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## **Measuring the maturity of digital government services in the Arab region: the experience of ESCWA**

### **Summary**

The Fourth Industrial Revolution has imposed an accelerated pace of change in all aspects of life, for both individuals and institutions, including government institutions and their operations. Unlike in previous decades, these institutions can no longer manage their business and procedures and provide services to citizens or residents manually or on paper. They are now working hard to be more effective and efficient when providing their services. In this context, digital transformation has become a foundation upon which solutions are built to harness digital technology, so as to serve the interests of individuals and institutions, and contribute to solving various social and economic problems. Consequently, interest in developing digital government services is growing in the Arab region, as in other regions worldwide.

The present document highlights the efforts of the Economic and Social Commission for Western Asia (ESCWA) in measuring digital transformation in the Arab region by developing the Government Electronic and Mobile Services Maturity Index (GEMS Index). The Executive Committee is invited to discuss the contents of the present document, to submit proposals on enhancing digital transformation and developing the GEMS Index in Arab countries, and to comment thereon.

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## **Introduction**

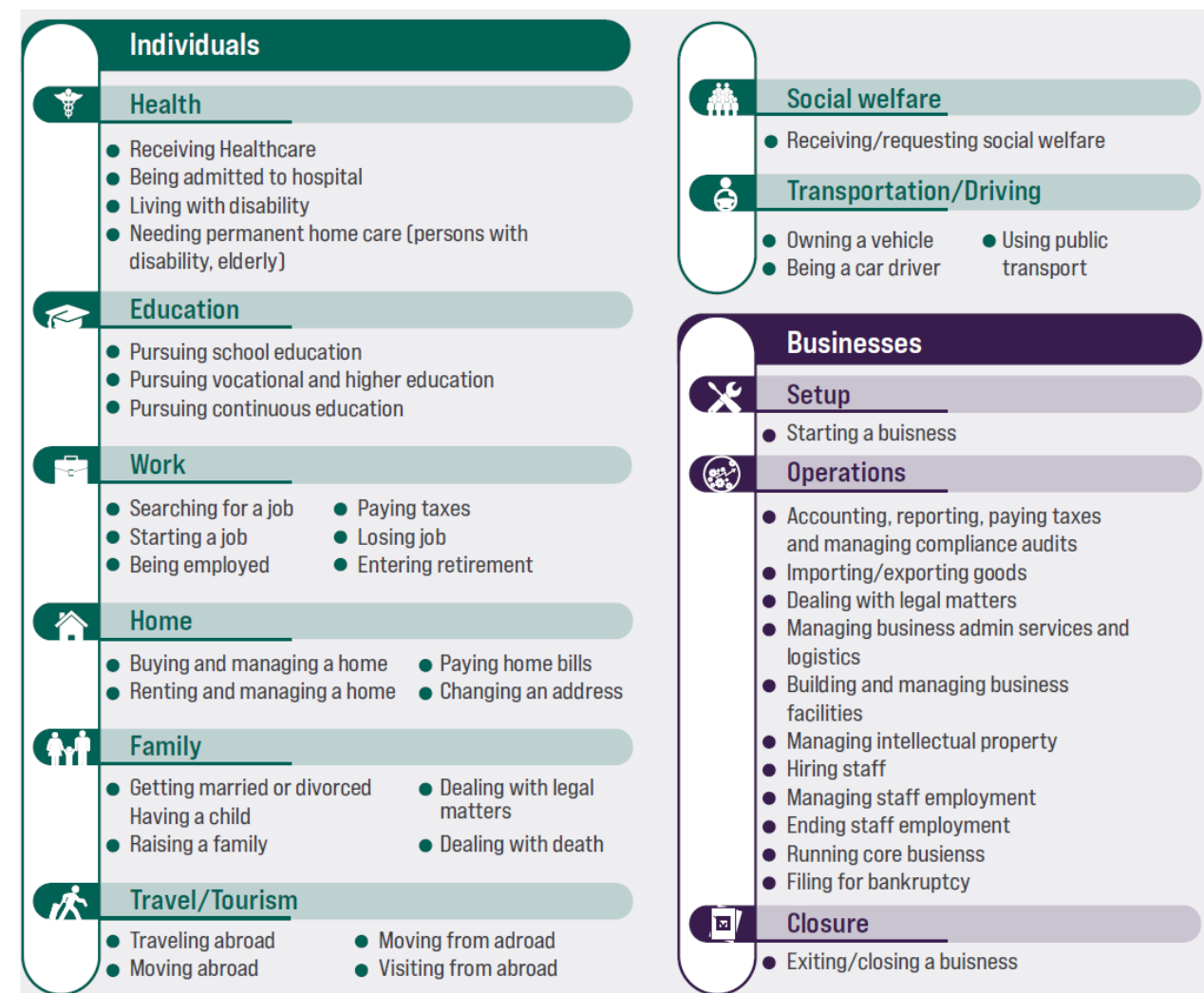
1. The Fourth Industrial Revolution has imposed an accelerated pace of change in all aspects of life, for both individuals and institutions, including government institutions and their operations. Unlike in previous decades, these institutions can no longer manage their business and procedures and provide services to citizens or residents manually or on paper. They are now working hard to be more effective and efficient when providing their services. In this context, digital transformation has become a foundation upon which solutions are built to harness digital technology, so as to serve the interests of individuals and institutions, and contribute to solving various social and economic problems.
2. Interest in developing digital government services is growing in the Arab region, as in other regions worldwide. In some Arab countries, waiting in queues for hours to obtain an official document is no longer common, and digital platforms have become a reality providing various services to individuals and institutions, including services that were extremely complicated in previous years, such as renewing passports, submitting