforms scored high in terms of participation, whereas CİMER and CPGRAMS scored low, as they only offer an individual petition system. Regarding transparency and accountability, nearly all foreign platforms performed well, as this is due to their practice of making all petition content publicly available; however, some systems, such as MyGov and CPGRAMS, had notable shortcomings. Regarding

accessibility, CİMER and Ombudsman platforms stand out due to special applications, Barrier-Free CİMER (Directorate of Communications, 2023a: 141) and KDK Child (The Ombudsman Institution, n.d.), whereas other systems only meet basic standards. Concerning AI usage, Change.org scores highly by offering users automatic text generation for petition drafting, while CPGRAMS excels in supporting the analysis of petitions and related work processes. The European Parliament and MyGov were rated medium, as they feature chatbots. In terms of response time, platforms that respond quickly to petitions stand out, including CİMER, the UK Government and Parliament, and CPGRAMS. The UK Government and Parliament automatically scan petition summaries, while the Russian Public Initiative allows users to detect duplicates via a search engine. This process is more limited in systems such as CİMER and Change.org; in platforms like the European Parliament and European Ombudsman, out-of-scope submissions are filtered through questions asked during the submission process. Overall, the table summarizes the strengths and weaknesses of the different platforms and shows areas where CİMER can improve in terms of governance principles. Although these data allow for a comparison of platform performance based on objective criteria, they may not fully reflect each platform's unique functioning and contextual characteristics. Therefore, a qualitative assessment provides an opportunity to examine platforms' structures in the context of governance principles in a more original and detailed manner.

Table 2

Comparative Analysis of E-Petition Platforms

Platforms	Participation	Transparency/ Accountability	Accessibility	Use of AI	Response Time	Preventing Duplicate/Out-of-Scope Petitions
CİMER	Low	Medium	High	Low	High	Low
UK Government and Parliament	High	High	Medium	Low	High	High
German Bundestag	High	High	Medium	Low	-	Low
Parliament of Canada	High	High	Medium	Low	Medium	Low
European Parliament	Medium	High	Medium	Medium	-	Medium
European Citizens' Initiative	High	High	Medium	Low	Low	Low
European Ombudsman	-	High	Medium	Low	-	Medium
Rahvaalgatus	High	High	Medium	Low	Low	Low
Russian Public Initiative	High	High	Medium	Low	Low	High
MyGov	-	Low	Low	Medium	-	-
CPGRAMS	Low	Low	Low	High	High	Low
The Petitions Commission of the GNAT	Medium	Medium	Low	Low	Medium	Low
The Ombudsman Institution	-	Medium	High	Low	Medium	Low
Change.org	High	High	Medium	High	-	Low

On the UK Government and Parliament (n.d.) portal, where petitions can be opened for public support, petitions can be created with the support of 5 people. The government responds to petitions with 10,000 signatures and parliament responds to petitions with 100,000 signatures. The government responds to petitions within 21 days at the latest. In the system where petitioners can express themselves in parliament, parliamentary debates, petition documents, and geographical distribution of petitions are made available to the public. It can be said that the portal promotes participation, transparency, and accountability, as the petitions submitted to parliament are discussed in depth and in public, and petitions receive a lot of attention.

On the portal of the German Bundestag (n.d.), citizens' petitions that are public but contain more personal requests are evaluated without being published in the system, while petitions of general public interest are published and made available for users to sign. In contrast to the UK portal, in Germany, it is important that "more personal" public issues can also be submitted to resolve individual problems. Each petition is processed regardless of the number of signatures, but petitions that reach 30,000 signatures within 4 weeks can be heard in public "committee meetings". A discussion forum on the portal allows people to comment on petitions. As in the UK, transparency/accountability is supported by the option to download/share the content of petitions. In addition, users can send messages to other users through profiles they have created, and petitions can be scanned in detail. In particular, the discussion forum on the platform can strengthen democratic deliberation and participatory governance.

On the Parliament of Canada (n.d.) portal, a public signature mechanism, petitions are responded to by the government once they reach 500 signatures. Sponsorship by a neutral MP is required for petitions to be published. The government responds to petitions within 45 days, at most. In the Canadian system, the fact that petitions are publicly available and easily scanned promotes transparency/accountability. The unique aspects of the system that enhance participation are considered to be the ability of citizens to communicate their demands and suggestions directly to their MPs, and the facility to create petition topics that support "heated" political debate.

Petitions on current EU activities can be submitted to the European Parliament's (n.d.) portal, which has a collective signature system, and petitions submitted to the parliament are considered at monthly committee meetings. All petitions are answered regardless of the number of signatures, and petitioners can present their views to the parliament. In line with the principles of transparency and accountability, discussion videos and petition documents are made available to the public and can be searched using a search engine. The portal is considered to promote democratic participation by enabling petitioners to attend committee meetings frequently, to discuss challenging issues of public interest, and to conduct in-depth research. This enables the formulation of rational public policies on social issues through scientifically based methods.

