



**United Nations**

Department of  
Economic and  
Social Affairs



UNITED NATIONS  
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**UNU-EGOV**

Operating Unit on Policy-Driven  
Electronic Governance



# APPLICATION OF LOCAL ONLINE SERVICE INDEX (LOSI) METHODOLOGY IN TUNISIA

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**September 2024**

# Acknowledgements

This report was conducted under the guidance of the United Nations Department of Economic and Social Affairs (UN DESA) and the United Nations University Operating Unit on Policy-Driven Electronic Governance (UNU-EGOV). It was supervised by Deniz Susar (Officer, UNDESA), Archie Kariuki (Officer, UNDESA) and Dimitrios Sarantis (Senior Research Analyst, UNU-EGOV). The Tunisian E-Governance Society compiled the findings, ensuring thorough research and analysis throughout the project.

Local researchers and volunteers from The Tunisian E-Governance Society evaluated city portals, using UN DESA's Local Online Service Index (LOSI) methodology. The assessment was based on a spreadsheet provided by the UN featuring 95 questions across six major criteria: Technology (TEC), Content Provision (CP), Service Provision (SP), Engagement and Participation (EPI), Institutional Framework (IF), and E-Government Literacy (ELI).

## **Objectives of the Local Online Service Index (LOSI) Methodology:**

- Assess e-government development at the local level across five key criteria: institutional framework, technology, content provision, services provision, and participation and engagement.
- Optimize public processes and enhance social cohesion.
- Provide evidence-based data to track progress in local e-government initiatives.
- Establish the LOSI Network to expand coverage and foster collaboration among national entities.

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# Contents

<b>Acknowledgements</b> .....	<b>2</b>
<b>Research Team</b> .....	<b>3</b>
<b>List of figures</b> .....	<b>5</b>
<b>List of tables</b> .....	<b>5</b>
<b>List of abbreviations</b> .....	<b>6</b>
<b>Introduction</b> .....	<b>7</b>
<b>Chapter 1. Assessment Methodology</b> .....	<b>9</b>
1.1 Study Responsible.....	9
1.2 Instrument.....	9
1.3 Process .....	10
<b>Chapter 2. LOSI Application in Tunisia</b> .....	<b>11</b>
2.1 Local Government in Tunisia .....	11
2.2 Study Context .....	12
2.3 Assessed Municipalities .....	13
2.4 LOSI Results of the Evaluated Municipalities.....	14
2.5 LOSI Results Analysis.....	17
2.5.1 Institutional Framework .....	17
2.5.2 Content Provision .....	18
2.5.3 Service Provision .....	19
2.5.4 Technology.....	20
2.5.5 Participation and Engagement.....	21
2.5.6 E-Literacy .....	22
2.6 General compliance for LOSI indicators .....	23
<b>Chapter 3. Local E-Government in Tunisia</b> .....	<b>25</b>
3.1 Introduction.....	25
3.2 E-Government Development Strategy .....	26
3.3 Challenges, opportunities, and recommendations .....	26
3.3.1 Extend the framework of institutions .....	27
3.3.2 Advance Digital Services .....	27
3.3.3 Enhance E-Participation.....	27
3.3.4 Improve Content Provision .....	28

3.3.5 Combine Technological Infrastructure .....	28
3.4 The way Forward .....	28
3.4.1 Launching Civil Society Initiatives for Data Collection and Publication .....	28
3.4.2 Collaboration with the Private Sector for Technological Upgrades .....	28
3.4.3 Foster Public-Private Partnerships (PPP) for E-Service Expansion .....	29
<b>Conclusion .....</b>	<b>29</b>
<b>References.....</b>	<b>30</b>

## List of figures

Figure 1: Tunisia’s Detailed Map.....	11
Figure 2: 2024 E-Government Development Index, Africa (2024 UN E-Government Survey) 12	
Figure 3: 2024 Local Online Service Index for Tunisia (2024 UN E-Government Survey).....	13
Figure 4: Middle LOSI Group Municipalities Score .....	15
Figure 5: Low LOSI Group Municipalities Score .....	16
Figure 6: Group ratios of the evaluated municipalities .....	16
Figure 7: Regional Distribution of LOSI Scores .....	17
Figure 8: Institutional Framework Indicators Analysis.....	18
Figure 9: Content Provision Indicators Analysis .....	19
Figure 10: Service Provision Indicators Analysis.....	20
Figure 11: Technology indicators analysis.....	21
Figure 12: Participation and Engagement Indicators Analysis .....	22
Figure 13: Participation and Engagement indicators analysis.....	23
Figure 14: Middle Group LOSI Criteria Distribution. ....	24
Figure 15: Low Group LOSI Criteria Distribution. ....	25

## List of tables

Table 1: Assigned values of the Local Online Service Index .....	11
Table 2: Overview of the evaluated municipalities .....	13
Table 3: LOSI results of the evaluated municipalities .....	14

## List of abbreviations

<b>EPI</b>	<b>Engagement and Participation</b>
<b>SP</b>	Service Provision
<b>IF</b>	Institutional Framework
<b>CP</b>	Content Provision
<b>ELI</b>	E-Government Literacy
<b>TEC</b>	Technology
<b>ICT</b>	Information and Communication Technology
<b>EGDI</b>	E-Government Development Index
<b>HEGDI</b>	High E-Government Development Index
<b>OGP</b>	Open Government Partnership
<b>MGP</b>	Municipality Government Portal
<b>LOSI</b>	Local Online Service Index

## Introduction

In today's fast-paced technological landscape, governments worldwide are increasingly transitioning to e-government, adapting to this new reality and reforming their operations. Despite facing various challenges, technology holds significant potential to enhance transparency and accessibility within the government. Tunisia has already taken steps to realize this potential by leveraging information and communication technologies (ICTs) to improve various facets of public sector reform and promote openness. This can only illustrate, how such initiatives can effectively transform governmental processes.

As one of the countries involved in the Open Government Partnership (OGP), Tunisia is focused on efficiently using public resources, improving services, and fostering greater public engagement. However, local governments, despite successful attempts towards decentralization to empower local communities and bring closer government to people, still face significant challenges in implementing digital initiatives, often encountering even more obstacles than the central government.

Amid these challenges, some of the public services are provided by local governments, resulting in citizens interacting with it along with national authorities. For this reason, local governments might consider prioritizing the development of innovative services that, even if they do not fully meet global technology standards, are still accessible online to the community.

To attain this level, one of the main duties of municipal authorities is to promote communication and involvement with and within local communities. Therefore, effective public engagement methods must be implemented. Without avenues for citizens to voice their concerns, provide feedback, and influence local government practices and policies, meaningful progress cannot be realized.

To effectively implement these public engagement methods and ensure their success, it is crucial to regularly evaluate and improve the platforms through which these interactions occur. Conducting routine assessments of Municipal Government Portals (MGP) is one of the best strategies to enhance e-government.

The United Nations Department of Economic and Social Affairs (UN DESA) uses the Local Online Service Index (LOSI) to evaluate local government portals, providing a comprehensive methodology to identify strengths and weaknesses. This initiative began as a pilot study in 2018, assessing portals in 40 cities, and expanded to 100 cities in 2020, and 193 cities in 2022 [1].

Tunisia has actively participated in the LOSI initiative to propel its urban centers toward digital excellence. With support from UN DESA, 24 Tunisian cities were assessed using the LOSI methodology, focusing on digital presence, performance measurement, transparency, user experience, and citizen-centric service. Thus, by implementing the LOSI methodology, municipalities can detect strong and weak areas in their digital offerings, allowing for targeted

improvements that enhance the quality of life and increase the responsiveness of local administration for their citizens.

By evaluating the online presence of local governments, Tunisia aims to:

- **Enhance organizational structures, governance practices, and policy development to support effective e-government initiatives.**
- **Digitize service delivery processes to ensure public services are efficient, user-friendly, and accessible to all residents.**
- **Provide accurate, up-to-date, and comprehensive information on municipal portals to meet the needs of diverse user groups.**
- **Implement interactive features on city portals to facilitate communication, feedback, and citizen involvement in local governance.**
  
- **Integrate advanced technologies to support the scalability, security, and functionality of e-government systems.**

This report will delve into the LOSI methodology, present the results of its application in Tunisian cities, and offer suggestions to advance local E-Government in Tunisia, paving the way for a digitally empowered urban future.



# Chapter 1. Assessment Methodology

This chapter outlines the methodology employed in the study conducted by The Tunisian e-Governance Society, focusing on the evaluation of 24 municipalities across Tunisia from June to August 2024. The assessment, based on the global Local Online Service Index (LOSI) framework, involved a detailed examination of municipal digital governance through 95 indicators distributed across five key criteria. The process was guided by a Memorandum of Understanding with UNDESA and UNU, ensuring a comprehensive and collaborative approach to evaluating and improving local e-government services.

## 1.1 Study Responsible

The study was conducted by The Tunisian E-Governance Society, a non-governmental, non-partisan, and non-profit organization dedicated to advancing good governance through digital technologies. Since its establishment in 2015, the society has been at the forefront of promoting digital governance in Tunisia.

The study was applied to assess 24 municipalities in different regions of Tunisia, with data collection occurring from June to August 2024.

Given the vast number of municipalities in Tunisia (approximately 350) the human capacity available was not sufficient to assess all of them within a short time frame. To effectively align with the society's assessment capabilities, the scope of the study was strategically narrowed down to 24 municipalities, selecting one from each governorate to ensure a representative sample. This focused approach allowed the Tunisian E-Governance Society to conduct thorough evaluations while laying the groundwork for future assessments across the broader municipal landscape.