social assistance applications, and completing tax transactions. This saves time and effort for service seekers, and contributes to advancing inclusive development efforts at the national level, in line with the Sustainable Development Goals (SDGs), especially those related to enhancing digital literacy (Goal 4), digital inclusion (Goals 5, 8 and 10), innovation (Goal 9), and institutional efficiency (Goal 16).
3. This process is not without challenges: disparities in the readiness of technological infrastructure and differences in digital skills between segments of society in some countries represent obstacles that must be overcome. In addition, there is a need to complete the digitization of national records, and develop digital applications and platforms to enable all individuals without exception to obtain digital government services anywhere and at any time.
4. After reviewing many international indicators, it became clear that they primarily measure the availability of e-government services without considering their maturity, use or user satisfaction. Therefore, the Economic and Social Commission for Western Asia (ESCWA) has developed a tool that measures the maturity of e-government services and highlights what can be improved therein, so as to support policymakers and decision makers in the Arab region in formulating and implementing appropriate national plans to accelerate the achievement of this transformation, and to provide and use digital government services and increase their efficiency.
5. The present document provides an overview of the structure of this index, and the results of the Arab region in the last assessment conducted in 2023. It also sets out proposed improvements of the index that will be implemented in 2024.

## **I. Government Electronic and Mobile Services Maturity Index**

### **A. Overview of the Index**

6. The Government Electronic and Mobile Services Maturity Index (GEMS Index) measures the maturity of government services provided through electronic portals and mobile applications in Arab countries. It provides a tool that decision makers and policymakers can use to clarify dimensions that are not covered by many international indicators, such as the extent of service development, its use and user satisfaction, as well as government efforts to reach the public. To achieve this, 84 government services were selected that are essential for both individuals and businesses, distributed into 11 categories (figure 1). The life cycle principle was adopted in selecting these services: the services that individuals need at different stages of their lives were identified, as were those that institutions need during their establishment, operation and closure.

