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Policy Brief

Transition to e-Procurement: Are the Municipalities Ready?

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1
The Institut des Finances Basil Fuleihan is a knowledge center at the Lebanese Ministry of Finance.

2
The size of public procurement was calculated based on effective government expenditures at the central level, including transfers to Electricity of Liban (EDL).

3
Institut des Finances Basil Fuleihan. (2022, May). Reforming Public Procurement in Lebanon Briefing Note.

Introduction

Public procurement is the process by which the government and state-owned enterprises purchase goods, services and public works. Governments are expected to have a robust regulatory framework that allows them to carry out their procurement activities efficiently, thus ensuring a high quality of service delivery. Digitizing public procurement is considered a key tool to ensure 'best value for money,' by enabling transparency, efficiency, and overall integrity of the procurement regime. Yet on its own, digitization is not sufficient, as it depends on an enabling environment that can facilitate its wide adoption and ensure its continuity.

In Lebanon, Public Procurement Law No. 244/2021 (PPL) was passed by the Lebanese Parliament on 30 June 2021 to improve the nation's public procurement system by using an evidence-based approach that applies best practices and standards. This law is one of the most important pieces of legislation regulating the interaction between the public and private sectors. The Institute of Finance (IoF),[1] which lead the policy-making process of this reform, estimates that public procurement represents around 20% of central government expenditures (excluding debt and reserves and funding for public institutions and municipalities)[2] and 6.5% of GDP (around USD 3.4 billion in 2019).[3]

It is not surprising then that public procurement is one of the most corruption-prone government activities. The volume of transactions, financial interests, complexity of the process, and close interaction between public officials and businesses, among a multitude of stakeholders, all contribute to this susceptibility. In Lebanon, the propensity of these permissive factors to lead to corrupt conduct is amplified, as they exist within an institutional culture that lacks transparency and accountability. The new public procurement law is therefore a key regulatory instrument to achieve better transparency and integrity in government spending. To that end, one of the most crucial elements of this legislation is the establishment of an e-procurement platform, which should ideally host all public procurement activities.

With the law having entered into force as of 29 July 2022, there are doubts about the capacity of government institutions to transition to an electronic procurement system. Skepticism is especially more pronounced in the case of municipalities, which are experiencing a sharp drop in their revenues and a widening set of other social and economic challenges, primarily due to Lebanon's ongoing financial meltdown. This policy brief aims to identify the main challenges facing the implementation of electronic public procurement at the municipal level and proposes a set of recommendations that can contribute to its success.

Literature on the implementation of the PPL at the municipal level is unjustifiably scant, particularly after the law has gone into effect. Literature on the adoption of e-procurement in Lebanon is equally as sparse. Using qualitative data collected from key government, international, and civil society stakeholders during two roundtables and several one-on-one meetings, this brief contributes to filling in this gap by examining the challenges facing the implementation of e-procurement at the municipal level. It examines some of the inhibiting factors at the level of organization and management, practices and processes, and system and technology, all in the context of the economic crisis and under particular political economy dynamics.

The following analysis is also based on data from published studies on e-procurement, its implementation in the public sector in some developing countries in Africa and Asia, and the factors determining its success. Literature on e-government and some theoretical frameworks developed to identify drivers of organizational change are also covered.

The lack of relevant and recent quantitative data on the administrative capacity of municipalities posed a major methodological limitation, which was remediated by qualitative data collected mostly from reports and news articles. There is clearly a need for further research on public administration in Lebanon, especially on the local level, and in relation to human resources and to digitization capacities.

What is electronic public procurement ('e-procurement')?

