GovTech Case Studies: Solutions that Work

Djibouti: Digital Customs Administration Using ASYCUDAWorld

Simple, Efficient, and Transparent Government Systems

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Introduction

A small country with an economy built on its strategic position at the intersection of three continents, Djibouti serves as a transport and logistics corridor for the Horn of Africa and the Middle East. Trade through its state-of-the-art port drives the national economy, with the vast majority of goods on their way to and from landlocked Ethiopia. The country imports and exports the equivalent of well over 100 percent of national Gross Domestic Product (GDP) annually. Djibouti also depends heavily on trade for domestic consumption; it is almost completely reliant on imports for food.

Djibouti has achieved impressive economic growth in recent years, averaging 6 percent annually in the six years prior to the disruption of the COVID-19 pandemic, but human development deficits and fragility persist. Djibouti ranks 171st out of 191 countries in the 2021 Human Development Index, and the country remains highly vulnerable to global health, economic, regional security, and climatic shocks.

Given the central importance of international trade to Djibouti’s national development objectives, the government recently invested in upgrading its customs administration system. The new version, ASYCUDAWorld, has resulted in significant improvements in customs clearance processes, which makes the national investment climate more attractive and moves the government closer to its goal of comprehensive online service delivery. The World Bank financed the upgrade through the ongoing Djibouti Public Administration Modernization Project (P162904), which has the overarching aims of improving access to e-government services and making government revenue systems more efficient.
Problems and Objectives

The Government of Djibouti has made substantial progress toward its vision of the country as a digital hub for the region. Djibouti is one of the best-connected countries on the continent, with two cable landing stations providing access to nine submarine cables that have links to East Africa, Europe, the Middle East, and South Asia, and two further landing stations under development. These international connections create a sharp contrast with the limited digital service availability and low mobile coverage in the domestic market. Djibouti remains one of the last countries to maintain an essentially monopolistic telecom sector, and lack of competition has constrained growth in digital infrastructure and deterred investment. As a result, the potential of Djibouti’s domestic information technology sector remains largely untapped.

Djibouti’s government aims to modernize public administration to foster a diversified and robust private sector, strengthen Djibouti’s role as a logistics hub, and address social and institutional challenges throughout the country. A broader animating vision is the potential for a digital single market in the Horn of Africa. Djibouti’s vulnerability to climate-related risks also strengthens the government’s commitment to digital transformation, which can boost societal resilience in a myriad of ways.

Djibouti’s “Vision 2035” strategy, adopted in 2014, sets out targets including tripling per capita income and improving indicators of well-being. It reflects the government’s commitment to improving service delivery as well as introducing structural reforms to strengthen Djibouti’s comparative advantages in facilitating international commerce. The national development plan, “Djibouti Inclusion – Connectivity – Institutions” (2020-2024) includes the digital transformation of the public sector, and the government is currently developing a more specific strategy for this.

In this context, the World Bank’s $15m Public Administration Modernization Project (PAMAP) aims to enable access to e-government and promote the efficiency of select revenue administration services. Its approach is a combination of policy reform, technology solutions, change management, and skill building. Among other initiatives, PAMAP has already financed the upgrade of Djibouti’s customs administration system. According to Djibouti’s customs agency, effective customs administration is essential for several reasons:

- Fiscal: Customs receipts represent more than 50 percent of annual tax revenue.
- Economic: Customs administration plays a major role in the attractiveness of the investment climate and in facilitating economic activity.
- Protective: Customs administration is important to border security, crime prevention, protecting public health, and protecting environmental and cultural resources.

Improving customs administration by simplifying and digitizing procedures (Figure 1) can: decrease transaction costs and time requirements for businesses and governments; increase customs revenue by reducing leakage due to noncompliance or incorrect application of rules; speed up customs clearance leading to more efficient transit of goods and increased trade flows; and produce data that government can use for planning and management purposes. It can also increase the transparency of customs rules and reduce opportunities for corruption.

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Digital Customs Administration

- Decrease transaction costs and time
- Increase customs revenue
- Speed up customs clearance
- Produce data for planning/management
- Increase transparency and reduce corruption

Source: World Bank, based on information from ASYCUDA.org.

**Solutions and Approaches**

Djibouti’s GovTech architecture already includes a powerful and fully operational data center, fiber optic network, and high-speed Internet access in most ministries and agencies within the administrative capital. In 2021, the government rolled out a backend interoperability platform based on the open-source X-ROAD system developed in Estonia and has aimed to digitize and integrate all the services it provides onto this platform.

