

Ur Iraqi Portal for Government Digital Services: A Descriptive Analytical Study.

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Abstract.

Iraq has undergone major changes since 2003 on several levels: political, social, economic, and technical. Successive Iraqi governments since 2003 have tried to keep pace with global technological developments in order to connect Iraqi society to these transformations. The emergence of what is known as e-government globally has encouraged successive Iraqi governments to keep pace with this development and provide services comparable to those available globally in order to facilitate the lives of Iraqi citizens who suffer from various economic, political, and social problems. Based on this, the Ur portal for Iraqi government digital services was established to serve as a digital bridge between citizens and government services. This research reviews this portal in terms of its technical components, services, and the challenges it faces.

Keywords. Iraq, Ur portal, digital services, Iraqi digital government, digital transformation

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1. Introduction

Over the past two decades, the world has witnessed a widespread digital transformation that has altered the balance of government and administrative work. Information and communications technology (ICT) has become an integral part of any administrative modernization or institutional reform process (Schnoll, 2015). Governments can no longer continue to provide services in the traditional, bureaucratic manner, given the growing expectations of citizens and beneficiaries seeking speed, transparency, and efficiency. Hence, the concept of e-government emerged, restructuring the relationship between citizens and the state through digital platforms that provide services and information in an integrated and seamless manner (Asogwa, 2013). In Iraq, after decades of war and unrest, the need for a comprehensive reform of the way the state is governed, and its services are delivered has emerged. It was imperative to explore new tools to help restore trust between the state and society and pave the way for building more efficient and resilient institutions (Brinkerhoff & Johnson, 2009). The Ur Portal project represented a pioneering attempt in this direction, through which the Iraqi government sought to consolidate various electronic services into a unified national platform (Abdali et al., 2024). This portal not only reflects a drive to leverage global technological developments but also a political desire to rebuild the relationship between citizens and government on new foundations based on transparency and easy access to services (Ahmed & Karanfiller, 2025). Expanding the discussion around the Ur Portal helps highlight the strategic dimension of digital transformation in Iraq. Digitization is not a luxury or a secondary option; rather, it is a necessity for achieving sustainable development in a country seeking to integrate into the global economy (Bhutani & Paliwal, 2015). Without the development of a robust digital infrastructure and an effective e-government system, Iraq will continue to lag countries that have invested in technology to enhance their competitiveness (Khalid, 2025). Hence, the Ur Portal study makes a practical contribution to charting the path toward a digital Iraq capable of meeting future challenges.