Despite the nuances, defining public e-procurement is fairly simple and straightforward—it is the application of information and communication technology, such as internet-based systems, by governments in conducting their procurement relationship with bidders to meet the public sector's needs of goods and services.[4] E-procurement systems increase transparency by providing free access to relevant procurement information for all stakeholders, making contracting authorities more accountable to citizens. With an increased global consensus in favor of full transparency of procurement operations, the UN General Assembly committed to increasing transparency around public procurement as a means to fight corruption in its 2021 'Political Declaration with Road Maps to Help Countries Tackle Bribery, Money-Laundering, Abuse of Power.'[5]

E-procurement also enhances efficiency by automating and standardizing procedures along the entire procurement cycle, thereby shortening the time it takes to perform tasks and reducing the margin of human error. Consequently, this decreases the administrative burden and transaction costs. Efficiency gains are also boosted by facilitating market access which improves competition.[6]

Law No. 244/2021 laid the foundation for a gradual transformation of public procurement into a digitized process. Article 66 of the law creates the central electronic platform that will be managed and owned by the Public Procurement Authority (PPA).[7] The implementation of the central platform requires a clear vision for the system's functionalities and governance that is grounded in evidence, benchmarks, and stakeholder consultations. It also requires adequate infrastructure at the country level, and the continued leveling-up of capacities to use it. The rewards of having a transparent electronic procurement system are nonetheless significant, and the return on investment is clearly encouraging. For example, since its launch in 2015, the Ukrainian Prozorro platform[8] generated 12% savings for the government, and from 2016 to 2018 had saved $1.9 billion of budget funds.[9]

Unfortunately, despite the Lebanese central government's desperate need for such savings,[10] this is not enough to guarantee commitment to the implementation of e-procurement. Past attempts to digitize the public sector and institute e-governance are not encouraging, as most were discontinued. Many services by the public sector are still not digitized, and most government websites are poorly designed, insecure, and lack interoperability. This is despite millions of dollars, mostly from foreign contributions, spent on digitization initiatives.

4
Davila, Gupta & Palmer, 2003; Leipold et al. 2004.

5
During its 32nd special session on 2 June 2021, the United Nations General Assembly adopted an extensive 'Political Declaration' with blueprints to help countries tackle bribery, money-laundering, abuse of power, and a raft of related crimes. The declaration aims to foster a culture of legality, accountability, transparency, integrity, and fairness in the public sector, in part by applying codes of conduct and other ethical standards for all public officials.

6
EBRD, 2015.

7
Article 88 states that 'Until the PPA is appointed, the President of the Public Procurement Authority shall perform the duties thereof. These include undertaking the organization, supervision, control and development of proceedings, systems and performance of public procurement. It shall also undertake the coordination between various procuring entities and the provision of technical support and guidance thereto.'

8
ProZorro is Ukraine's hybrid electronic government e-procurement system, created as the result of a partnership between business, government, and civil society.

9
OECD-OPSI, 2016; Duhaney, 2016.

10
In the draft budget for 2022, the deficit is expected to be around 20.8% of expenditures, excluding EDL transfers, which would render a 31.5% deficit. This is amid one of the top three most severe crises in the world since the mid-nineteenth century, according to the World Bank.

Implementation of e-procurement

The implementation of e-procurement came during a period of severe fiscal limitations and institutional challenges as a result of the ongoing economic crisis. During the one-year period between the passing of the law and the date of its enforcement, a main concern for public and private stakeholders was the feasibility of setting up a well-built central electronic platform under such conditions. With limited time and financial resources, a sense of uncertainty overshadowed government decision-making as to which Information System to adopt and what can be considered an adequate phased implementation strategy.

This should not have been the case, particularly as the European Union had fully funded an e-procurement platform that was developed by the Office of the Minister of State for Administrative Reform (OMSAR)[11] in 2018-2019. The platform uses BIP Solutions' Delta system, and was built to encompass all procurement processes, from planning of procurement, to fulfillment of contracts, and supporting both English and Arabic, at a cost of €400,000. The system, which has twelve modules for publishing documents, launching bids, submitting offers, and awarding contracts, does not use Application Programming Interface (API),[12] nor is it Open Contracting Data Standard (OCDS)[13] compliant.

The World Bank (WB) and the Agence Francaise de Development (AFD), who are supporting the implementation of the reform and funding the creation of the platform, have made a decision to opt for the development of a new system. This decision was based on multiple comprehensive assessments by World Bank experts, and was later agreed on by the PPA. Assessments of the system have not been made public, and the detailed reasoning behind this decision remains unclear. As the date the law was to take effect approached, it was becoming obvious that developing a complete, well-designed platform, which caters to the needs of the different stakeholders, was not going to be possible, at least not in the initial phases.