The European Citizens' Initiative (n.d.) allows the collective demands of petitioners to become law through the European Commission. Initiatives, which are comprehensive policy proposals for the EU, must be signed by 1 million supporters within one year in order to be submitted to the European Commission. During the submission process, meetings are held between the initiative organizers and the Commission, and initiatives are given the opportunity to present their demands to the European Parliament. Initiatives can be submitted by at least seven EU citizens living in seven different EU countries and can be supported with funding. Disclosure of funding sources supports transparency/accountability. In addition, initiatives can be scanned in detail, suggestions from the institution can be used through the "forum" feature, discussions can be held with other members of the system, and initiative organizers/supporters can present their ideas

through “podcasts”. Training sessions for students and competitions are organized to encourage creativity. In fact, the European Citizens' Initiative is considered to strengthen citizen participation and collective political awareness through proposals for public policy/regulation at the legislative level.

The European Ombudsman (n.d.), who deals with complaints of maladministration, carries out investigations and audits of inconclusive procedures or miscarriages of justice in EU-related bodies, but is not legally binding. In cases where maladministration is found in the institution complained of, an opinion is requested from that institution within 3 months, and in cases where the recommendation is rejected, a report is made to the European Parliament. The content of the requests uploaded to the system under the heading “investigation” can be accessed via the search engine. The fact that all kinds of information and documents related to the requests are directly available to the public reinforces the transparency/accountability structure of the institution. A feature of the system that strengthens participation is the “public consultation” application, which allows the public to express their views on a particular issue. This means that important public issues are presented directly by the institution for the public to express their opinion and that these suggestions can be used by the organization.

In Rahvaalgatus (n.d.), a collective signature system in which initiatives can be submitted to the Estonian Parliament and Government, initiatives that reach 1,000 signatures within 18 months and are supported by 1% of the population in a given local area are referred to parliament. In parliament, those that receive enough votes in the committee can be implemented in the form of a bill/decision. Among the elements that increase participation on the platform, the fact that initiatives are open to public comment for three days stands out. In addition, in the context of local government, data on initiatives can be displayed geographically on a map and documents can be accessed. The map display and easy access to information/documents promote a transparent and accountable approach. Rahvaalgatus, which stands out in the context of evaluating and solving the public problems of local people, contributes to the participatory structure.

In the Russian Public Initiative (n.d.), where initiatives can be submitted to the government, citizens submit a collective initiative with a signature. Initiatives are pre-evaluated by moderators, and those who are accepted for support can be signed for one year. Initiatives at the federal level and in regions with more than 2 million inhabitants are considered if they have the support of 100,000 votes. Municipal and regional initiatives with a population of less than 2 million need the support of 5% of the population in the region to be considered by the government. These initiatives are reviewed by different experts according to their level. In the context of transparency/accountability, the content of the initiatives is made publicly available, their geographical distribution is shown on a sophisticated mapping system and they can be searched using a comprehensive search engine. In addition, a spell-check tool can be used on the textual content of the initiative. The most unique feature of the platform is that it supports “local” participation by allowing initiatives at federal, regional, and municipal levels.

In India's MyGov (n.d.), where there are no collective submissions but rather ideas/suggestions to public institutions and organizations, government agencies are referred to as “groups” and citizens on the platform can be part of these groups (up to 4 groups). The groups present specific issues to the public through 10 engagement tools and citizens can give their opinion on them: “Polls, do/tasks, blog posts, discussions, quizzes, pledges, talks, campaigns, podcasts, MG Prime”. MyGov is built with gamification where points can be earned and accumulated through participation tools and badges can also be collected. High scorers get the opportunity to talk to government officials. With its participation tools and gamification design, MyGov is creative and unique and encourages participation to a certain extent.[6] In the same

[6] It is also considered that the fact that citizens are not able to express their views on issues of their choice on MyGov and that

country, CPGRAMS (n.d.), which does not have a signature system and is used to file a "complaint" to government institutions, has grievance directors positioned in public institutions to resolve problems in the petitions. The government responds to petitions within 45 days, at most. The availability of a mobile application is an important feature of the platform, but the system offers a limited participation mechanism compared to MyGov.

In Türkiye, under the parliamentary petition system of the GNAT (n.d.; 2022), petitions can be published on the portal at the request of citizens and all are answered regardless of the number of signatures. The commission is obliged to decide on petitions within two months and to forward its decisions to the higher state authorities. Petitions can also be easily scanned. It can be argued that the system supports the principles of participation, transparency and accountability by making petitions accessible to the public and open to citizen support.[7]

Türkiye's the Ombudsman Institution (n.d.; 2022) portal is tasked with resolving complaints within 6 months. In cases where the decision of the Ombudsman Institution is accepted by the relevant institution, a "friendly settlement" is reached; otherwise, a recommendation, rejection, partial recommendation, or partial rejection may be decided. If the decision is not accepted within 30 days, the matter is referred to the Commission of the GNAT. Decisions are accessible without registration and can be searched using a comprehensive search engine. The Ombudsman Institution also has a separate website for children called "KDK Child". The publication of certain decisions on the platform, although not the current complaints, supports the principles of transparency/accountability to a certain extent and the system designed for children's submissions increases participation.

On Change.org (n.d.), people aim to create public pressure/control on decision-makers through campaigns. Campaigns can be supported by videos of supporters and texts can be written about why they are supported. The fact that campaigns and their justification texts are openly accessible and supported promotes transparency/accountability. In addition, reporting studies are carried out on successful campaigns. Although this private enterprise is not legally binding, it reflects a participatory perspective in terms of supporting public control and organizing campaigners.