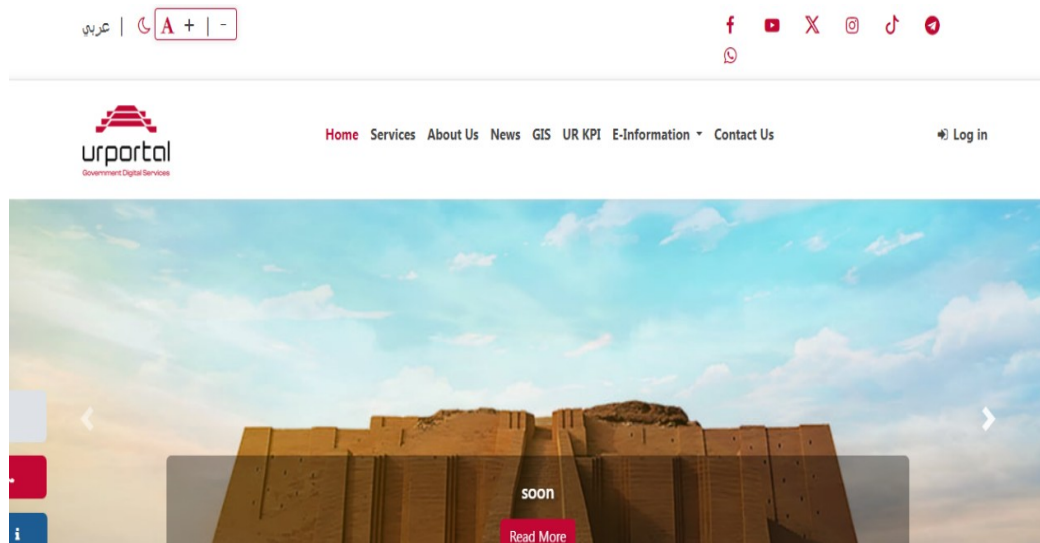


Figure 1. Ur Portal Home Page

2. Study importance

The importance of this study lies in its attempt to understand the Ur Portal not only as a technical project but also as a social, political, and economic phenomenon. The project goes beyond being a mere website offering services, becoming part of a structural transformation process affecting the way the state is managed and governed in Iraq (Hendrix, 2013). Therefore, any analysis of the portal must consider the broader context in which it emerged: an unstable security environment, a complex and pluralistic political system, an economy suffering from major imbalances, and a culturally, religiously, and ethnically diverse society. By considering these elements, we come to understand that we cannot separate the portal's success or failure from these factors. The importance of the study also stems from the need to enrich the academic literature on e-government in post-conflict environments. While the experiences of developed countries such as Estonia and Singapore are abundant in studies and analyses, those of developing countries, particularly those emerging from conflict, remain poorly documented and analyzed (Cortez & Kim 2012). The study on the Ur Gateway fills part of this gap, providing a realistic model through which to understand the challenges and opportunities facing digitization projects in complex environments. From a practical perspective, this research derives its importance from the fact that it offers actionable recommendations that could contribute to improving the portal's performance and enhancing its effectiveness. Iraqi citizens, like all citizens around the world, expect prompt and efficient service from their government and do not wish to waste time in queues or become bogged down in bureaucratic procedures (Omar Bali, 2018). If the portal succeeds in meeting these expectations, it will directly contribute to strengthening trust between citizens and the government. However, if it fails, it could have the opposite effect, widening the trust gap and deepening public frustration.

3. Study goals

This study aims to demonstrate how the portal can become a tool for promoting good governance principles by reducing opportunities for corruption, improving transparency, and expanding community participation. When citizens can access services online without the need for intermediaries or paperwork, they are less likely to be subject to extortion or corruption (Starke, Naab & Scherer 2016). This makes the Ur portal more than just a service platform but rather a reform project with profound political and social dimensions.

4. Study questions.

This study attempts to answer several questions, including: What is the reality of the Ur Gateway? What challenges does it face? How can its performance be improved? And what can it offer as a model for other countries with similar circumstances?

5. The historical background of e-government in Iraq - Ur portal.

Interest in e-government in Iraq began to emerge after 2003, with the fall of the former regime and the country's entry into a new phase characterized by institutional chaos and the collapse of infrastructure. During that period, the state had to rebuild its institutions almost from scratch, amidst massive security and economic challenges. In this context, initial signs of the idea of e-government emerged, but these were individual initiatives by some

ministries and institutions seeking to create simple websites providing general information such as working hours or administrative instructions (Shareef,2012). Over the years, the need for a more comprehensive approach to utilizing technology in citizen service has grown, especially with the bloated bureaucracy and citizens' difficulty accessing basic services. With the widespread use of the internet in Iraq, attempts to create more organized platforms emerged, but they remained fragmented and unintegrated (Al-Kaisy, 2019). For example, the Ministry of Higher Education created electronic platforms for student admissions, while the Ministry of Interior provided some services related to immigration and passports. However, these initiatives remained separate from each other and lacked a unified national framework (Jawad & Al-Assaf, 2014). The launch of the Ur Portal came in response to this need for unification and integration. The portal bears the name of the historic city of Ur, a reference to the ancient civilization that contributed to the birth of the first human cities. This choice was symbolic, aiming to connect Iraq's rich past with its digital future. The initial announcement of the portal represented a glimmer of hope for many observers, who saw it as a step toward building a modern Iraq that relies on technology to overcome its chronic problems. It's worth noting that the Ur portal was part of a broader national digital transformation strategy that successive Iraqi governments have attempted to formulate (Alsammarraie, 2025). However, these strategies often remain on paper and fail to achieve full implementation. Experience has shown that having a strategy without strong political will and ongoing institutional oversight is insufficient to achieve success (Khalid,2025). The Ur Portal can be viewed as an emerging experience that reflects Iraq's ambition to join the ranks of countries that have adopted e-government as a strategic option. Although the circumstances surrounding it were not entirely favorable, the mere launch of the portal represents an important step in the digital transformation process. This historical background allows us to understand that the Ur Portal did not arise in an ideal environment but rather in a challenging context, which makes studying it a special case of great scientific and practical value.