**Figure 1. Categories of services covered by the GEMS Index**

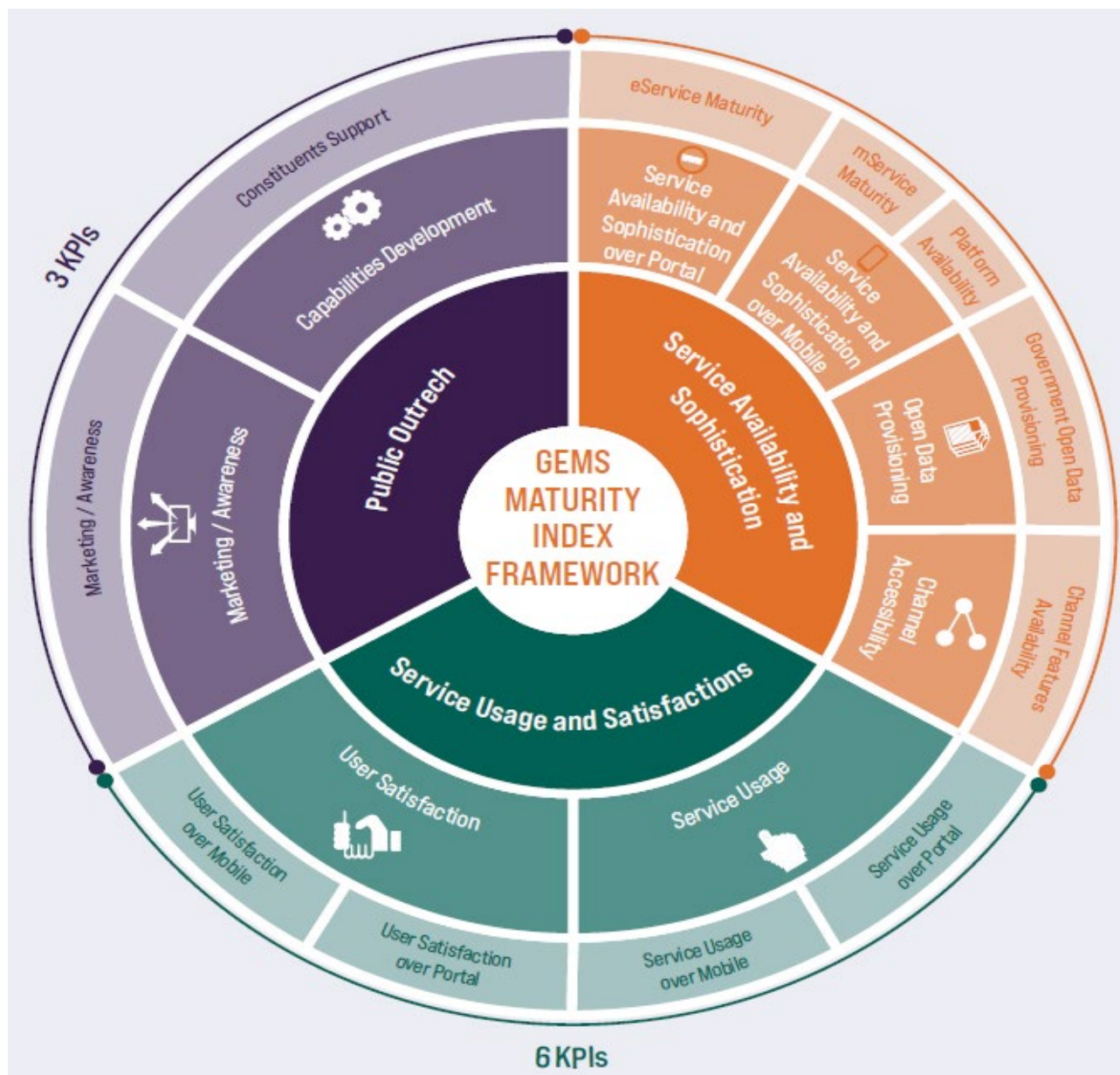


Source: ESCWA, [Government Electronic and Mobile Services \(GEMS-2023\) Maturity Index](#), December 2023.

7. According to the GEMS Index, maturity means that a service has been digitized throughout its steps, that it was promoted using marketing and awareness campaigns, that it is well-used by individuals and businesses, and that support and communication tools are directly provided to it.