In terms of efficiency, the public signature system in most of the portals analyzed prevents officials from providing similar responses to the same requests multiple times. In particular, the UK Government and Parliament (n.d.) and Russian Public Initiative (n.d.) systems prevent duplicate petitions before they are processed. In the first of these portals, the petition summary is automatically scanned and the petitioner is informed if there is a duplicate petition. In the second, a search engine allows users to identify duplicate petitions. In addition, most of the platforms analyzed indicate that they try to prevent out-of-scope/duplicate petitions through advice during the petitioning process and information/documents provided on the platform. In the portals of the European Parliament (n.d.) and the European Ombudsman (n.d.), out-of-scope petitions/complaints can be eliminated through questions asked in the second step of the petitioning process.

As seen in the UK and some other platforms, structuring submissions to government and parliament through the same system promotes efficiency. In the case of CPGRAMS (n.d.), AI automation allows for the identification of urgent complaints, the detection of topics, the identification of spam/bulk/duplicate content, the analysis of text/additional content, the identification of the semantic essence and even the

their support is requested on minor issues such as "slogan creation" weakens participation.

[7] The portal, which received only 25,149 petitions between 25/06/2018 and 3/11/2022 (GNAT, 2022), is a less popular system compared to CİMER.

understanding of the reasons for the complaints. In Change.org (n.d.), the text of the petition can be written automatically by the user, as well as by the AI support offered by ChatGPT. The chatbot on the European Parliament (n.d.) and MyGov (n.d.) portals provide citizens with quick answers about the general system/applications. All of this is intended to ensure the correct use of petition data, to increase the degree of achievement of democratic goals, and to achieve labor savings by producing more output with fewer resources.

Recommendations to CİMER in the Context of Governance Principles

CİMER can be structured to allow petitions to be signed/supported by the public and to integrate government and parliamentary petition systems, as in the UK portal (n.d.). Receiving petitions to legislative/executive branches through a single mechanism could increase efficiency and strengthen political participation. In addition, it is considered important to establish a published/unpublished submission system in CİMER, such as the portal of the German Bundestag (n.d.). For example, it does not seem sensible to submit a petition for signature if a citizen has a specific problem with an official. On the other hand, a request for a reduction of working hours can be considered as "published" content, as it is a public request related to the interest of the majority of the public. The necessary conditions can be provided for both individual and collective petitions to be included together in the evaluation process. In addition, in line with a democratic objective to make citizen participation "competitive", a "signature counting system"[8] could be established, as in the UK and other countries, and the "sponsorship" of an MP (Parliament of Canada, n.d.), who is obliged to act objectively, could be required for petitions to be published in the electronic system. Such an approach to the signature system would strengthen participatory democracy and increase the reflection of citizens' opinions and suggestions on public policy.

It can be stated that opening petitions to the public would increase participation as well as efficiency/effort savings by preventing multiple responses to requests with the same content. Currently, many parents, students, and teachers can apply to CİMER several times regarding an issue such as "regulation on education legislation" and receive the same/similar responses from public institutions.[9] According to the proposal, if petitioners tend to make multiple petitions with the same content, they will be informed that these petitions are duplicates and the response given in the past will be displayed. Duplicate petition information could be shared to the petitioner by scanning the petition summary, as in the UK Government and Parliament (n.d.) portal. By developing a search engine similar to the Russian Public Initiative (n.d.), the petitioner will be able to identify petitions similar to their own by entering keywords into the system. Additionally, petitioners/complainers may be asked questions during the petitioning process to prevent duplicate or irrelevant petitions (European Parliament, n.d.; European Ombudsman, n.d.).

In CİMER, it is considered necessary to make all answered/rejected/archived, etc. petitions in the "published" category accessible on the website without registering in the system. In addition, discussions related to petitions could be broadcast live in video format and made

[8] Accordingly, petitions can be sent to the government when they reach 10,000 votes (or 500 or 1,000) and to the parliament when they reach 100,000. Instead, every petition could be considered, regardless of the level of support. Under another proposal, all petitions could be processed, but only those petitioners who reach 50,000 votes could be allowed to make a presentation in parliament. On the contrary, regardless of the number of supporters, citizens could be given the opportunity to express their opinions in parliament through direct/remote participation. Petitions can remain open for support in the system for 1, 6, 12, or 18 months. In addition, 5, 10, 25, or 100 signatories can be required for publishable petitions.

[9] One of the risks to be highlighted in this system is that different or the same public institutions may sometimes respond differently to the same petitions.

available for download (UK Government and Parliament, n.d.). A comprehensive search engine (European Parliament, n.d.) and an interactive map application (Russian Public Initiative, n.d.) could be developed to easily locate petitions and allow them to be shared on social media. This would increase transparency in public administration and make it more accountable.

In the context of practices that will increase participation in CİMER, it is believed that comprehensive initiatives, as practiced in the European Citizens' Initiative (n.d.), can be included in the system. Through these initiatives, detailed proposals can be made on state policies/practices and laws that will provide public benefits.[10] In addition, as in Germany, a discussion forum can be created to comment on petitions. Discussants can create profiles and interact with each other (German Bundestag, n.d.). In the case of petitions for legislative changes, profiles of MPs could be created, including their contributions (speeches, proposals) (UK Government and Parliament, n.d.).