In alignment with this streamlined approach, the Tunisian E-Governance Society also embarked on its first assessment training program within the organization. This training was designed to equip assessors with the necessary skills and knowledge to effectively evaluate the selected municipalities. By focusing on a manageable number of municipalities, the society aimed not only to deliver meaningful assessments but also to build internal capacity for future evaluations.

## 1.2 Instrument

Building on the past two years, the current 2024 version of LOSI methodology marks a significant milestone with the introduction of a new key criterion; E-Government Literacy (ELI).

Thus, expanding the total to 95 indicators distributed across six distinct criteria: *institutional framework (5), content provision (30), services provision (30), participation and engagement (10), e-government literacy (10), and technology (10)*.

- Within the **Institutional Framework** dimension, the emphasis is on municipal e-government strategy, organizational structure, legislation governing access to information and privacy, and open data policy.

- **Content Provision** aims to assess the availability of essential public information and resources online.
- The third criterion, **Services Provision**, focuses on the accessibility and delivery of targeted government services.
- **E-Participation**, the fourth criterion, evaluate the presence of mechanisms and initiatives for interaction and opportunities for public involvement in local governance structures.
- The **Technology** dimension concentrates on technical aspects of the portals, specifying how the site and content are presented to users.
- Finally, **E-Government Literacy** assesses the efforts made to enhance digital skills and literacy among citizens, ensuring they can effectively access and utilize the available online services.

### 1.3 Process

The assessment process began with the signing of a Memorandum of Understanding (MOU) with UNDESA and the Tunisian E-Governance Society in March 2024.

Outlining the project scope was one of the very first steps we took in the assessment. Since in Tunisia, there is a total of 350 municipalities in 2016 [2] divided into 24 governorates. To streamline the assessment, the scope was narrowed down to selecting one municipality per governorate, yielding a dataset of 24 municipality with their respective portals.

This agreement outlined the project scope, including the number and regions of municipalities to be evaluated. Following this, a comprehensive assessment toolkit provided by UNDESA was utilized to guide the evaluation.

The project engaged 8 assessors and 6 reviewers from The Tunisian e-Governance Society. Each municipality was evaluated by pairs of assessors, with different pairings assigned to each municipality to ensure a thorough review. The evaluation process employed 95 indicators, each assigned a binary value: 1 for “yes” and 0 for “no.” These indicators cover six criteria:

1. Technology
2. Content provision
3. Services provision
4. Participation and Engagement
5. Institutional Framework
6. E-Government Literacy

Municipalities were then categorized into one of four Levels of Service Index (LOSI) groups based on the cumulative count of these indicators (Table 1).

Table 1: Assigned values of the Local Online Service Index

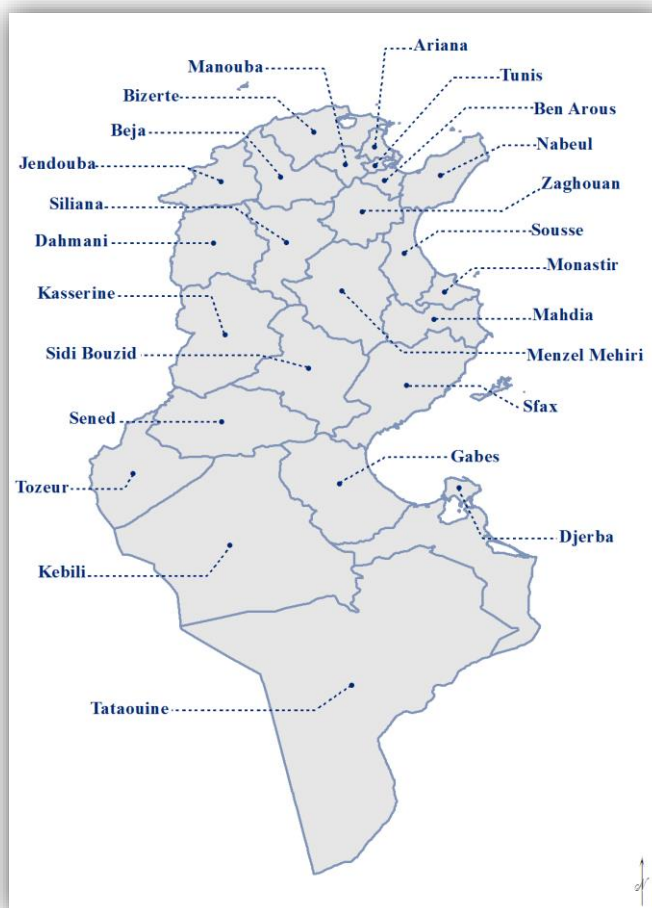
#	LOSI Group	Number of indicators	Index range
1	Very high	64-95	0.75-1.00
2	High	43-63	0.50-0.74
3	Middle	21-42	0.25-0.49
4	Low	0-20	0.00-0.24

## Chapter 2. LOSI Application in Tunisia

### 2.1 Local Government in Tunisia

Tunisia, located in North Africa, is bordered by Algeria to the west and southwest, Libya to the southeast, and is flanked by the Mediterranean Sea to the north and east. The capital and largest city, Tunis, serves as a bustling metropolis with significant historical and cultural importance. Covering a surface area of 163,610 km<sup>2</sup> (approximately 63,170 mi<sup>2</sup>) and home to around 12 million people [3], Tunisia is divided into 24 governorates and 350 municipalities [4]. The population is mainly concentrated along the coastal regions, especially in Tunis and its surrounding governorates. Tunisia's local government operates within a decentralized, multi-level administrative framework. (Figure 1)

Figure 1: Tunisia's Detailed Map

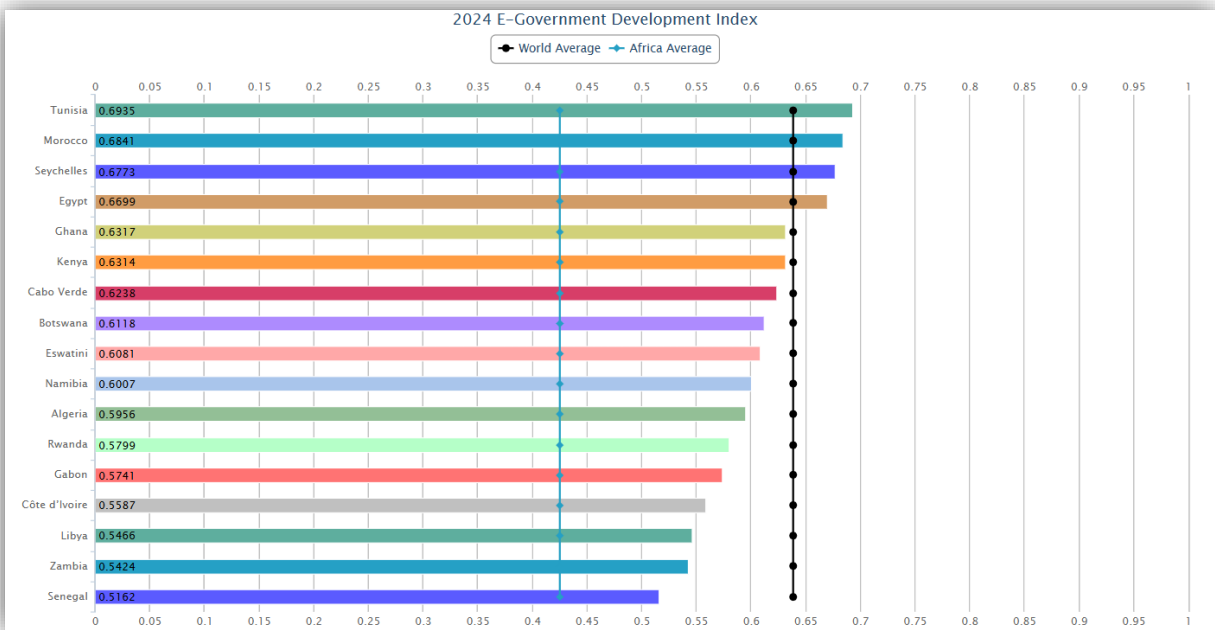


## 2.2 Study Context

Tunisia’s HEGDI classification with an H3 rating class places it in a high e-government development group, indicating substantial progress in digital government services in Africa. Data shows a steady improvement over recent years moving up from ranking 88<sup>th</sup> in 2022 to 87<sup>th</sup> in 2024, with an EGDI score of 0.6935. Tunisia’s improved rank suggests that other countries in its peer group may have experienced slower progress or regressions, allowing Tunisia to advance slightly and gradually climb in the global rankings.

Not only has Tunisia avoided losing places, but it has also gained ground relative to other countries in the global context. With each EGDI release, Tunisia has managed to move up in rank, showing progress in both absolute value (from 0.6526 in 2020 to 0.6935 in 2024) and relative position. However, to sustain and improve its standing, Tunisia may need to continue its efforts in advancing digital governance and aligning its practices with global trends (Figure2).