8. The GEMS Index is based on three main pillars (figure 2), namely service availability and sophistication (supply), service usage and user satisfaction (demand), and public outreach (inclusiveness). These indicators are grouped into 11 categories shown in the outer ring of the circle in figure 2. To measure these three pillars, 24 key performance indicators (KPIs) were adopted, comprising 15 indicators for the first pillar, six indicators for the second pillar, and three indicators for the third pillar.

**Figure 2. GEMS structure by pillar, subpillar and categories, and the distribution of key performance indicators**



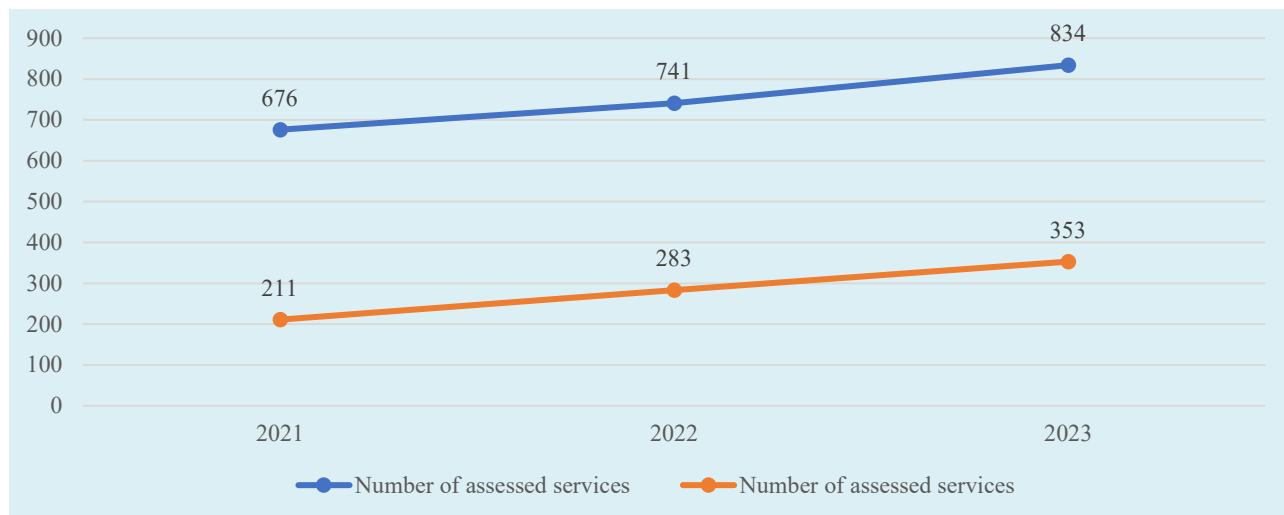
Source: ESCWA, *Government Electronic and Mobile Services (GEMS-2023) Maturity Index*, December 2023.

9. This Index was evaluated for the first time in 2019. Twelve member States participated in the first round, namely Bahrain, Egypt, Iraq, Jordan, Mauritania, Oman, the State of Palestine, Saudi Arabia, the Sudan, the Syrian Arab Republic, Tunisia and the United Arab Emirates. The Index coverage was then expanded to include 17 Arab countries in 2023, namely Algeria, Bahrain, Iraq, Jordan, Kuwait, Libya, Mauritania, Morocco, Oman, the State of Palestine, Qatar, Saudi Arabia, Somalia, the Syrian Arab Republic, Tunisia, the United Arab Emirates and Yemen.

### **B. Status of the Arab region according to the GEMS Index**

10. Despite the impossibility of collecting data in some member States, the total number of services and institutions assessed has increased steadily between 2021 and 2023. Figure 3 shows the change in the total number of services and institutions assessed for all member States between 2021 and 2023.