Other participation tools that could be integrated into CİMER include "polls, tasks, blog posts, discussions, quizzes, pledges, talks, campaigns, podcasts, MG Prime" (MyGov, n.d.); "competitions, training kits" (European Citizens' Initiative, n.d.); and "public consultations" (European Ombudsman, n.d.). In addition, discussions can be opened for comment for three days (Rahvaalgatus, n.d.) and initiatives can be voted for/against (Russian Public Initiative, n.d.). A specific type of petition, or a stand-alone platform operating on a municipal basis, could be created for submitting petitions on issues related to local services at CİMER (Rahvaalgatus, n.d.). This would demonstrate that local petitions are handled with care and encourage municipalities to work efficiently/effectively. In addition, a separate platform called "CİMER Child" could be established to introduce children to democratic rights and freedoms at an early age (The Ombudsman Institution, n.d.).

Recommendations to CİMER in the Context of Artificial Intelligence/Big Data Debates

Integrating the CİMER system with AI through transformer-based language models may increase accuracy in the petitioning process and related tasks, save labor, and improve efficiency. Similarly, increased efficiency and accuracy are expected in analysis, reporting, review, and audit activities. More accurate analyses and effective oversight of CİMER personnel are anticipated to result in stronger reflection of citizens' opinions in administrative decisions and strengthened public participation. Six recommendations have been made for the CİMER system to support these claims.

i.) Automatic Classification of Petitioning Processes: There are currently 70 main topics and 800 subtopics in CİMER. CİMER staff read petition texts and manually tag them on the user portal. However, incorrect tagging can negatively affect quantitative data obtained through the SQL system in analysis and reporting activities. Additionally, citizens can submit petitions directly to specific main institutions, such as the Ministry of National Education. However, these institutions have a total of approximately 60,000 sub-administrative units. Consequently, public officials often re-route petitions to sub-units or other institutions deemed appropriate for their area of responsibility. Incorrect routing increases response times and reduces petitioner satisfaction. Conversely, citizens are required to select one of seven petition types, and mistakes in their selections cause public officials to manually correct the relevant tags. This not only wastes time, but also weakens the reliability of statistics obtained from CİMER's big data system. Therefore, rather than manually selecting the subject, institution, and petition type, NLP-supported automatic classification systems can be used. These systems can semantically analyze petition texts to automatically identify the most appropriate subject, petition type, and relevant

[10] These can be included in the evaluation process once they reach 1 million supporters (the number can be changed in proportion to the population of the regions) in seven geographical regions of Türkiye for one year. In this way, it is envisaged that the initiatives will reflect a civic engagement that promotes inclusiveness and diversity.

institution. This prevents misdirection, speeds up the petitioning process, enables citizens' requests to be met more quickly, and reduces the workload of public officials. Literature demonstrates that such classification processes can be successfully automated (Gaut et al., 2018; Hagen et al., 2015; Li et al., 2023; Özalp, 2025).

ii.) Automatic Summarization of Petition Texts: Currently, CİMER staff read tens of thousands of CİMER petitions in Microsoft Office programs every week and summarize similar petitions in bullet points. This may result in excessive staffing in the analysis/reporting and review/audit units, as well as increased workload pressure and problems preparing reports for submission to the relevant authorities on time. Additionally, shifts in meaning and inconsistencies in content that may arise during the summarization process could reduce the quality of reports. Therefore, the current method is labor-intensive and error-prone. In contrast, NLP-based information extraction (Khurana et al., 2023: 3725-3726) and text summarization (Gudivada et al., 2015: 218-223) can obtain the semantic essence of petitions much more quickly and consistently. As a result, reports will be more accurate, provide more valuable information to decision-makers, and encourage citizen participation. Additionally, public officials can significantly reduce the time they spend and increase efficiency by ensuring the effective use of public resources. For instance, the CPGRAMS (n.d.) system can analyze complaint text and attached documents, identifying their semantic essence automatically. It can automatically detect the subject matter of many citizens' complaints in cluster form.

iii.) Writing Automatic Petition Texts and Responses: In the CİMER petitioning process, citizens are expected to write a text of up to 3,000 characters. If these texts are not clearly structured into sections such as request, justification, benefits, and expected results, public officials may have difficulty understanding the petitions. These petitions are categorized as “petitions whose purpose and subject matter are unclear” and are not processed (Directorate of Communications, 2023b: 23). This situation prevents citizens' requests from being met promptly and increases public officials' workload, thereby reducing efficiency. NLP-based automatic text generation tools offer an important opportunity to overcome this problem. On the Change.org (n.d.) platform, for example, users can either write their campaign texts themselves or edit the draft text generated by the system using a short description of no more than 500 characters and a “personal story” entry with the help of AI. This method enables the production of meaningful, formal text from brief inputs. Integrating a similar system into CİMER could make petition content more understandable and standardized. This would improve the quality of citizen participation and increase the effectiveness of governance processes. Additionally, many petitions submitted to CİMER are standard and consist of similar content and requests. Responses to such petitions are often repetitive and based on legislation. Currently, public officials either manually prepare these responses or search for and select pre-prepared templates. However, this process is time-consuming and increases the workload. NLP-based automatic response generation systems can quickly display relevant template responses by recognizing standard petition texts using information extraction methods (Khurana et al., 2023: 3725-3726). These systems can utilize the regulation-based template management section in CİMER and automatically organize relevant content by matching it with the petition text. Not only will this shorten response times, but it will also ensure that responses are standardized in terms of language, content, and format.