Figure 2: 2024 E-Government Development Index, Africa (2024 UN E-Government Survey)



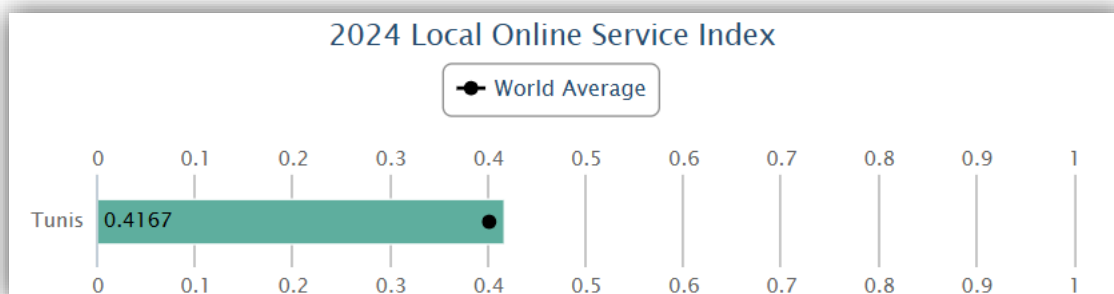
Source : <https://publicadministration.un.org/egovkb/en-us/Data-Center>

The LOSI scores for Tunis city over recent years reveal an initial improvement followed by a slight decline. In 2020, Tunis scored 0.4125, reflecting moderate performance in local e-government services. By 2022, this score rose to 0.4651, indicating progress in the delivery and quality of online services at the municipal level. However, when we examine Tunis's rank over time, there has been a significant decline—from 40<sup>th</sup> place in 2020 to 80<sup>th</sup> in 2022, marking a drop of 40 positions.

By 2024, Tunis city scored 0.4167, representing a decrease of approximately 10.41% from 2022. One possible reason for this decline is the introduction of a new criterion, E-Literacy, which likely impacted Tunis's ability to maintain its previous score. This new criterion may

have highlighted gaps in the local population's digital skills, which in turn affected the overall assessment of e-government performance. The recent decline underscores the need for targeted efforts to address such challenges and to ensure sustained improvement in the digital services provided at the local level. (Figure 3).

Figure 3: 2024 Local Online Service Index for Tunisia (2024 UN E-Government Survey)



## 2.3 Assessed Municipalities

The study included all the state capitals with a population equal to or greater than 12 million inhabitants, with 24 municipalities (Table 2).

Table 2: Overview of the evaluated municipalities

City Name	Region	Population
<b>Tunis</b>	Northern Tunisia	599368
<b>Manouba</b>	Northern Tunisia	36194
<b>Nabeul</b>	Northern Tunisia	81 200
<b>Ariana</b>	Northern Tunisia	41300
<b>Jendouba</b>	Northern Tunisia	90500
<b>Zaghouan</b>	Northern Tunisia	22600
<b>Beja</b>	Northern Tunisia	52300
<b>Ben Arous</b>	Northern Tunisia	35900
<b>Bizerte</b>	Northern Tunisia	70200
<b>Dahmani</b>	Northern Tunisia	13240
<b>Siliana</b>	Northern Tunisia	96605
<b>Mahdia</b>	Central Tunisia	57200
<b>Sfax</b>	Central Tunisia	154300
<b>Sidi Bouzid</b>	Central Tunisia	64900
<b>Kasserine</b>	Central Tunisia	47500
<b>Sousse</b>	Central Tunisia	250540

<b>Menzel Mehiri</b>	Central Tunisia	13111
<b>Mounastir</b>	Central Tunisia	107127
<b>Djerba</b>	Southern Tunisia	25193
<b>Gabes</b>	Southern Tunisia	107193
<b>Kebili</b>	Southern Tunisia	27800
<b>Sened</b>	Southern Tunisia	9533
<b>Tataouine</b>	Southern Tunisia	286636
<b>Tozeur</b>	Southern Tunisia	123079

## 2.4 LOSI Results of the Evaluated Municipalities

The analysis of 24 municipal portals based on the presence of 95 features compiled by UN DESA reveals some disparities in digital maturity. The "Middle" and "Low" groups were established to reflect the extent of specific features or functionalities, taking into account factors such as the degree of development of the country and the digital maturity of municipal websites. The "Middle" group includes portals that satisfy a moderate percentage of the assessed requirements, with performance in technology accessibility and service delivery considered borderline acceptable. Portals in this category have a feature coverage ranging from approximately 27% to 44.2%. This group would typically include municipalities with moderate levels of development and user engagement. The number of indicators satisfied by each municipality and their LOSI scores are presented below (Table 3).

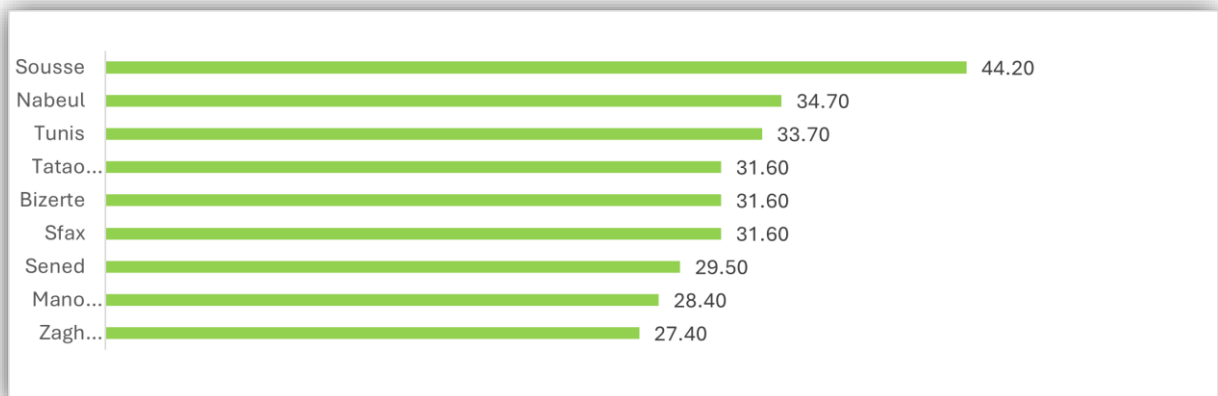
*Table 3: LOSI results of the evaluated municipalities*

City Name	TEC	CP	SP	IF	EPI	ELI	Total (95)	LOSI Score	LOSI Rank	LOSI Group
<a href="#">Sousse</a>	4	19	5	5	4	5	42	0.442	1	Middle
<a href="#">Nabeul</a>	4	17	0	5	3	4	33	0.347	2	Middle
<a href="#">Tunis</a>	6	14	0	6	5	1	32	0.337	3	Middle
<a href="#">Tataouine</a>	5	12	0	6	6	1	30	0.316	4	Middle
<a href="#">Bizerte</a>	5	12	0	5	4	4	30	0.316	4	Middle
<a href="#">Sfax</a>	4	10	4	5	4	3	30	0.316	4	Middle
<a href="#">Sened(Gafsa)</a>	4	10	2	4	5	3	28	0.295	7	Middle
<a href="#">Manouba</a>	6	8	0	6	3	4	27	0.284	8	Middle
<a href="#">Zaghouan</a>	6	11	0	4	3	2	26	0.274	9	Middle
<a href="#">Mahdia</a>	5	8	0	4	4	2	23	0.242	10	Low
<a href="#">Monastir</a>	6	7	0	3	3	3	22	0.232	11	Low
<a href="#">Sidi Bouzid</a>	5	6	4	2	3	2	22	0.232	11	Low

<u>Menzel Mehiri(Kairouan)</u>	4	7	4	2	3	2	22	0.232	11	Low
<u>Beja</u>	5	9	1	2	3	2	22	0.232	11	Low
<u>Tozeur</u>	4	8	0	6	2	1	21	0.221	15	Low
<u>Ariana</u>	4	6	0	4	2	5	21	0.221	15	Low
<u>Jendouba</u>	4	7	2	3	3	1	20	0.211	17	Low
<u>Kasserine</u>	5	5	2	3	2	3	20	0.211	17	Low
<u>Ben Arous</u>	5	6	0	4	0	2	17	0.179	19	Low
<u>Siliana</u>	4	5	3	3	1	1	17	0.179	19	Low
<u>Gabes</u>	4	4	0	5	2	1	16	0.168	21	Low
<u>Djerba</u>	4	2	0	4	1	1	12	0.126	22	Low
<u>Dahmani(KEF)</u>	4	3	0	2	0	1	10	0.105	23	Low
<u>Kebili</u>	3	1	0	0	0	2	6	0.063	24	Low