6. Literature review

Electronic portals represent the core of e-government, as the central goal of e-government is communication and participation between government agencies and their citizens, including the private sector and civil society. On the other hand, the portal represents the embodiment of the principle of limiting transactions with the government through a single window, a one-stop shop (Yıldırım & Bostancı, 2021). This was the main reason that prompted many countries to establish electronic portals that offered some services before introducing general plans and strategies for e-government. Thus, most electronic portals were established with a limited framework of services in the early 20th century, and then the broad tasks were added to most portals. It is worth noting that the websites of most countries resorted to providing electronic portals at the same time that they provided electronic services on the websites of some ministries, which have their own websites outside the portal (ESCWA,2013). The growth of e-participation in the Arab region is a positive trend observed in the 2024 survey. Countries such as Jordan, Morocco, and Bahrain have implemented successful e-participation platforms, enabling citizens to engage in policymaking through public consultations and feedback mechanisms. These countries' e-Participation Index (EPI) scores have seen steady improvement, with platforms designed to promote transparency, inclusiveness, and citizen engagement (Jabrani,2024). Successful government digitization, implemented correctly, can take years to fully implement. However, governments can mitigate this complexity by breaking the implementation process down into small steps. Quick wins can generate the momentum needed to complete the process. To ensure these gains, governments can begin by focusing on the digital front end, where providing services online and simplifying forms (with guidance on how to complete them) can enhance user satisfaction(mckinsey.com). With the growth of information and communications technology capabilities and technological infrastructure that has allowed for better accessibility, especially wirelessly, the types and methods of interaction between government and citizens have similarly grown, leading to the emergence of e-government and e-participation. E-participation allows citizens to contribute to decision-making and policy formulation, or at the very least, provide feedback on these issues. Some other e-government applications remain controversial, such as e-voting, which is supposed to allow all citizens to participate in elections via the internet (ESCWA,2018). Digital platforms are certainly an effective hub for exchanging information, goods, and services and have established themselves firmly within the international community (Nambisan, Zahra, & Luo, 2019). They are therefore an essential part of the global digital transformation taking place globally. They combine big data, analytics, artificial intelligence, the cloud, and machine learning to achieve the digital revolution. The structure of digital platforms is highly flexible and effective, enabling them to maximize the use of government digital capabilities to engage with diverse segments of society (Hanna, 2018). Digital platforms possess numerous advantages that make them a top priority among modern options for countries (Bonina, Koskinen, Eaton, & Gawer, 2021). Countries rely on them to save time, effort, and money in managing state affairs across various fields. Their advantages lie in their precise technologies for updating, inventorying, and translating data into statistics. They also facilitate the state's direct oversight and monitoring of all activities and transactions of its citizens and foreign residents, especially in light of recent digital transformations (Datta,Walker, &

Amarilli,2020). In this context, we find that digital platforms have entered many fields, becoming a major pillar for them in diverse interactions (De Reuver, Sørensen, & Basole,2018). They have proven their leadership in their ability to deal with the requirements of the modern state in light of the digital transformation that has penetrated all diverse fields in various political, economic, social, and security aspects. This is reflected in countries' reliance on digital platforms in these fields (Rwigema, 2020). In the same context, the available opportunities lie in the dynamic nature of ever-evolving technological innovation, which exposes platforms to competitive pressure, forcing them to constantly innovate(Jahan, 2024). This presents numerous opportunities for the international community to maximize the potential benefits of digital platforms, as the opportunities offered by digital platforms enable a significant degree of digital transformation on a global scale(Yaqub, & Alsabban,2023). Based on the above, we conclude that the multitude of requirements, coupled with the rapid pace of the international community, has imposed on countries the need to resort to digital platforms to achieve what is planned in the national strategies of countries, but in a manner that suits the course of the digital age, which has proven to be the only option for the international community to accomplish tasks with maximum speed, minimal effort, and the most money(Meyer, Li, & Brouthers, 2023). Consequently, digital platforms have paved the way for digital transformation in all its various and diverse forms, types, and patterns(Nambisan, Wright & Feldman, 2019). Accordingly, most countries around the world have relied on digital platforms as the single, most modern solution for managing all state affairs, including the means of managing state affairs and citizens(Milakovich,2021). This has resulted in what is known as the digital government and the digital citizen, who interact through the state's official digital platforms. These platforms enable the state to control the state's various aspects in a non-standard or traditional manner, keeping pace with the requirements of the digital age and the modern and complex technological techniques it brings, which cannot be matched by ineffective traditional tools(Collins & Halverson, 2018).