iv.) Spell Check Tool: Petitions written by citizens and responses given by public officials in CİMER should be written in a simple, formal, unbiased, and impartial manner, and in accordance with Turkish language rules (Directorate of Communications, 2023b: 51). However, it is difficult to assume that all citizens and personnel will fully comply with these rules. In such a case, misunderstandings and misinterpretations may arise in communication. This can lead to delays in the petitioning process and reduced efficiency. As a solution to this

problem, a writing check tool structured with NLP technology can be implemented. This tool can improve the quality of communication by identifying grammatical errors, awkward phrasing, and biased or inappropriate expressions in petitions submitted by citizens and responses provided by public personnel. A similar tool is already used on the Russian Public Initiative (n.d.) platform to correct grammatical errors in petition texts and ensure linguistic standardization.

v.) Automatic Detection of Urgent Petitions: CİMER frequently receives petitions from citizens during disasters and crises. For instance, following the February 6, 2023, earthquake centered in Kahramanmaraş, a new petition type called "Earthquake Emergency" was created, under which approximately 2 million petitions were received. On the day of the earthquake, CİMER supported search and rescue operations and played an important role in meeting the victims' various needs, particularly their requests for in-kind assistance, in the following days (Yıldızalp, 2024). Currently, public officials label petitions as "normal," "urgent," or "very urgent" to ensure they are processed on a priority basis. However, this process can create a significant workload. NLP applications that can automatically scan petition texts and extract meaning could speed up the identification of urgent petitions and increase efficiency. This would enable critical material or emotional challenges to be resolved more quickly during crisis periods. During routine periods, automatically determining the urgent processing priority of petitions related to sensitive issues, such as terrorist acts or the abuse of women and children, could enhance the system's effectiveness.

vi.) Chatbot: Currently, citizens obtain information about petitioning processes from notifications at each stage of the petition, publications such as CIMER in 50 Questions, and the "Frequently Asked Questions" section of the website. However, these sources may not always be practical for obtaining specific information. They may also prevent citizens from accessing accurate information quickly, causing them to submit incorrect petitions. Therefore, a chatbot that can directly answer citizens' questions would be useful. The chatbot on the European Parliament's (n.d.) e-petition platform can understand and answer questions based on user input and highlight relevant topics. The system confirms that it has correctly understood the question and, if necessary, guides the user to additional questions. If it cannot understand the question, the chatbot redirects the user to the menu or ensures that the issue is resolved via email. Integrating a similar advanced chatbot into CİMER could simplify the petitioning process, reduce the number of incorrect petitions, and enable citizens to quickly access accurate information.

In the context of these recommendations, a cost-benefit analysis should be conducted when integrating AI-based systems into CİMER. Development and maintenance costs should be clearly compared to the resulting efficiency and labor savings. For instance, an automatic classification system can reduce the additional workload caused by misdirected referrals by directing petitions to the appropriate institutions, which results in significant savings in personnel hours per year. Text summarization and automatic response systems can reduce the time CİMER staff spend on weekly summaries and responses. Considering CİMER's annual volume of four to five million petitions, these savings could translate to millions of Turkish lira in efficiency gains. Conversely, system development, model training, infrastructure compatibility, and maintenance costs could represent a portion of these gains. Thus, the return on technological investments can be measured, and the integration of AI applications into CİMER processes can be evaluated from technical and economic perspectives.

Technological challenges that may arise during the system's integration into the existing infrastructure should also be planned for. Issues such as GPU hardware adequacy, model size, performance requirements, compatibility with existing databases and user interfaces, model retraining and updating, and system maintenance

and monitoring processes should be considered. Such planning ensures the platform runs smoothly, quickly, and securely. The data used in this process will include petition texts, petition type, subject, and sub-subject tags, and administrative unit information. During the data processing stage, incorrect or missing tags will be cleaned up, and the texts will be tokenized and normalized to convert them into a format that the model can understand. However, data security should be prioritized. The protection of personal data must be ensured during petition processing, and terabyte-level data should not be transferred outside CİMER servers. Anonymization, encryption, and access control measures that comply with the Personal Data Protection Law (PDPL) must be implemented. In this context, it is important for citizens to trust the systems to which they apply and to know what stages their data will undergo and who may access it. The state should be completely transparent in this regard and offer citizens a choice regarding the use of their personal data. This approach alleviates privacy concerns (Mehr, 2017: 10-14). Additionally, synthetic data sets reflecting the content of petitions can be produced to train the model, as in Özalp's (2025) study. This method enhances PDPL compliance and reduces the risk of disclosing sensitive information. In this context, it is believed that AI recommendations can be securely, sustainably, and measurably integrated into CİMER's current operations, moving beyond the theoretical level.

In addition to the technical benefits of AI for processing CİMER petitions and participating in decision-making processes, ethical considerations must be taken into account. These considerations are particularly relevant in processes involving automatic petition text/response writing and petition text summarization. For instance, integrating Change.org's (n.d.) text generation system directly into CİMER could cause petitioners to rely heavily on AI to write their texts. This could result in an increase in artificial petition content or limit petitioners' ability to convey their original messages. Therefore, it is recommended that a text-writing tool be developed that can edit detailed, well-structured petition texts. This would enable the creation of petitions that are more meaningful and well-structured. Additionally, public officials may frequently refer to automatically generated petition responses and provide incorrect responses. Thus, the automation system should be structured based on template creation, especially for repetitive, qualified petitions. Furthermore, during analysis, reporting, review, and audit activities, it is crucial for the editor to identify critical points to minimize the risk of errors in reports generated by text summarization and ensure that nuances understood by humans are not overlooked.