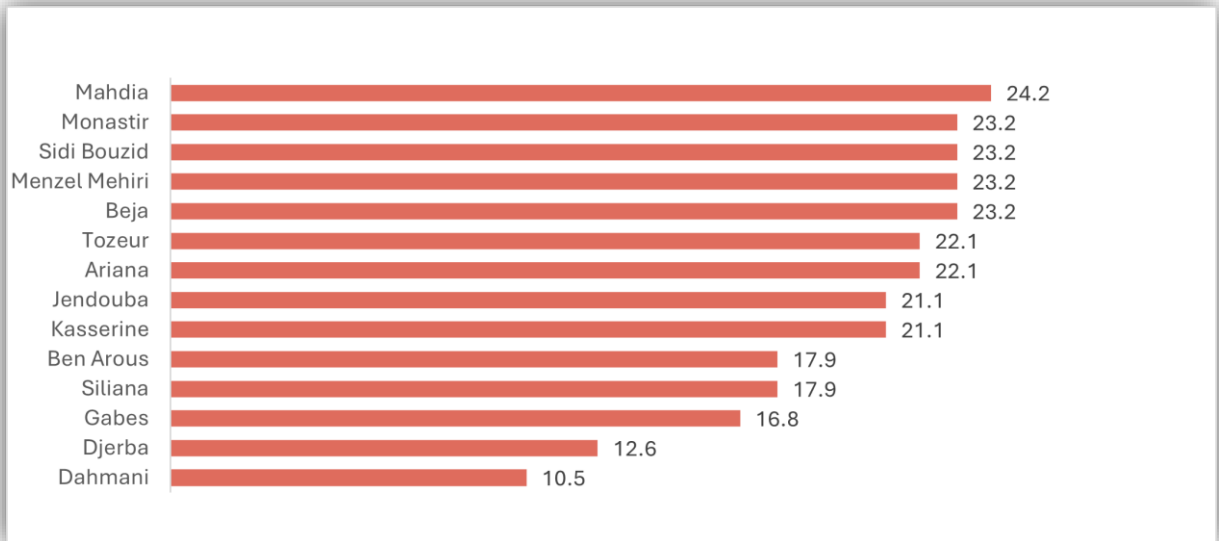
Out of the 24 municipalities evaluated, 9 achieved a rank within the "Middle" group, reflecting a moderate level of feature presence. The top 3 performers in this category are Sousse, Nabeul and Tunis with respective scores of 0.442, 0.347 and 0.337 respectively, indicating coverage rates of approximately 44.2%, 34.7%, and 33.7%. Other municipalities in this range include Bizerte and Sfax, both scoring 0.316, with around 31.6% coverage each. This range reflects varying levels of feature presence across these municipalities, as shown in (Figure 4.)

*Figure 4: Middle LOSI Group Municipalities Score*



Conversely, 15 municipalities fall into the "Low" group, highlighting a lower level of digital feature integration. The lowest-ranked municipality is Kebili, with a score of 0.063 (approximately 6.3% of features), indicating significant room for improvement. Other municipalities in this group include Dahmani (Kef) and Djerba, with scores of 0.105 (approximately 10.5%) and 0.126 (approximately 12.6%), respectively. (Figure 5)

Figure 5: Low LOSI Group Municipalities Score



The assessment reveals that the majority of municipalities (63%) fall within the “Low” group, which denotes limited digital feature integration across these areas. In contrast, only (37%) of municipalities achieved a “Middle” ranking, reflecting a moderate level of feature implementation. (Figure 6 & 7).

Figure 6: Group ratios of the evaluated municipalities

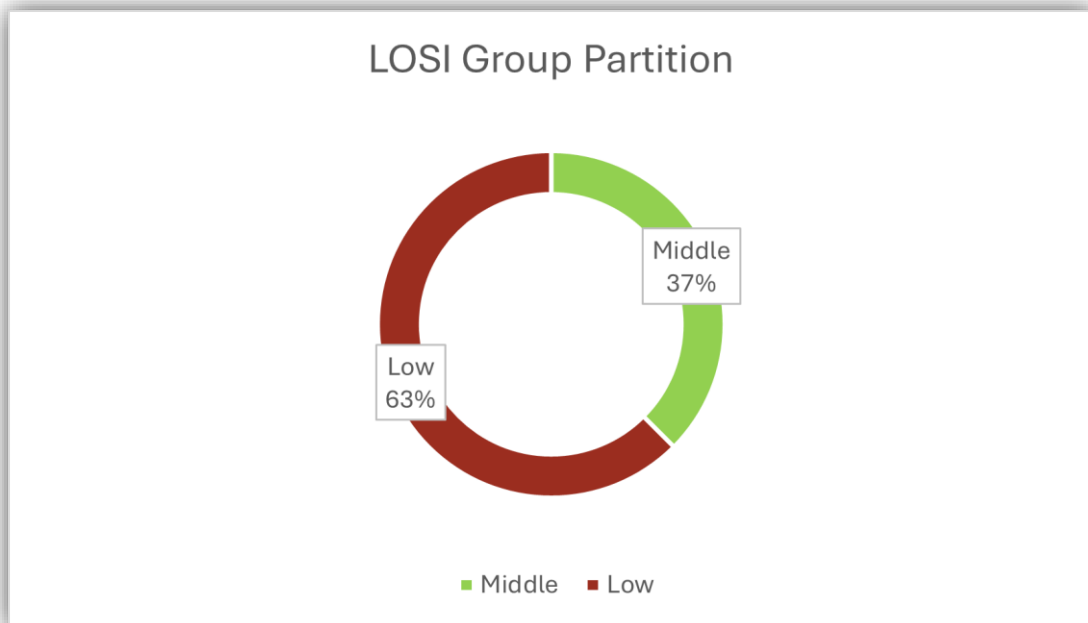
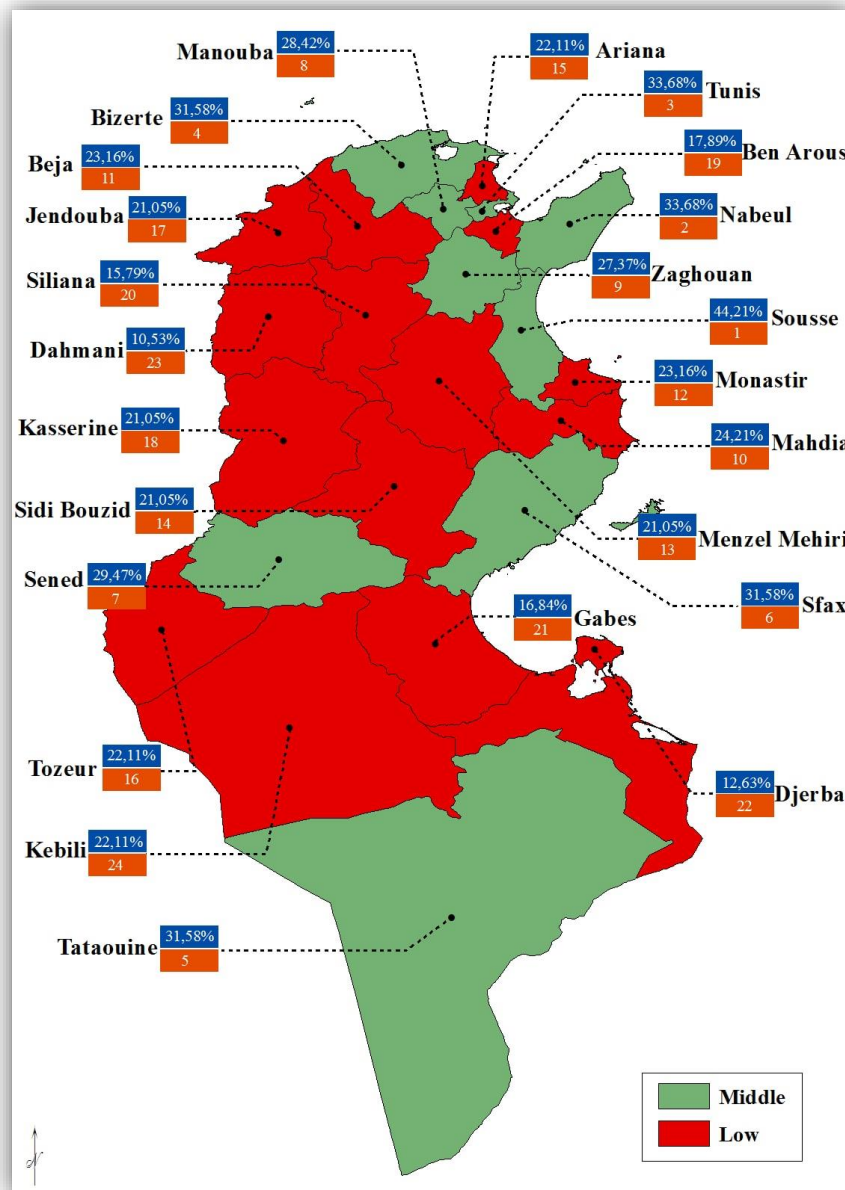




Figure 7: Regional Distribution of LOSI Scores



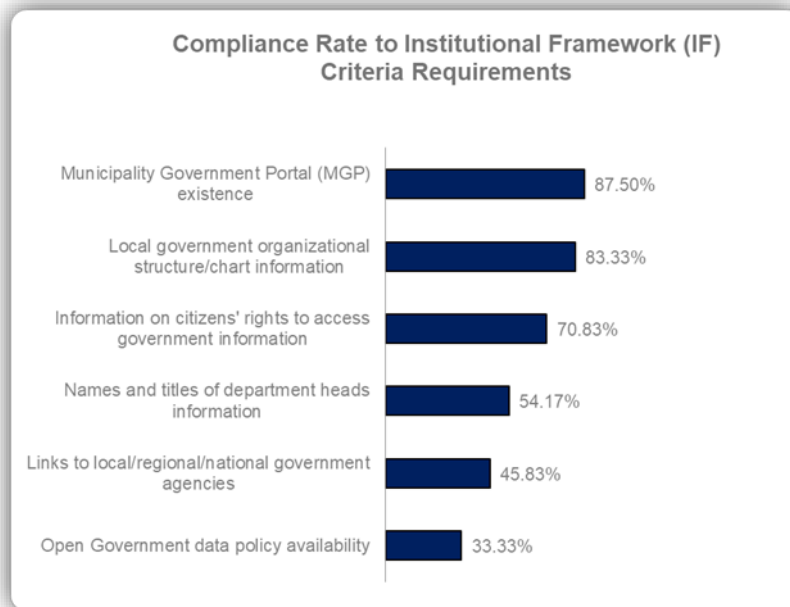
## 2.5 LOSI Results Analysis

### 2.5.1 Institutional Framework

The evaluation of digital governance components across the assessed municipalities highlights varying levels of compliance with key indicators. A strong majority of municipalities, 87.50%, maintain a Government Portal (MGP) and provide a clear organizational structure, underscoring a commitment to transparency and accessibility. However, when it comes to the availability of information on citizens' rights to access government data, the percentage drops slightly to 83.33%, indicating a minor gap in ensuring that citizens are fully informed

about their rights. Further disparities are evident in the availability of information on department heads, with only 70.83% of municipalities providing these details, which could hinder accountability and public trust. The most significant drop is observed in the provision of links to local, regional, or national government agencies, with just 45.83% of municipalities including this information, suggesting a need for improved intergovernmental connectivity and resource sharing (Figure 8).