7. Technical and architectural structure of the Ur Gateway.

The technical architecture of any government portal is the backbone that determines the quality of services, speed of performance, and data security. In the case of the Ur portal, the architectural design represents a strategic step towards e-government, combining modern technology, data management, and government services in an integrated manner. The portal seeks to provide a seamless and secure user experience while supporting scalability to keep pace with future growth in the number of users and services. The portal relies on a multi-layered model that enables the separation of different functions: data presentation, business logic, and databases. These layers are also linked by other technical components, including networks, cloud storage, communication protocols, integration with various government systems, and cybersecurity systems.

7.1. Gateway system architecture

The Ur Gateway adopts a multi-layer architecture to separate the core functions of the system, with an emphasis on flexibility and continuous maintenance. These layers are as follows:

7.2. Presentation layer:

The user interfaces (UIs) in this layer are designed using HTML5, CSS3, and JavaScript, with modern frameworks like ReactJS and Angular to provide fluid and interactive interfaces. This layer also has a responsive design to be compatible with display on smartphones, tablets, and desktop computers. It also supports international accessibility standards to ensure that people with special needs benefit. It also relies on UX analytics tools to monitor user behavior and improve services.

7.3. Business logic layer:

This layer relies on service applications (Service-Oriented Architecture) to facilitate the management of various government services. It also includes request processing engines (Workflow Engines) that manage processes from request submission to final completion. It also contains integration tools with ministries' internal systems, such as the human resources, finance, and education systems.

7.4. Data layer:

It contains relational databases to store citizen data and official transactions, as well as non-relational (NoSQL) databases to support flexible data, such as records of multiple services or user interactions. It also uses data encryption to secure data during storage and retrieval. It also performs periodic backup and recovery operations with a real-time recovery mechanism.

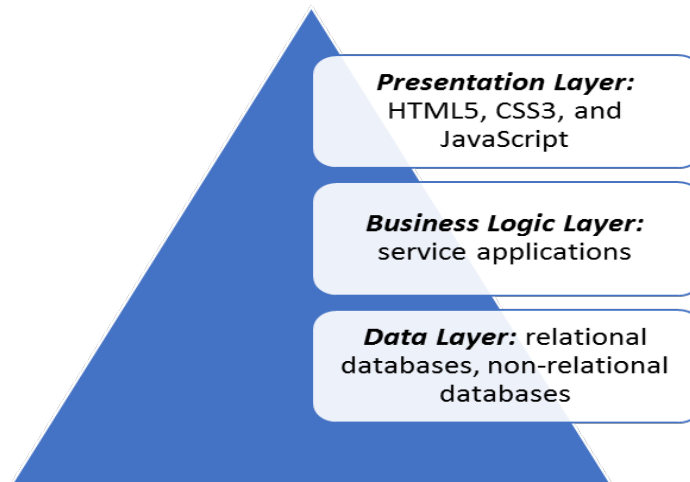


Figure 2. Layers of Ur portal

8. Servers and infrastructure

The gateway infrastructure includes advanced components to ensure stability, performance, and security. These components are as follows:

8.1. Application servers.

These servers are hosted on high-capacity hardware to process large requests in a short time and run on stable operating systems such as Linux and Windows Server, with Data Center Management Tools.

8.2. Web servers.

These servers serve web pages and route requests between users and the business logic layer. They also support load balancing to efficiently distribute requests across servers.

8.3. Database servers

These servers feature PostgreSQL and MySQL database management systems, with support for automatic backups and data replication, and they also improve query performance using indexes and caching techniques.

8.4. Data centers

These centers are geographically distributed to ensure continuity of service (Disaster Recovery Centers) and are equipped with cooling systems, backup power, and 24/7 monitoring.