**Figure 3. Change in the total number of services and entities assessed, 2021–2023**

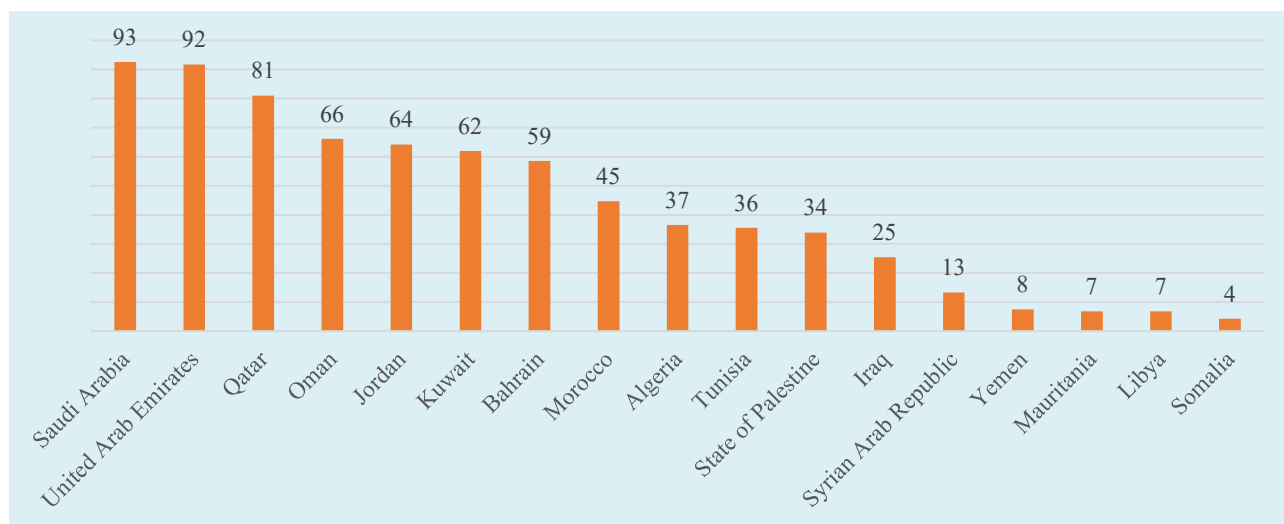


Source: ESCWA calculations.

11. The increase in the number of services evaluated annually indicates the increased adoption of digital transformation by Arab countries, especially in digitizing government services. The increase in the number of institutions included in the evaluation indicates their growing interest in implementing digital transformation in various development sectors.

12. Figure 4 shows the overall results of Arab countries according to the GEMS Index for 2023. The Arab countries participating in the evaluation are divided into three main groups. The first includes values above 50 per cent, and comprises Saudi Arabia, the United Arab Emirates, Qatar, Oman, Jordan, Kuwait and Bahrain. The second group includes values below 50 per cent and above 10 per cent, and comprises Morocco, Algeria, Tunisia, the State of Palestine, Iraq and the Syrian Arab Republic. The third group (less than 10 per cent) includes Yemen, Mauritania, Libya and Somalia. There is a significant difference between the lowest and highest scores, ranging from 4 to 93 per cent. Compared with 2022, the gap in the maturity of digital government services is widening, which requires supporting Arab countries that are still in the early stages of digital maturity, and benefiting from the exchange of experiences between Arab countries to accelerate the digital transformation process.