Figure 8: Institutional Framework Indicators Analysis

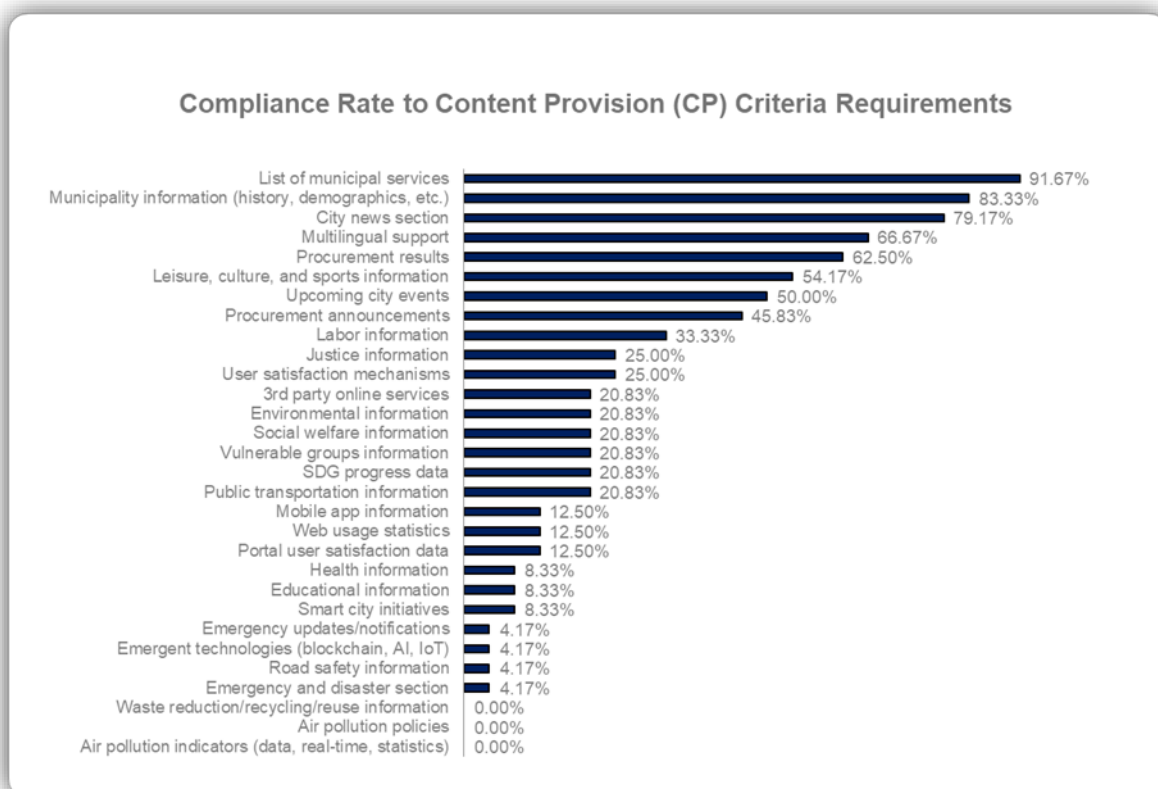


### 2.5.2 Content Provision

The evaluation of digital governance components across the assessed municipalities reveals notable variability in the presence of various services and information types on municipal portals. The data indicates that the most commonly available services are listed under the highest percentages, with 91.67% of municipalities providing detailed information about municipal services, followed closely by 83.33% offering comprehensive city news sections. Multilingual support and procurement results are present in 79.17% and 66.67% of the portals, respectively. As we move down the list, the prevalence of certain features drops significantly. For example, only 62.50% of municipalities include information on leisure, culture, and sports, while 54.17% provide details on upcoming city events.

A stark decline is observed in the availability of features such as road safety information and mobile app details, with these being present in just 33.33% and 25.00% of the municipal portals, respectively. Moreover, information related to emergent technologies and air pollution indicators is quite limited, with only 8.33% of municipalities addressing these areas. The presence of features like waste reduction information and real-time air pollution statistics is notably sparse, with some municipalities not offering these components at all. Overall, while many municipalities provide a range of digital governance components, there remains a significant gap in the coverage of more specialized or emerging topics, highlighting areas for potential development and improvement in municipal digital services (Figure 9).

Figure 9: Content Provision Indicators Analysis



### 2.5.3 Service Provision

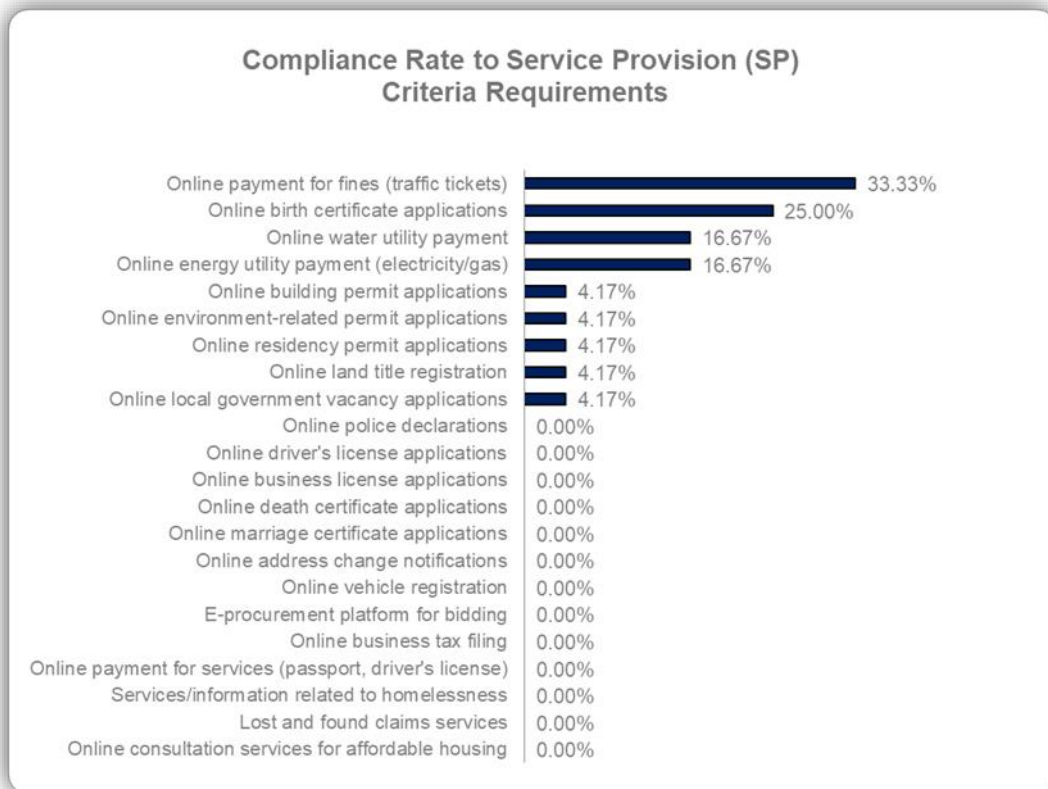
The evaluation of digital governance components across the 24 municipal portals shows that all portals fall within the Low maturity level, with average scores ranging from 0% to 18.18%. The overall average score for service provision is 11.90%, indicating limited development in digital services. None of the portals achieved scores in the Very High, High, or Middle categories, highlighting a widespread gap in digital service availability.

Among the portals, the highest average score is 22.73%, with several others scoring 18.18%. However, a significant number of portals have scores of 0%, underscoring the prevalent lack of digital services.

In terms of specific services, online payment for traffic fines is the most commonly provided service, available in 33.33% of the portals. Online birth certificate applications are offered by 25% of the portals. Online payments for water and energy utilities are available in 16.67% of the portals.

Other services, such as online building permit applications, environmental permits, residency permit applications, land title registration, and local government vacancy applications, are available in only 4.17% of the portals. Notably, none of the portals offer online police declarations, driver's license applications, business license applications, death or marriage certificates, online address change notifications, vehicle registration, e-procurement platforms for bidding, business tax filing, or services related to homelessness (Figure 10).