9. Networks and communication

A local and wide area network (LAN & WAN) connects data centers and various ministries to exchange data quickly and securely. The portal also includes virtual private networks (VPNs) to enable employees to securely access the portal from any location. Firewalls and intrusion detection systems (IDS/IPS) protect the portal from cyber-attacks. The portal operates using multiple protocols: HTTPS to encrypt data between the user and the server, TCP/IP to ensure reliable connectivity, and RESTful APIs and SOAP to enable integration with other systems. The OUR portal connects to the internal networks of ministries to enable direct access to data, subject to role-based access control.

10. Cloud storage and scalability

The portal uses cloud storage, which allows for flexible and secure data storage, with the ability to expand as needed. The portal also relies on distributed storage systems to ensure service continuity in the event of server failures. In addition, there is scalability, which allows for easy addition of servers or storage space without system downtime. Caching mechanisms are used in the OUR portal to improve access speed to frequently used data.

11. Integration with ministries and agencies' systems.

The portal uses application programming interfaces (APIs) to connect the OUR portal with various ministry systems (ERP, CRM, GIS), and relies on authentication and authorization mechanisms to ensure secure and

authorized access. The portal relies on a data standardization mechanism to ensure that all data is consistent and documented across ministries, in addition to periodic updates to continuously synchronize data to avoid duplication or inconsistency.

12. Cybersecurity and data protection.

The portal relies on a set of preventative measures to protect data and prevent its leakage. The portal uses data encryption during transmission and storage. It also utilizes identity management to control access and manage privileges. It also offers continuous backup and recovery processes to ensure service continuity even in the event of a disaster. Monitoring and alerting are also available to detect abnormal activity or hacking attempts.

13. User interfaces and user experience

The portal relies on an interactive and responsive design for all devices to achieve universal accessibility and ensure that all citizens benefit. It also features user behavior analysis tools to continuously improve services and uses Service Design Principles to simplify procedures and facilitate transaction completion.

14. Electronic services provided through the Ur portal.

Electronic services are the backbone of any government portal, representing the direct point of interaction between the state and citizens. On the Ur portal, services are designed to meet the needs of citizens and the government sector, while ensuring a seamless and transparent experience and reducing the need for traditional paper transactions. Below is a comprehensive overview of the services provided by the Ur portal, in terms of classification, workflow, user experience, and performance indicators.

14.1. Types of e-services

Services on the Ur portal can be divided into several main categories, based on the nature of the service and the beneficiaries, as shown in the table below:

E-Services	Types of Services	Description
General government services	National Identity Services	Issuing ID cards, updating personal data, and checking document validity
	Legal Services	Applying for permits, inquiring about laws and regulations, and following up on electronic judicial procedures
	Financial Services	Paying taxes, government fees, and inquiring about financial violations.
Educational services	Student Admissions	Registering new students, monitoring admission results, and issuing electronic certificates
	Higher Education	University registration, scholarship follow-up, and course management.
	Digital Educational Resources	Providing digital libraries and open-access educational materials
Health services	Medical Services	Booking appointments, inquiring about hospitals and health centers, and monitoring test results.

	Health Insurance	Registering individuals and beneficiaries, managing claims, and issuing insurance documents.
Traffic services	Violations	Inquire about traffic violations, pay fines, and issue traffic permits.
	License Renewal	Issue and renew driving and vehicle licenses electronically.
Visa and Immigration Services	Entry Visas	Submit applications online, track application status, and issue approvals
	Immigration and Residence	Register residency permits, track applications, and issue legal documents

Table 1 . Service presented through Ur portal

14.2. E-services workflow analysis.

The Ur portal adopts a fully digital workflow model to ensure that requests are tracked from start to finish, as shown in the diagram below:

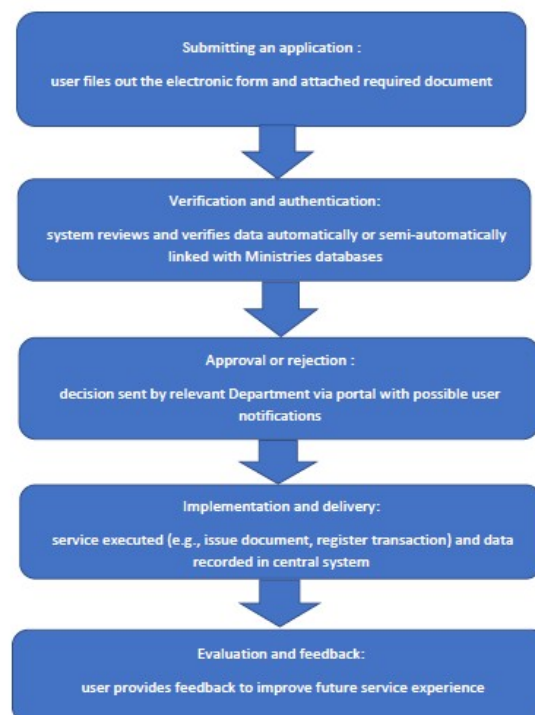


Figure 3. Ur portal e-services workflow.