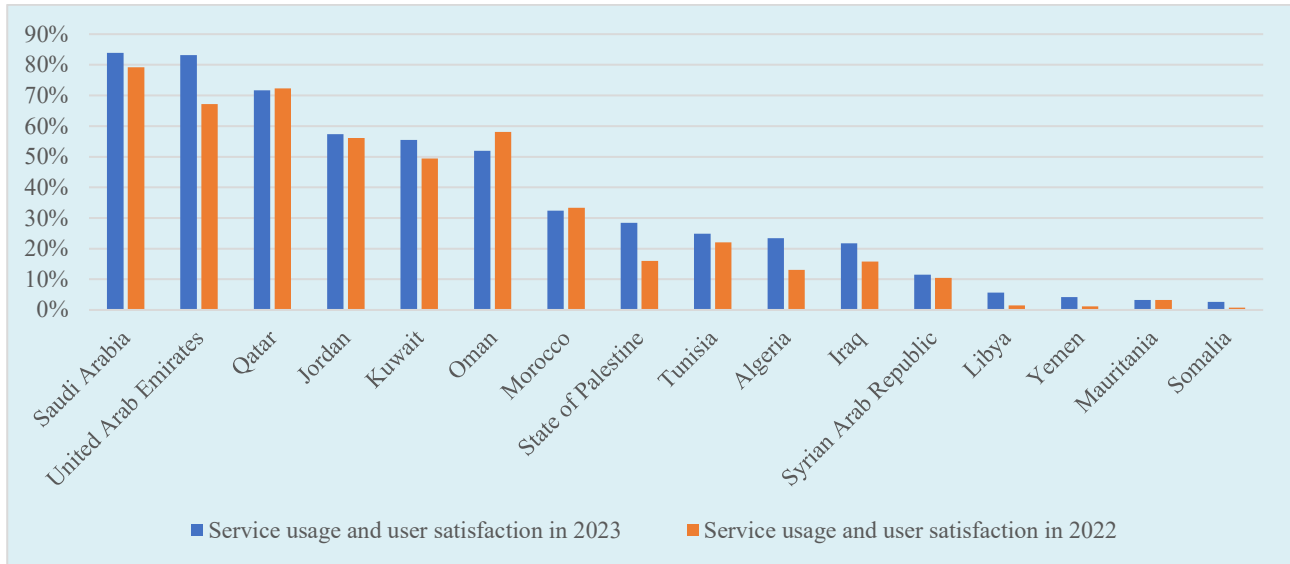
**Figure 4. GEMS Index overall scores, 2023**



Source: ESCWA calculations.

13. A comparison between the results of 2023 and 2022 (figure 5) shows that most of the overall scores have increased, and that most of the countries that participated in the two assessments have progressed in terms of the overall results, which indicates the intensive efforts made to implement digital transformation at the national level in those countries.

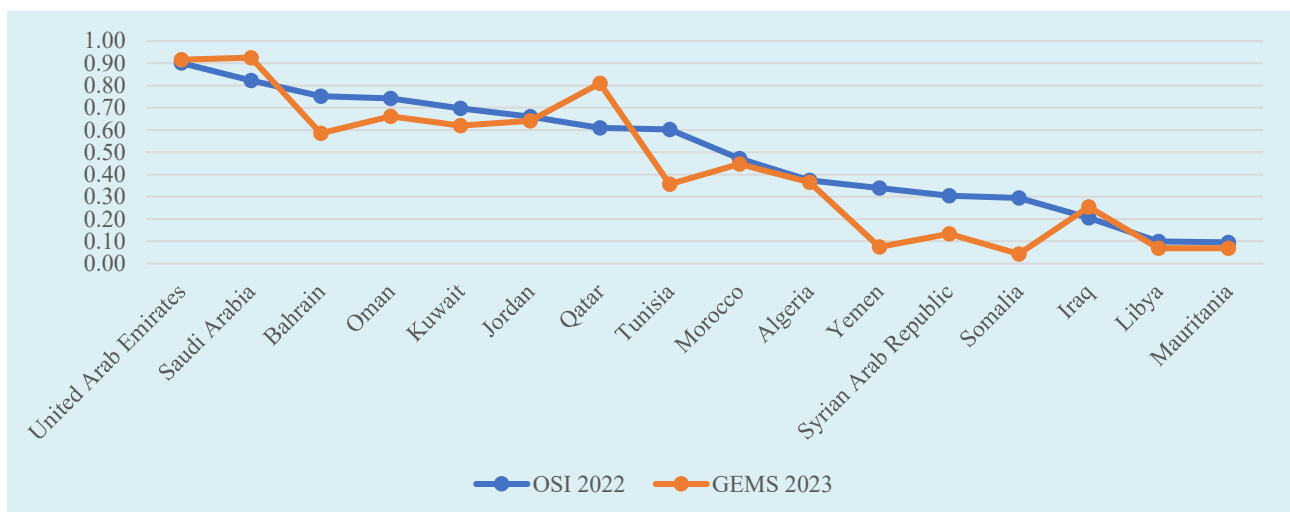
**Figure 5. Change in GEMS Index scores, 2022–2023**



Source: ESCWA calculations.