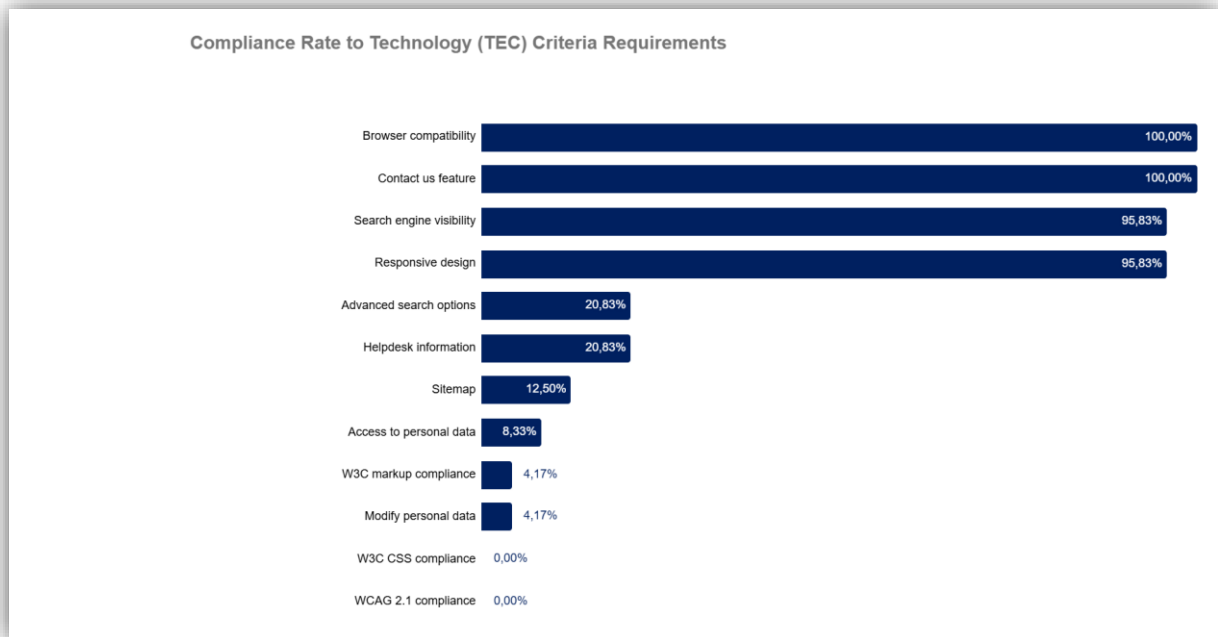
Figure 10: Service Provision Indicators Analysis



### 2.5.4 Technology

The data indicates a strong consistency in the implementation of basic web features among municipalities, with universal adoption of browser compatibility and the "Contact Us" feature, both scoring 100%. However, there is a significant decline in the adoption of advanced functionalities. For instance, while search engine visibility and responsive design are present in nearly all municipalities (95.83%), more specialized features like advanced search options and helpdesk information are markedly less common, found in only 20.83% of municipalities. The data shows a similar trend in compliance with accessibility and web standards: only a small fraction of municipalities implement sitemaps (12.50%) or provide access to personal data (8.33%). Additionally, compliance with W3C markup, CSS standards, and WCAG 2.1 is non-existent, highlighting a critical gap in adhering to recognized web standards and accessibility guidelines. This analysis reflects a broad commitment to essential web functionalities but reveals a significant lack of focus on advanced features and regulatory compliance, suggesting areas for improvement in enhancing digital accessibility and functionality (Figure 11).

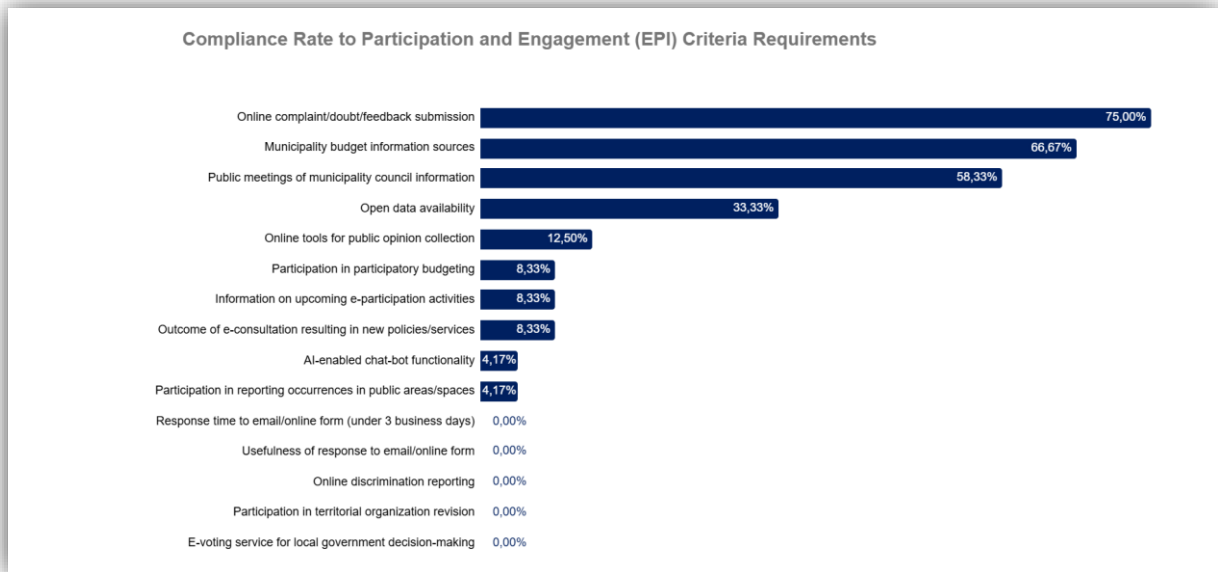
Figure 11: Technology indicators analysis



### 2.5.5 Participation and Engagement

The participation and Engagement criterion highlights the extent to which municipalities enable participatory democracy within their boundaries. Most of municipalities (75%) have affirmative responses for online complaint, doubt, or feedback submission, indicating a robust implementation of digital communication channels. This is followed by 66.67% of municipalities providing information on their budget sources, and 58.33% offering public meetings information, showcasing a strong emphasis on transparency and public engagement. However, the engagement drops significantly for other aspects such as open data availability (33.33%), which suggests that while some municipalities are embracing digital tools, there remains a notable gap in open data practices. Furthermore, services like AI-enabled chat-bots and e-voting are less prevalent, with only 4.17% of municipalities implementing these advanced functionalities. Several areas, including online discrimination reporting and participatory budgeting, are completely absent, highlighting significant opportunities for improvement. The overall data reflects a positive trend towards digital inclusion, yet underscores the need for further advancements and standardization across municipalities to enhance e-governance comprehensively (Figure 12).

Figure 12: Participation and Engagement Indicators Analysis



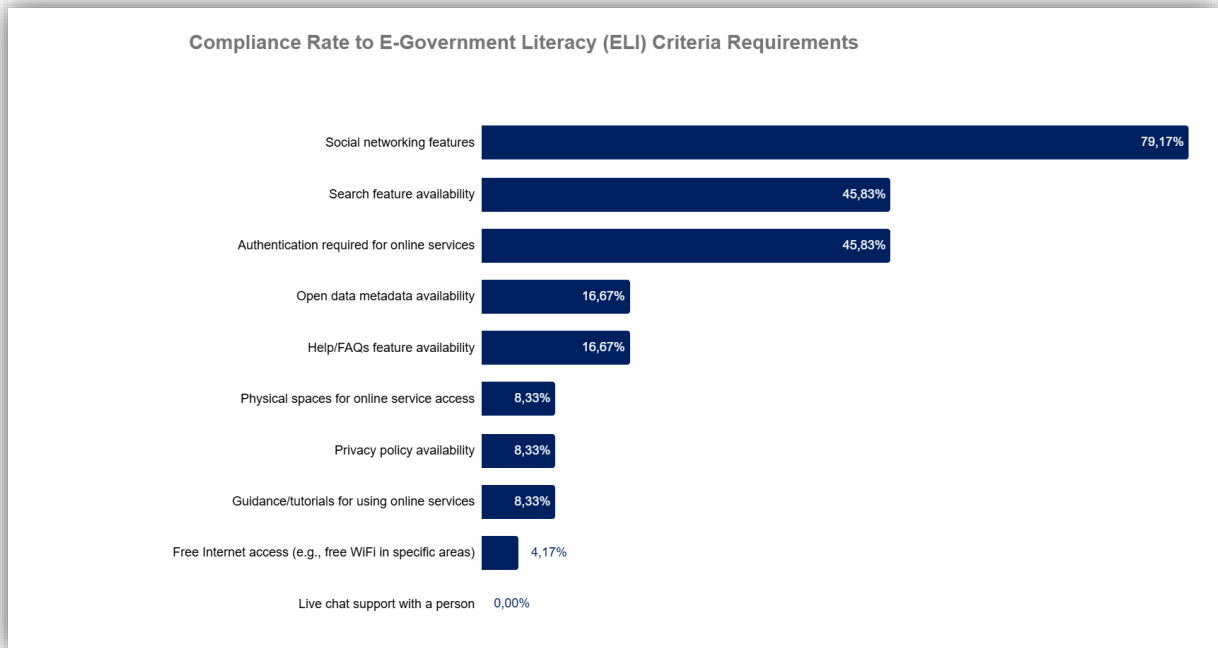
### 2.5.6 E-Literacy

The percentage of municipalities that have affirmed the presence of various online service features reveals significant variation in availability across different aspects. The feature with the highest availability is the "Search feature," with 79.17% of municipalities confirming its presence, indicating a robust implementation of search functionalities. In contrast, "Live chat support with a person" is the least available feature, with only 4.17% of municipalities providing this option, suggesting limited direct communication support.