This model reduces human error, improves speed of completion, and increases transparency in government transactions.

14.3. User experience and service experience.

The portal relies on the principles of digital service design to ensure an integrated user experience. Through the use of the portal, it has been shown that it is characterized by several features as shown in the table below:

Portal features	Description
Accessibility	Simple interface design, clear menus, and step-by-step instructions.
Security	Data encryption, two-factor authentication.
Personalization	Providing customized services based on the user's historical data and needs.
Continuous Evaluation	Analytics tools to track user behavior and improve the user interface and services.

Table 2. Ur portal features.

15. Key performance indicators (KPIs).

The effectiveness of services is measured using specific indicators explained in the table below.

Indicators	Description
Service Completion Time	The average time it takes to complete a service electronically.
User Satisfaction Rate	The percentage of users satisfied with the quality of the service.
Number of requests completed daily	A measure of the volume of service and system efficiency.
Error Rate	Determines the number of requests that require human intervention or are subject to technical errors.
Security Level	The number of hacking attempts detected and addressed.

Table 3. Ur portal performance indicators

16. Potential threats.

There are a variety of threats that may face the Ur portal, including:

First: Cyber-attacks, such as Distributed Denial-of-Service (DDoS) attacks, server hacking, and malware.

Second: Internal breaches, such as unauthorized access by employees.

Third: Fraud, such as attempts to defraud citizens or exploit data.

Fourth: Natural threats, such as natural disasters that impact data centers.

17. Challenges and opportunities

The Ur Portal faces a number of structural and organizational challenges that affect its efficiency and effectiveness. The first of these challenges is the weak internet infrastructure in some areas, which hinders continuous and seamless access to the platform. The low level of digital literacy and awareness among a segment of users also hinders the optimal use of available e-services. Furthermore, frequent changes in government policies affect the continuity and stability of services, which may negatively impact beneficiaries' confidence in the platform. On the other hand, the Ur Portal offers several strategic opportunities that can be leveraged to

strengthen its position and expand the scope of its services. Among the most prominent of these opportunities is the potential to employ artificial intelligence technologies in analyzing big data, which would contribute to improving and developing the quality of services. Integrating more government services into a unified platform represents an important step towards simplifying procedures and facilitating access for beneficiaries. Furthermore, the expansion of the provision of educational and health services electronically opens up broad prospects for enhancing digital inclusion and maximizing the benefits of digital transformation at the societal level.

18. Conclusions.

The Ur Digital Portal in Iraq serves as the official digital bridge for accessing government services through a single window. It is a tool for simplifying procedures, reducing bureaucracy, enhancing transparency, reducing corruption, saving time, effort, and costs for citizens and institutions, and supporting comprehensive digital transformation. This enhances the efficiency of government services and contributes to building an integrated smart government. The Ur Portal is a single window for accessing government services, providing a unified platform for citizens to access various electronic services provided by various ministries and government agencies in Iraq. It is certainly a means of simplifying and facilitating official procedures and transactions, making them faster and more efficient. The portal helps reduce direct interaction between citizens and employees, limiting opportunities for corruption and enhancing transparency in government transactions. It also allows citizens to complete their transactions fully digitally from home or anywhere, saving them the time, effort, and costs that previously required field visits. The portal is a fundamental pillar of the e-government project and the digital transformation project in Iraq and seeks to build an integrated digital system. The portal provides accurate information and innovative solutions for all government services, ensuring the quality of services provided. The portal continues to expand its services to cover various aspects of citizens' lives and the needs of official institutions, exceeding 1,000 services by 2025. The portal contributes to consolidating the concept of smart government, which places citizens at the heart of the service process.

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