14. The remarkable progress on the GEMS Index does not mean that the region does not need to make more efforts in terms of providing communications infrastructure and building human capital in most countries. Figure 6 shows a comparison between the results of the GEMS Index and the Online Service Index (OSI) for 2022, which is a subindex of the E-Government Development Index (EGDI) measured by the United Nations Department of Economic and Social Affairs (DESA) for all countries worldwide. Overall, there is consistency in the general trend on the one hand, and an alignment in the vision of the two indices on the other. The availability of e-government services on the Internet should be accompanied by a high level of maturity in terms of service development, use, user satisfaction, and public outreach. This underscores the importance of examining the two indices together to gain better insight into the extent of digital transformation on both the supply and demand sides.

**Figure 6. Arab region's performance according to OSI 2022 and GEMS 2023**



Source: ESCWA calculations.

15. Based on the Index evaluation for 2023, the percentage of digital government services has increased in the sectors of utilities, education, and joint government affairs. Regarding the results of services evaluated by sector, the utilities and internal affairs sectors have outperformed the other sectors.

16. Regarding the service availability and sophistication pillar, eight Arab countries recorded results exceeding 50 per cent, which is evidence of the availability and sophistication of the service to an acceptable level. However, four countries obtained a result lower than 10 per cent, which requires strengthening the technological infrastructure, making more services available electronically, completely digitizing all the stages of services, and providing them through various means such as electronic portals or mobile applications. Moreover, the comparison between 2022 and 2023 indicates that most Arab countries have made progress in this pillar, which confirms their interest in providing and developing services digitally.

17. Regarding the service usage and user satisfaction pillar, the average for this pillar remained the lowest among the three pillars of the Index, despite seven Arab countries recording scores higher than 50 per cent, which indicates the need to focus on providing services through various channels, and following up on and addressing citizens' complaints related to services. Comparing results for 2022 and 2023 reveals that the Arab region has achieved slight progress in this pillar.

18. The public outreach pillar has the widest disparity in results between Arab countries, ranging from 5 to 100 per cent. This indicates the need to launch marketing campaigns for e-government services under development, and to focus on providing support tools for individuals and institutions (such as the use of virtual reality, and support via around-the-clock live chat). The comparison between 2022 and 2023 also indicates an overall improvement in the performance of the Arab region under this pillar.

19. Lastly, regarding KPIs, the importance of the availability of applications on mobile platforms, the possibility of collecting user opinions via mobile, and the availability of features to enable persons with disabilities to use services either via an electronic portal or via mobile applications, and to achieve greater interaction through them, is highlighted at the regional level. It is also important to enhance the level of use via mobiles and overall use in institutions, and provide the necessary means to raise the level of user satisfaction via mobiles. The importance of supporting interoperability between channels is also evident, so that a transaction can be completed through a mobile application if it was initiated via an electronic portal or vice versa.

## **II. Transition to GEMS 2.0 in 2024**

20. The concept of digital transformation has continued to evolve in recent years. It no longer only involves achieving digitization and providing services through digital channels, but also refers to the integration of government institutions among themselves to form a unified digital entity in which citizens are the focus of service provision. For example, linking government institutions (G2G), employing emerging technologies in developing government services, and using a unified digital identity to access those services are important dimensions of digital transformation. With the increasing interest in the GEMS Index in the Arab region, and to keep pace with the rapid progress in providing government services, ESCWA proposes developing the Index to expand the scope of services and measure them more accurately. The new version of the Index is called GEMS 2.0.