The "Social networking features" and "Authentication required for online services" both show relatively high availability at 45.83%, which reflects a moderate but notable integration of social and security features in municipal online services. Meanwhile, the "Open data metadata availability" and "Help/FAQs feature availability" are also at 45.83%, indicating that these resources are moderately utilized.

"Physical spaces for online service access," "Privacy policy availability," and "Guidance/tutorials for using online services" are significantly less prevalent, each with only 8.33% availability. This suggests that while these features are recognized, they are not widely implemented across the municipalities surveyed. Lastly, "Free Internet access" is present in 8.33% of municipalities, and no municipalities have implemented it to date, highlighting a gap in providing free internet access in public spaces. Overall, the data indicates a diverse implementation of online service features, with some aspects being well-established while others remain scarce (Figure 13).

Figure 13: Participation and Engagement indicators analysis



## 2.6 General compliance for LOSI indicators

The data on the "Middle" group's criteria distribution reveals distinct priorities across six main categories: Technology (TEC), Content Provision (CP), Service Provision (SP), Institutional Framework (IF), Participation and Engagement (EPI), and E-Government Literacy (ELI). Content Provision (CP) consistently dominates the distribution, with values ranging from 29.63% to as high as 51.52%, showing a strong focus on making content accessible in most municipalities. Notably, Nabeul leads in CP with 51.52%, followed closely by Sousse at 45.24% and Tunis at 43.75%. Technology (TEC) shows a moderate presence across municipalities, with Zaghouan (23.08%) and Manouba (22.22%) having the highest percentages in this category, reflecting a relatively higher emphasis on technical capabilities.

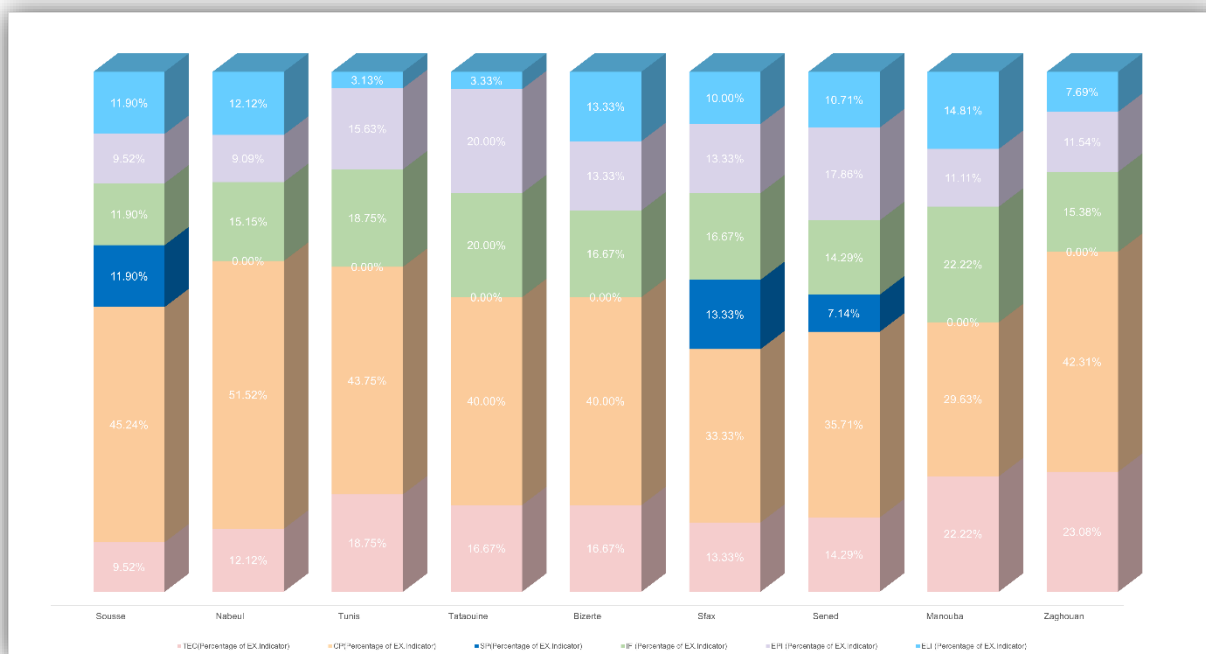
Service Provision (SP) has little to no representation in many municipalities, with Sousse and Sened showing 11.9% and 7.14%, respectively, while the rest record 0%. This gap suggests that service-oriented features may be less developed in this group. Institutional Framework (IF) shows variable emphasis, with Tataouine reaching the highest at 20%, and other municipalities like Manouba and Zaghouan each at 22.22%. This variation indicates some municipalities are focusing more on the administrative or policy-related aspects of their digital services.

In the Participation and Engagement (EPI) category, Tataouine (20%) and Tunis (15.63%) show higher percentages, pointing to a stronger engagement focus, while other municipalities allocate between 9.09% and 17.86%. Finally, the E-Government Literacy (ELI) category also sees varied attention, with municipalities like Sfax (10%) and Manouba (14.81%) emphasizing literacy efforts more than others. Overall, the distribution reflects a pronounced focus on content provision, with comparatively lower attention on service provision and varying

engagement in other areas.

This variation highlights both strengths and areas needing improvement in Tunisia's e-government landscape (Figure 14).

Figure 14: Middle Group LOSI Criteria Distribution.



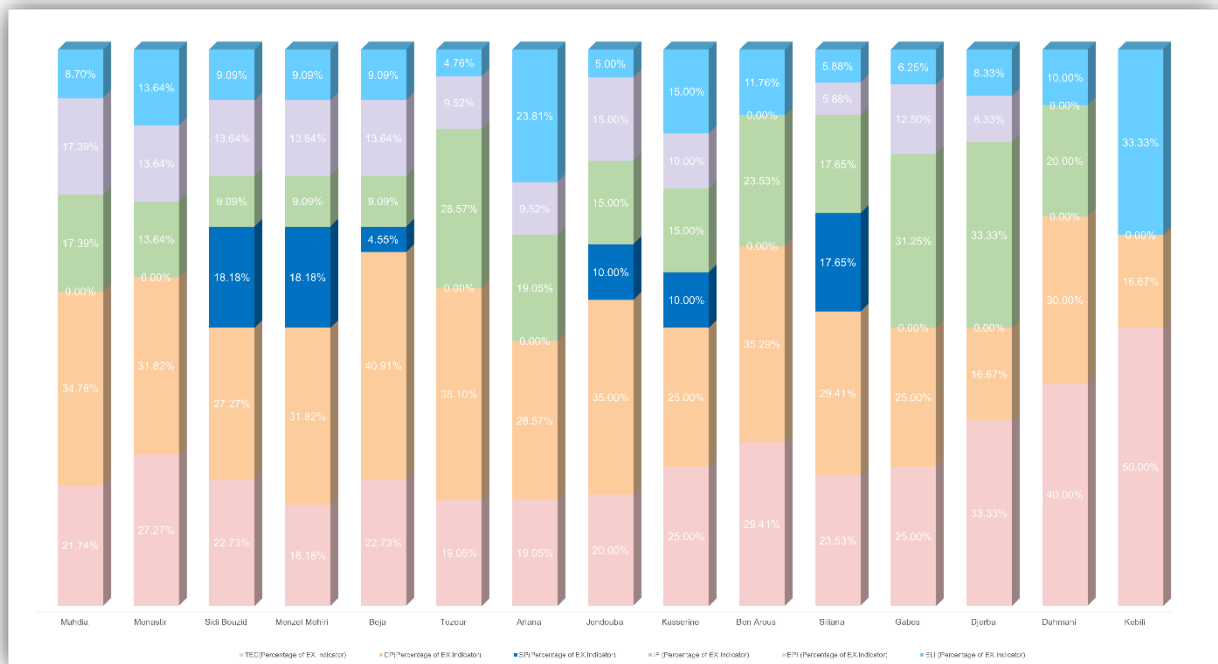
The 15 "low" LOSI group municipalities present a contrasting picture compared to the "Middle" group. Mahdia emphasizes CP (34.78%) as the highest percentage, while TEC and IF follow at 21.74% and 17.39%, respectively. Monastir also focuses on CP (31.82%) and has a high TEC score (27.27%), but with equal emphasis on IF and EPI (13.64% each). Sidi Bouzid presents a more diverse spread, highlighting TEC (22.73%), SP (18.18%), and IF (9.09%), showing a broader range across multiple indicators. Menzel Mehiri and Beja similarly distribute focus across TEC and CP, each contributing significantly (31.82% for CP in Menzel Mehiri and 40.91% in Beja), with lower values in other areas.

Tozeur has a high IF percentage (28.57%) and a prominent CP score (38.10%), whereas Ariana deviates by allocating more to ELI (23.81%) than most others, alongside significant CP and TEC values. Jendouba balances across TEC (20%) and CP (35%), with some focus on SP (10%). Kasserine and Ben Arous have notable percentages in TEC and CP, though Kasserine shows a unique pattern with 29.41% for CP and 23.53% for IF. Meanwhile, Djerba and Dahmani allocate the highest values to TEC (33.33% and 40%, respectively), with minimal distribution across other indicators.

Kebili, with TEC (50%), dedicates the highest emphasis on a single criterion among these municipalities, followed by ELI at 33.33%. Across these areas, CP and TEC frequently appear as prioritized categories, though the distribution reflects the municipalities' diverse approaches to digital feature integration within the "Low" group. This variability may indicate differing levels of focus on specific aspects of e-governance, with room for enhancement in underrepresented indicators like SP and EPI (Figure 15).