Once this plan is fully implemented, data from across the government will be stored in a public cloud, so that ministries and agencies do not need to individually purchase servers and licenses. These centralized ICT services will be managed and maintained by the National Agency for State Information Systems (Agence Nationale de Systèmes d’Informations de l’État, or “ANSIE”), which was created in 2015 and functions as an information and communications technology (ICT) service provider for the entire government.

Customs administration is one of the first functions the government decided to digitalize, given its strategic importance. While an online customs system has been in place since 2006, customs procedures were initially not paperless. Building on iterative improvements over the years (Figure 2), in 2022 the government launched an updated version of its current system (ASYCUDAWorld) to complete the automation of transit procedures. It allows the government to provide online declarations, filing, and payment services to users.

The Automated Systems for Customs Data (ASYCUDA), developed by the UN Conference on Trade and Development (UNCTAD), has been implemented by more than 100 countries and territories. The system provides a cost-effective way for countries to harmonize their customs administration with international standards, make processes more efficient, increase transparency in the customs process, and boost customs revenue. For Djibouti, there was a dedicated project manager within Djibouti Customs for the implementation, and UNCTAD did the technical upgrade, in coordination with a World Bank-financed Project Coordination Unit (PCU) within ANSIE that provided support.
Figure 2. Timeline of Djibouti Customs Automation

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>Mirsal, a customs clearance system owned by Dubai Customs, was installed at customs locations</td>
</tr>
<tr>
<td>2010</td>
<td>Decision to move to a different system, ASYCUDAWorld, for reasons such as its web-based design, lower operating costs, and more flexibility to customize</td>
</tr>
<tr>
<td>2012</td>
<td>ASYCUDAWorld deployed, financed by government funds</td>
</tr>
<tr>
<td>2018</td>
<td>WB PAMAP project approved, including funding for migration to latest version of ASYCUDAWorld</td>
</tr>
<tr>
<td>2021</td>
<td>Exit voucher fees could be paid online; customs receipts had roughly doubled since 2012</td>
</tr>
<tr>
<td>2022</td>
<td>New version of ASYCUDAWorld launched</td>
</tr>
</tbody>
</table>

Source: World Bank, created with information from the website of the Djibouti General Directorate for Customs and Indirect Taxes (https://douanesdj.net/).

Successful implementation of GovTech systems like ASYCUDAWorld also depends on essential non-technical elements. Specifically, thus far, Djibouti does not have an enabling strategic, legal, policy, and regulatory framework for digital service delivery. Without it, the government cannot take full advantage of the soft infrastructure that is already in place, such as the X-ROAD data exchange platform. In future, ASYCUDAWorld will be integrated into X-ROAD and linked to other public financial management systems, but for now it is a stand-alone system.

Supported by the World Bank, the government has developed plans to address the gaps in policies and regulatory framework. It is currently working toward adoption of a “Digital Code” that will introduce foundational legal provisions covering electronic transactions, digital signature, data exchange, cybersecurity, privacy and data protection, and access to information. This effort has benefited from several workshops held to validate the code with government and private sector stakeholders to ensure that it is compatible with the constitution and laws already on the books, and to build consensus. The government also needs to establish a comprehensive strategy for digital transformation and clarify institutional arrangements, as the roles and responsibilities of different government entities regarding digital transformation are somewhat overlapping at present. By strengthening the enabling factors, the government will be able to fully leverage the benefits of its new digital architecture.
DIGITAL SOLUTIONS

The Automated System for Customs Data (ASYCUDA, or SYDONIA in French) is a web-based customs management system developed by UNCTAD that covers most cross-border trade procedures including customs declarations and accounting and transit procedures. It uses international codes and standards developed by the International Organization for Standardization (ISO) and World Customs Organization and follows the United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) can be configured to reflect each country’s unique customs regime, regulations, and tariffs. The latest version of the system, known as ASYCUDAWorld, has the following characteristics:

- 100% Java technology.
- Relational database management system for transaction and control data.
- Compatible with major database management and operating systems; hardware independent
- Highly scalable N-tier architecture and modular design.
- Fully compatible with all forms of data exchange with any external software.
- Highy secure – including asymmetrical encryption, biometrics, e-signature, and two-factor authentication.
- Allows Electronic Data Interchange (EDI) between traders and customs officials via common standards such as XML.
- Uses the United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT).

Results

The launch of ASYCUDAWorld at all customs sites in Djibouti has generated significant improvements in the processing of goods:

- Dozens of freight forwarders use the system from their offices rather than going to customs facilities in person, and can complete all steps including payment electronically, saving time and printing costs.

- Average customs clearance time has decreased from more than eight days to less than three days.

- Approximately 45 percent of customs declarations are now filed electronically, well above PAMAP’s target of 20 percent.

- The system had 1,739 users in 2022, and more than 170,000 declarations of import, export, or transit.