21. The development proposal includes a number of amendments that will be added to the concept of the Index without deleting or modifying its basic structure. The proposed amendments aim to expand the services covered by the Index and maintain its three main pillars (service availability and sophistication, service usage and user satisfaction, and public outreach), while supporting these pillars with additional KPIs.



### A. Expanding the scope of services covered

22. The proposed amendments to the Index for 2024 include increasing the number of government services measured by the Index in a single country from 84 to 100 services.

23. After consultations with national coordinators of the Index in Arab countries, a list of new services proposed to be added to the Index framework was prepared. These services were selected based on the following criteria: the service should be appropriate to the context of the Arab region and not specific to a narrow exceptional case; the nature of the service should be procedural or not only informational; and the service should be in broad demand by target users. Table 1 presents a list of the new services added.

**Table 1. List of new services added**

New added services
Trademark registration application
Request for financial clearance for a property or release of a mortgage on a property
Issuing an identification card for people with disabilities
Issuing a license for a small home-based business or for a self-employed individual
Issuing a family identity card or family certificate
Issuing financial clearance for companies
Issuing financial clearance for individuals
Enforcing court rulings (such as paying a fine, bail)
Requesting clearance for a vehicle
Requesting the destruction, scrapping or removal of a vehicle from service
Approval for a media company license (artworks, publications)
Requesting a statement on the status of a property (real estate registration)
Requesting a government housing service (application for housing, payment of installments)
Paying property tax
Filing a complaint about a product or consumer good
Reporting the loss of personal identification documents or reporting lost items
Reporting damage or harm on public roads
Requesting the transfer of a student from one school to another (government schools)
Requesting the registration of a patent or issuing a certificate of deposit and preservation of copyright
Paying money to a national fund (donations, gifts, zakat, etc.)

### B. Developing KPIs

24. The proposed amendments include adding a number of KPIs to monitor new aspects and dimensions that have become requirements for digital transformation in government services, increasing the number of these indicators from 24 to 35. Table 2 shows the distribution of KPIs across the three pillars of the GEMS Index.

**Table 2. KPIs distribution across the three pillars of the GEMS Index**

Pillar	Number of KPIs in the GEMS Index 2023	Number of KPIs in the GEMS Index 2024
Service availability and sophistication	15	21
Service usage and user satisfaction	6	7
Public outreach	3	7
Total	24	35

25. Several national and international indicators were reviewed, such as the Digital Services Quality Index, the percentage of usage of digital enablers index, the government data maturity index of the United Arab Emirates, the government services maturity index of Saudi Arabia, and the World Bank's GovTech Maturity Index. Developments in government digital transformation were also reviewed, a list of proposed new pillars was identified, and additional dimensions for evaluation were selected based on the following criteria: the performance index should cover a new dimension in terms of measuring the maturity of digital government services; it should be appropriate to the context of the Arab region; and it should be consistent with the rest of the performance indicators used in the GEMS Index.

26. The following dimensions will be monitored in the proposed KPIs:

- Connecting government institutions (G2G) and sharing data between them, whether through a government service bus (GSB), a central network, or application programming interfaces (APIs).
- Employing emerging technologies, such as blockchain, in developing and improving digital government services to increase service security, and using artificial intelligence to support consumers and understand their behaviour.
- Using a unified digital identity to access digital government services.
- Applying the concept of proactive service when activating government services to enhance user-centricity in providing services.
- Ensuring continuity of service operation and its availability to users.
- Taking into account the quality of open government data according to standard criteria.
- Assessing the extent to which government institutions respond to enquiries and assistance requests, and the related response time.

### III. Concluding remarks

27. Given the need to focus its efforts on digital transformation issues, the ESCWA secretariat proposes to enhance regional cooperation on digital transformation and digital government issues, harness emerging technologies for development, continue to improve the GEMS Index to keep pace with developments in digitization and the uses of emerging technologies, and strengthen collaboration with national coordinators in member States to ensure its accurate measurement.

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