On the other hand, if the CİMER recommendations are implemented, the state must involve citizens in the AI process. Rather than making it mysterious, it is important to structure the system in a way that citizens can understand. Educational activities can help citizens understand how they interact with AI and how ethical and privacy processes are implemented transparently. Additionally, incorporating feedback from citizens and public employees during the development of AI applications can help ensure that the system is more qualified and user-oriented. Furthermore, the system should be designed to work with CİMER staff, not replace them. It is also important to involve ethical experts in programming and training systems to prevent bias (Mehr, 2017: 10-14). This minimizes the risk of NLP systems reproducing social biases and causing privacy issues (Eisenstein, 2019: 2–5).

Conclusion

The examples analyzed in the study and the AI/big data debates were found to contain certain elements that would strengthen CİMER's democratic goals in the context of contemporary government public relations and governance. As shown in Table 2, CİMER is strong in terms of accessibility and response time. However, there are areas for improvement regarding participation, transparency/accountability, the use of AI, and the prevention of duplication. The main recommendations for CİMER are based on the main

findings of the platforms studied. These include the integration of CİMER with the e-petition portal of the Turkish legislature and the development of a signature system for both collective and individual requests. Attention was then drawn to the publication of all documents etc. related to petitions, the live broadcasting of parliamentary committee debates, the proposal of amendments at the legislative level through initiative petitions, and the design of a petition system at the local level. It also emphasized the implementation of practices such as discussion forums and public consultations. Indeed, it was believed that these changes would promote democracy and collective political culture in Türkiye, strengthen the implementation of accountable/transparent governance, and make the functioning of the e-petition system more efficient and effective.

In order to efficiently carry out CİMER's core activities through AI/big data applications, recommendations were made under six main headings. In this context, directing petitions to the relevant institution based on NLP-based automatic classification according to subject, petition type, and relevant institution can speed up processes by preventing misdirection and reducing the workload of public personnel. Automatically summarizing petition texts using NLP can increase the accuracy and consistency of reports, speed up analysis processes, and enable more effective use of public resources. Automatic text and response generation supported by NLP can make petition content understandable and standardized, while also simplifying the response preparation process for public officials, improving citizen participation, and enabling governance processes. Spell-checking tools can improve communication quality and prevent misunderstandings by ensuring that petition texts and responses in CİMER comply with grammar and official standards. Automatically identifying petitions related to disasters, crises, and sensitive issues using NLP can accelerate priority processing, thereby increasing efficiency and effectiveness. A chatbot that directly answers citizens' questions about the petitioning process can provide quick access to information, reduce incorrect petitions, and improve the user experience. The comprehensive implementation of these recommendations can save time and effort for public officials, increase processing efficiency, and improve the user experience for citizens, thereby strengthening the quality and sustainability of participation.

This study contributes to the literature in two ways, as argued. First, it highlights collective petitions, public petition-response processes, and the functioning of petitions at the legislative level, drawing attention to these topics based on examples from different countries. In this regard, the study offers a unique framework that enhances transparency and accountability, as well as CİMER's capacity for collective democratic participation. Second, the six recommendations presented in the context of AI applications specific to CİMER constitute a unique contribution. While a previous study focused solely on the referral process (Özalp, 2025), this study demonstrates the need for automation in CİMER's core activities and provides engineers and public IT experts with a framework for automation. Further studies are recommended to develop the presented views regarding CİMER and demonstrate AI-related recommendations in an applied manner.

Finally, based on the research findings, actionable and clear policy recommendations can be provided to decision-makers. Automated classification applications can increase the efficiency of petitioning processes. In the context of AI development, CİMER's algorithmic processes should be made more transparent. Collective petition opportunities can be created to encourage citizen participation. Feedback mechanisms can be established to monitor, evaluate, and improve citizen satisfaction. Systematic mechanisms can be implemented to prevent duplicate petitions. Petition and response processes can be made transparent to the public. Resolved petitions and outcome-oriented processes can be shared systematically with the public. Petition types can be more clearly defined and legally secured. These recommendations can enable CİMER to operate in a manner that is more consistent with governance principles.

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Genişletilmiş Özet

Günümüz halkla ilişkiler kavrayışında, taraflar arasında iki yönlü, simetrik ve sürekli bir etkileşimin olduğu ve hedefin iknadan ziyade karşılıklı anlayış geliştirme üzerinde konumlandırıldığı ifade edilmektedir. Bu tür bir perspektifin bireysel hak ve özgürlükleri öne çıkaran; idare anlayışında âdem-i merkeziyeti, çokaktörlülüğü, katılımı ve diyaloğu savunan; devletin hesap verebilir/şeffaf olmasını ve özel sektör mantığıyla verimli kılınmasını talep eden 1980'ler sonrası gelişen yönetişim paradigmasında yankılandığı belirtilmektedir. Bu anlamda kamusal halkla ilişkilere ilişkin çağdaş yaklaşımın, kamuoyuna karşı duyarlı ve sorumlu olması gerektiği ifade edilen yönetişim için iletişimsel bir model oluşturduğu tasavvur edilmektedir.