- Customs officials can track goods in transit more accurately and can scan barcodes on truck drivers’ roadmaps to facilitate entry and exit of goods.

- Of 378 workers trained to use the system, 63 percent were women.\(^8\)

The system upgrade has provided an opportunity to create a corridor between Djibouti and Ethiopia, with both governments now working to connect their customs systems so that users can also begin the process in Ethiopia. Additionally, the mobile application for ASYCUDAWorld is being adapted for Djibouti to allow access via a smartphone or other compatible device.

More broadly, important progress has been made on the legal and institutional underpinnings for e-government. While the systems and infrastructure for Djibouti’s digital transformation are increasingly taking shape (Figure 3 shows the planned architecture; implementation is underway but not yet complete), full utilization depends on finalizing the legal, policy, and regulatory framework. Through PAMAP, the government has adopted a new cybersecurity strategy, and has put together a comprehensive Digital Code; the next step would be adoption of the Code. With support from another World Bank project, the Djibouti Digital Foundations Project (P174461), the government has taken key initial steps toward reforming the monopolistic system in the ICT sector by introducing competition and private sector investment. Along with the rollout of an increasing number of online public services, this is expected to generate transformative change across the economy by facilitating growth of the private sector.

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Figure 3. Djibouti's Planned e-Government Architecture

Source: Agence Nationale de Systèmes d'Informations de l'État (ANSIE).
Lessons learned

The Government of Djibouti’s experience upgrading its customs information system suggests that governments and World Bank task teams seeking to implement GovTech reforms should keep the importance of a number of key elements in mind, including but not limited to the following:

Leadership and country ownership. In Djibouti, the government has demonstrated strong leadership in its drive to transform the country into an efficient regional planning hub, and appointed a knowledgeable, reform-minded leadership team for customs reform. For the implementation of ASYCUDAWorld, the Djibouti Customs Director General hired his predecessor, who had retired, to return and serve as the project manager. As project manager, this individual brought a wealth of institutional knowledge to the job, along with a deep understanding of the strategy and goals for the system. Moreover, the broader team already had great respect for him. The unique strengths he brought to the role likely played a key part in the successful adoption of the new system.

Results focus. Another success factor was the relentless focus on improving customs processes. The government approached ASYCUDAWorld implementation not as a technical project, but as a business process reengineering exercise with technology as the mechanism. Project management reflected this, in the sense that implementation was guided by a non-technical Strategic Committee comprised of representatives of the main ministries and agencies involved in PAMAP, and the technical team was subordinated to them. There are examples within the government of other system implementations that have taken a more ICT-driven approach with less positive results. For example, in some cases, the government has digitized services based on existing business processes, which can mean missing potential productivity gains, as opposed to first improving policies and procedures.

Change management. Generally, lack of effective change management is a major constraint in user uptake of digital platforms, particularly in the face of resistance from vested interests, and Djibouti is no exception. Some digital systems have been adopted more quickly than others. It is important for change management efforts to be led from the top, as they were in the case of customs reform. Communication campaigns emphasizing system benefits and tailored to all user segments also facilitated adoption of ASYCUDAWorld. Currently, no binding law exists in Djibouti to compel ministries to connect their systems to X-ROAD. This means that making progress on data exchange and interoperability will require increased attention to change management across ministries, agencies, and all related institutions.

Enabling framework. An appropriate and robust policy, legal, and regulatory framework is essential to the widespread adoption of new digital systems across the government. Integration of government services, including ASYCUDAWorld, into the interoperability platform has met with delays – fewer than 10 platforms are using it so far – partly due to the lack of the broader enabling framework for digital transformation.
Next Steps

For ASYCUDAWorld, the immediate next step is integration into the government’s new digital architecture. Technical teams are working on a linkage with the interoperability platform, which will then allow it to interface with other public financial management systems including the new tax administration system (under implementation), the debt management system, the human resources management information system and payroll system, and the National Payment Gateway. This new technical architecture will replace what was a set of disparate and ineffective platforms, and result in an integrated end-to-end integrated financial management information system.

Other budget-related reforms such as new accounting processes, a Treasury Single Account (TSA), and new capabilities in digital payments – for example, for salaries – combined with the technical architecture will give government the tools to consolidate financial management functions into a holistic approach and strengthen internal controls. Strengthening financial management should, in turn, have a significant positive impact on the effectiveness of public spending, leading to increased well-being for the people of Djibouti.

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Annex: GovTech Maturity Index 2022 in Djibouti

Note: The GTMI measures each country’s progress on four key dimensions of GovTech by aggregating four subindices: the Core Government Systems Index (CGSI), Public Service Delivery Index (PSDI), Digital Citizen Engagement Index (DCEI), and GovTech Enablers Index (GTEI).