Figure 15: Low Group LOSI Criteria Distribution.



## Chapter 3. Local E-Government in Tunisia

### 3.1 Introduction

The rise of e-government represents a crucial opportunity to enhance public engagement with local authorities. The foundation of the E-Government unit in 2002 marked a significant move towards implementing citizen-centric online services, allowing and facilitating access to important and life-altering information as well as services through platforms. After a set of explorations in IT, some central ministries started to introduce their own networks; for example, the national government portal (<http://www.tunisie.gov.tn>) provides a most used services on the home page that offers quick access for citizens to information on service regarding the ministry of social business transport education, ministry of transportation, ministry of finance, ministry of social affairs, ministry of education. Many government services are used 100% on line such as: university orientation, university registration, tax declaration, public job candidacy and e-payment [5].

at the time of writing, this digital transformation and investments has been heightened by demands from the government's rapidly increasing number of internet-based users (9.96 million internet users in Tunisia at the start of 2024, when internet penetration stood at 79.6 percent based on data from Datar portal).

Despite promising advancements, the efficacy of local e-governance remains contingent to routine evaluations of government portals and their ability to handle rising urban population.

Acknowledging this, UNDESA saw the need to extend its municipal e-government assessments by widening both the coverage regarding cities and critical indicators that promote better governance practices through different Methodology, with LOSI being one among many.

As reforms and endeavors to empower local governments through decentralization are in progress, Tunisia finds itself in a crucial phase of its transition. It becomes increasingly evident that a cooperative strategy; one that blends technological innovation with active community engagement is essential for long-term development and improving the quality of life for the citizens. In this context, local e-government plays a crucial role, serving not just to improve public services but also to rejuvenate the connection between citizens and local authorities as Tunisia moves forward with its reforms.

In this chapter, the focus will be on examining both the strengths and weaknesses in developing a local e-government in Tunisia. It will also delve into key challenges, opportunities, and recommendations that the Tunisian government may want to consider to achieve its goals of equitable resource management across municipalities through digitalization. By addressing these aspects, the chapter aims to provide a comprehensive overview that can guide future strategies and initiatives for enhancing local governance in Tunisia.

## 3.2 E-Government Development Strategy

The very first steps Tunisia took towards an E-Government Development Strategy began with the launch of the **Smart Gov 2020 program** [6], a cornerstone initiative aimed at creating a modern, efficient, and citizen-centered administration. This program set a transformative mission for Tunisia, structured around four major pillars: placing user needs at the center of public services, fostering an integrated administration through interoperability and shared infrastructure, promoting open governance through transparency and citizen participation, and advancing digital adoption by securing digital transformation, encouraging widespread digital use, and building trust in public administration's digital services.

The implementation of this mission translates into eight strategic objectives that provide a clear path forward for Tunisia's e-government aspirations. These objectives focus on developing accessible, end-to-end online services for citizens, businesses, and public entities; rethinking and digitizing internal processes; and establishing an interoperable, interconnected administration that enables secure data exchanges. The strategy also promotes resource sharing, infrastructure rationalization, the creation of frameworks for open data and citizen participation, and the modernization of state information systems to enhance user orientation. Ensuring digital trust in administrative online services is a central priority across these objectives.

## 3.3 Challenges, opportunities, and recommendations

Based on the survey results and the current contextual knowledge of Tunisia, several recommendations may be made to support and encourage the growth of local e-government projects in the nation. The findings provided information from which recommendations reflecting the difficulties and opportunities may be made.

### **3.3.1 Extend the framework of institutions**

To establish a strong institutional framework for digital governance, it is essential to enhance open data policies that promote transparency and accountability. Addressing existing gaps in privacy regulations and the right to access government information will be vital to building public trust. As part of these improvements, strengthening portal security through methods like multi-factor authentication is critical to safeguarding digital platforms. A comprehensive municipal e-government plan, with clear objectives and performance metrics, will systematically guide digital initiatives. Additionally, fostering collaborative organizational structures across departments will encourage secure, transparent communication, enhancing both efficiency and trust between the government and its citizens.

### **3.3.2 Advance Digital Services**

The growth and accessibility of essential services must be given top priority. These include business taxes paid online, fines and fees paid online, water and energy utility payments made online, police declarations made to the municipality, online residency permits, moving or changing addresses made online, online vehicle registration, and e-procurement services. Authorities may guarantee a more thorough and user-friendly digital experience for citizens by filling in these gaps. In order to promote a smooth online experience, ongoing efforts should also be made to optimize and streamline currently available services. A more efficient and inclusive online service delivery would be facilitated by frequent updates, user feedback channels, and transparent communication regarding the services that are available on city portals.

### **3.3.3 Enhance E-Participation**

A number of suggestions might be taken into consideration to improve e-participation on Tunisian city portals.

- First and foremost, more needs to be done to promote transparency by making important data, like the municipal budget, more easily accessible. Regular updates and a clear data display on city portals can help achieve this.
- Secondly, measures to support and stimulate user participation in incident reporting, participatory budgeting, and territorial organization revision ought to be made. Increasing involvement can be facilitated by putting in place user-friendly interfaces and awareness initiatives.
- Thirdly, it's critical to address the lack of responsiveness in critical areas, such as policy, regulation, and service change based on e-consultations and emails from municipalities requesting responsiveness. Enhancing citizen-government contact can be achieved through the establishment of responsive communication channels and user tracking technologies.

All things considered, Tunisia can benefit from a more effective and inclusive digital governance environment through a strategic approach that includes technology advancements, user education, and ongoing e-participation feature improvement.

### 3.3.4 Improve Content Provision

It is advised that the following steps be given top priority in order to enhance content provision on municipality portals.

- First and foremost, a concentrated effort should be made to enhance the coverage of information in crucial areas including the promotion of free internet access, health, environmental, and public transportation information, as well as information on mobile apps and road safety. Cooperation with pertinent departments, frequent updates, and the unambiguous presentation of crucial data are all necessary to achieve this.
- Second, in order to improve visibility and accessibility and address the moderate coverage in areas such as education information, employment information, announcements about procurements, sports and culture information, and procurement results, strategic partnerships, community engagement, and regular communication are required.
- Thirdly, municipalities should think about developing user-friendly interfaces, offering thorough statistical data, and routinely updating the Municipal Government Platform (MGP) Usage statistics in order to strengthen the overall content provision.

### 3.3.5 Combine Technological Infrastructure

In order to maximize technological integration on Tunisian city portals, updates to the content of the portals should be made on a regular basis to ensure timely information; user support features such as FAQs and Helpdesk phone numbers should be improved; international standards for markup validity should be followed; search functionality should be improved for easy navigation; and user authority over personal and business data should be prioritized. All these steps work together to improve user experience, expedite information retrieval, and guarantee that the portals meet international standards for a more efficient and intuitive digital environment.

## 3.4 The way Forward

### 3.4.1 Launching Civil Society Initiatives for Data Collection and Publication

Civil society organizations play a crucial role in supporting municipalities by assisting with data collection, organization, and publication. By collaborating closely with local governments, these organizations can help ensure that essential data—such as environmental indicators, public service metrics, and community feedback—is accurately represented on municipal portals. This collaboration not only improves transparency but also empowers citizens with access to vital information, fostering informed participation in local governance. Launching civil society initiatives focused on data management will further strengthen municipal capabilities, ensuring data is readily available, up-to-date, and accessible to the public.

### 3.4.2 Collaboration with the Private Sector for Technological Upgrades

Collaborating with private sector plays an important role for driving technological upgrades in digital services and platforms. These partnerships can help municipalities gain access to

expertise, cutting-edge technologies, and agile development practices that are often challenging to establish within public institutions alone. Such collaborations enable municipalities to adopt advanced technologies, enhance service delivery, and ensure that citizens have efficient, accessible, and secure online interactions with public services.

### **3.4.3 Foster Public-Private Partnerships (PPP) for E-Service Expansion**

Fostering public-private partnerships (PPP) is key to accelerating the expansion of essential e-services. By collaborating with private sector innovators, municipalities can co-develop digital payment systems, e-procurement platforms, and digital document services, making these offerings more efficient, accessible, and user-friendly. Such partnerships leverage private expertise and resources to enhance public service delivery, ultimately creating a more integrated and responsive digital ecosystem for citizens.

## **Conclusion**

To advance Tunisia's digital transformation, particularly given the middle to low rankings of its municipalities on the Local Online Service Index (LOSI), a strategic and multifaceted approach is essential. Strengthening institutional frameworks is crucial, with municipalities needing to adopt robust e-government strategies that include clear objectives, performance metrics, and enhanced privacy regulations to build trust and accountability among citizens. Expanding digital services, such as online tax payments and e-procurement, while optimizing existing services, will create a more seamless and inclusive digital experience.

Additionally, improving e-participation by making key data more accessible and encouraging citizen involvement in decision-making processes will strengthen the connection between citizens and their local governments. Efforts to enhance content provision on municipal portals should focus on critical areas like health, environment, and education, supported by regular updates and strategic partnerships.

Furthermore, integrating a strong technological infrastructure, including regular portal updates, improved user support, and compliance with international standards, will lead to a more efficient and user-centric digital environment.

Through these combined efforts, Tunisia can accelerate its digital transformation journey, positioning its municipalities to deliver more efficient, transparent, and responsive services, and ultimately achieve its goal of better ranking comparing to previous years and hopefully be among the top nations in the E-Government Development Index by the upcoming years.

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