Dilekçe ve bilgi edinme hakkı çağdaş kamusal halkla ilişkiler ve yönetişim bağlamında temel haklar arasında yer almakta olup demokrasi, aleniyet ve kamu politikalarına katkı sağlayan araçlar olarak değerlendirilmektedir. Yirmi birinci yüzyılda e-Dilekçe platformlarının gelişimi bu hakların kullanımını kolaylaştırmıştır. Ancak sistemlerdeki yapılandırılmamış büyük veri kamu bürokrasisi tarafından analiz edilmesi zor bir hâle gelmektedir. Bu nedenle veri madenciliği, makine öğrenmesi, derin öğrenme ve doğal dil işleme gibi uygulamalar aracılığıyla dilekçelerin otomatik sınıflandırılması, özetlenmesi ve bilgi çıkarımı sağlanabilmektedir. Böylece karar alma süreçleri ve kamu hizmeti verimliliği olumlu yönde desteklenmektedir.

Türkiye'de yürütme aygıtına yönelik dilekçe ve bilgi edinme haklarının elektronik portal üzerinden kullanılabilmesine imkân tanıyan CİMER; vatandaşların, idarenin gerçekleştirdiği eylem ve işlemlere yönelik görüşlerini bildirebilmesine ve bunların kamu politikalarına dönüştürülmesine aracılık etmektedir. CİMER'de gerçekleştirilen analiz ve raporlama çalışmaları ile vatandaşların kamusal talepleri en üst karar alıcılara kadar iletilebilmektedir. İnceleme ve denetim

çalışmalarıyla ise dilekçelere süratli/doğru işlemler yapılması sağlanmaktadır. Ancak CİMER'de büyük veriye yönelik çözümlemeler gerçekleştirilmesine karşın yapay zekâ entegrasyonu mevcut değildir.

Araştırmanın temel sorunsalı CİMER'in yönetişim ilkeleri doğrultusunda daha etkin hâle getirilmesi gerekliliğidir. CİMER'de her vatandaşa bireysel dilekçe imkânı tanınmasına karşın kolektif dilekçe seçeneğinin bulunmaması vatandaş katılımını sınırlandıran bir etken olarak değerlendirilebilir. Buna ilaveten bireysel dilekçelerin yinelenmesi kamu personelinin iş yükünü artırabilmekte, dilekçelerin ve yanıtların kamuoyuna açık olmaması ise şeffaflık ve hesap verebilirliği sınırlandırabilmektedir. Ayrıca CİMER'in henüz yapay zekâ sistemleriyle entegre edilmemiş olması, dilekçe sürecinin ve dilekçelerin analizinin verimliliğini azaltabilmektedir. Araştırmanın temel varsayımı, yabancı e-Dilekçe sistemlerinden ve yapay zekâ/büyük veri uygulamalarından edinilen deneyimlerin CİMER'e uyarlanmasıyla vatandaş katılımının artabileceği, şeffaflık ve hesap verebilirliğin güçlenebileceği ve kamu yönetiminde verimliliğin sağlanabileceğidir.

Araştırmanın amacı, Türkiye'deki ve yabancı ülkelerde bulunan e-Dilekçe portallarının demokratik katılımcılığı artıran yönlerini ve yapay zekâ/büyük veri teknolojilerine dair yapılan ampirik araştırmaların verimlilik temelindeki bulgularını inceleyerek CİMER'e yönetişim ilkelerini destekleyen öneriler sunmaktır. Doküman analizi tekniğine dayanan çalışmada, toplamda 13 e-Dilekçe platformu çözümlenmiştir. İncelenen 10 yabancı resmî e-Dilekçe platformu arasında "Birleşik Krallık Hükûmeti ve Parlamentosu"; "Alman Federal Meclisi"; "Kanada Parlamentosu"; "Avrupa Parlamentosu", "Avrupa Vatandaş Girişimi" ve "Avrupa Ombudsmanı" (Avrupa Birliği); "Rahvaalgatus" (Estonya); "Rus Kamu Girişimi"; "MyGov" ve "Merkezi Kamu Şikâyet Giderme ve İzleme Sistemi" (Hindistan) bulunmaktadır. Türkiye'deki resmî e-Dilekçe sistemleri arasında ise Türkiye Büyük Millet Meclisi (TBMM) Dilekçe Komisyonu ile Kamu Denetçiliği Kurumu yer almaktadır. Ayrıca dünyanın en popüler gayriresmî e-Dilekçe platformlarından olan Change.org da çalışmaya dâhil edilmiştir. Tematik analiz yöntemi aracılığıyla örneklem, "katılımcılık", "hesap verebilirlik", "şeffaflık" ve "verimlilik" olmak üzere dört yönetişim ilkesi kapsamında çözümlenmiştir. Katılımcılık, vatandaşları kamu yönetimi karar süreçlerine dâhil ederek etkileşime dayalı demokratik bir iletişim biçiminin kurulmasını sağlamaktadır. Bilgi ve belgelerin kamuoyunun erişimine açılması ile bağlantılı olan şeffaflık, siyasal iktidarın eylemlerini belirli gerekçelere dayandırmasını sağlayan hesap verebilirlik ile doğrudan ilişkilidir. Verimlilik ise devletin sınırlı kaynakları etkin kullanarak maksimum çıktı üreterek hedeflerine daha isabetli biçimde ulaşmasını ifade etmektedir. Bu doğrultuda araştırmada şu sorulara yanıt aranmaktadır:

1. Örnekleme dâhil edilen e-Dilekçe platformlarının dilekçe sistemleri, katılımı artırmaya yönelik araçları, mükerrer veya kapsam dışı dilekçeleri önleme yöntemleri ve yapay zekâ/büyük veri uygulamaları yönetişim ilkeleri bağlamında hangi katkıları sağlamaktadır?

2. Literatürde e-Dilekçe sistemlerinin yapay zekâ/büyük veri kapsamında geliştirilmesine yönelik çalışmalar yönetişim ilkeleri açısından hangi güçlü yönleri ortaya koymaktadır?

3. İlk iki sorudan elde edilen bulgular CİMER sistemine özgün bir biçimde nasıl uyarlanabilir ve yönetişim ilkelerini hangi açılardan güçlendirebilir?

İncelenen çoğu e-Dilekçe portalının kolektif dilekçeye imkân tanıyarak bunlara yönelik bir imza sistemi oluşturduğu ve dilekçelerle ilgili tüm içerikleri kamuoyunun erişimine sunduğu bulgulanmıştır. Katılımcılığı artıran unsurlar arasında, parlamento-komite tartışmalarının yayınlanması, tartışma forumu oluşturulması, yasa teklifine imkân tanıyan girişim başvurularının alınması, kamu istişarelerinin düzenlenmesi, anket ve yarışmaların yapılması gibi hususlar bulunmaktadır. Platformlar arasında, otomatik metin oluşturma, spam dilekçeleri engelleme gibi yapay zekâ destekli araçlara başvuranlar da saptanmıştır.

Ampirik analizin bulguları bağlamında, CİMER'e ilişkin olarak yapılan temel öneriler arasında, CİMER ile TBMM Dilekçe Komisyonu portallarının bütünleştirilmesi ve bireysel dilekçelere ilaveten kolektif dilekçelerin de yapılabildiği bir imza sisteminin geliştirilmesi bulunmaktadır. Yanı sıra dilekçelere ilişkin her türlü doküman vb. kamuoyuyla paylaşılması, canlı olarak parlamento-komite tartışmalarının yayınlanması, "girişim" başvurularıyla yasa düzeyinde değişiklik önerilebilmesi ve yerel düzeyde bir başvuru sisteminin tasarlanmasının altı çizilmiştir. Ayrıca tartışma forumu ve kamu istişareleri gibi uygulamaların hayata geçirilmesine vurgu yapılmıştır. Nitekim bu değişikliklerin Türkiye'deki demokrasi ile kolektif siyasal kültürü besleyeceği, hesap verebilir/şeffaf bir yönetimin uygulanmasını güçlendireceği ve e-Dilekçe sisteminin işleyişini daha verimli ve etkin kılacağı savunulmuştur.

Çalışmada, doğal dil işleme bağlamında e-Dilekçe platformlarına dair yapılan araştırmalardan ve incelenen platformlardaki bulgulardan yararlanarak CİMER'e altı öneride bulunulmuştur. Bu kapsamda dilekçelerin konusu, türü ve yönlendirileceği ilgili kurumun seçimi manuel olarak yapılmak yerine doğal dil işleme tabanlı otomatik sınıflandırma ile gerçekleştirilebilir. Böylece yanlış sevkler önlenebilir, süreçler hızlanabilir ve kamu personelinin iş yükü azalabilir. Dilekçe metinlerinin doğal dil işleme ile otomatik özetlenmesi, raporların doğruluk ve tutarlılığını artırarak analiz süreçlerini hızlandırabilir ve kamu kaynaklarının daha etkin kullanılmasını sağlayabilir. Otomatik metin ve yanıt üretimi, dilekçe içeriklerinin anlaşılır ve standart hâle gelmesini sağlayarak kamu personelinin yanıt hazırlama sürecini kolaylaştırabilir, vatandaş katılımını iyileştirebilir ve yönetişim süreçlerini güçlendirebilir. Yazım denetim araçlarının dilekçe metinleri ve yanıtların dil bilgisi ile resmî standartlara uygunluğunu sağlaması, iletişim kalitesini artırabilir ve yanlış anlamaları önleyebilir. Afet, kriz ve hassas konulardaki dilekçelerin otomatik olarak tespit edilmesi, öncelikli işlem yapılmasını hızlandırarak verimliliği ve etkinliği artırabilir. Vatandaşların dilekçe süreçleriyle ilgili sorularını doğrudan yanıtlayan bir sohbet robotu ise bilgiye hızlı erişimi sağlayarak hatalı düzenlenen dilekçelerin sayısını azaltabilir ve kullanıcı deneyimini iyileştirebilir.

Farklı ülkelerdeki e-Dilekçe uygulamalarını inceleyerek kolektif ve kamuya açık dilekçe gibi süreçlere odaklanan bu çalışma CİMER bağlamında şeffaflık, hesap verebilirlik ve demokratik katılım kapasitesini güçlendiren özgün bir çerçeve sunmaktadır. Ayrıca, yapay zekâ destekli altı öneri ile CİMER'in temel faaliyetlerinde otomasyon ihtiyacını sistematik olarak ortaya koymaktadır. Bu araştırma bağlamında CİMER'in katılımcılığını artıracak önerilerin daha da geliştirilmesine ve yapay zekâ ilişkili tavsiyelerin uygulamalı biçimde gösterilmesine odaklanan çalışmaların gerçekleştirilmesi önerilmektedir.

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