Instead, the PPA has opted for a phased approach that begins with an interim webpage on its website, followed by the actual platform once it is completed. Currently, the webpage can be accessed through the 'Procurement Opportunities'[14] tab on the primary navigation menu of the PPA website. The secondary navigation menu contains six links: yearly calendar, procurement notices, statistics, termination of contracts, tender committees, and black list. Procurement-related publications on the interim webpage include—but are not limited to—Annual plan, Announcements, Tender documents,

11
OMSAR is a government entity that leads the transformation and reform of Lebanon's public sector by promoting and deploying innovative modern policies and methodologies that improve public administration and engage citizens.

12
APIs are software interfaces that facilitates interaction between two software programs and help integrate databases, applications, and devices.

13
An internationally recognized best practice open data standard for public contracting that is being implemented around the world—it is free and non-proprietary.

14
This is an adaptive translation of the word 'صفقات' used on the page, which is only available in Arabic.

Pre-qualification documents, Award notification, and Decision of contract termination. In its current state, the webpage does not give municipalities or other procuring entities any content management access, nor does it allow for the submission of bids online. Given that both the interim page and the platform are still under development, the latter listing of related publications and features is not exhaustive.

Public procurement at the municipal level

There are around 1,002 municipalities in Lebanon, spread unevenly across 26 districts.[15] These municipalities differ in size,[16] organizational structure, fiscal capacities, and the administrative processes that govern their operations. The Municipal Act Decree-law no. 118/1977 gives municipalities jurisdiction over all matters of public interest and work within its boundaries. Setting and balancing the budget, collecting fees and taxes, managing properties, and establishing or maintaining a range of infrastructure and public utilities are some of the functions that municipalities are entitled to perform. Some of the most common procurement activities that Lebanese municipalities engage in involve solid waste management services, street cleaning, gardening, road and sewer line construction and maintenance, vehicles and hardware repair, among a myriad of other purchases.

Since the end of the civil war in 1990, a range of deficiencies and frequent deadlocks on the level of the central government have expanded the role of local governments. The economic meltdown, and the strain it is exerting on both the public and private sectors, helped intensify the reliance of local communities on services provided by their municipalities. This only stresses the importance of a robust public procurement system that safeguards integrity, equity, and transparency, and guarantees best value for money on public purchases at the local level.

Are Lebanon's municipalities ready?

Challenges at the municipal level

E-procurement operates in a complex environment, thus it cannot be expected to yield success simply as a technological add-on. The World Bank (2004) emphasizes that the success of this reform requires change occurring across areas of regulations and legislation, operational policies, financial reporting, and most importantly, personal and executive/work behavior. This means that the platform works best if it exists within an enabling environment.

15
IMPACT Open Data, 2022.

16
Law no. 118/1977 relies on the number of registered residents as a criterion for determining the size of the municipal council. Its classification establishes five ranges—from the smallest municipalities, with a minimal 2,000 registered residents, to the largest, with more than 24,000.

17
Critical Success Factors (CFSs) is a comprehensive quantitative assessment of Information Systems that allows for the identification of key factors to the successful performance of those systems.

18
Vaidya & Callender, 2006.

19
Maddah, 2022.

20
20-21 The Independent Municipal Fund is Lebanon's intergovernmental grant system and is one of seven sources of municipal revenues per Article 84 of Decree-Law 118 of 1977. Its funds consist of taxes, surtaxes, and fees collected by the central government, public, and private companies on behalf of all the municipalities in Lebanon.

21
Attalah, 2014.

Critical Success Factors (CSFs)[17] analysis is a great tool to identify the most impactful factors in this environment. A survey of the literature suggests that there are 11 factors that contribute to the successful implementation of e-procurement in the public sector: end-user uptake and training, supplier adoption, compliance with best practices for business case/project management, systems integration, security and authentication, re-engineering the process, top-management support, performance measurement, change management, e-procurement implementation strategy, and technological standards.[18] These factors, and the weight of their impact, can nonetheless differ between countries, sectors, and institutions.

In the case of Lebanon, external factors appear to have a bigger role in impacting the potential success of digitization initiatives in the public sector. The deepening economic crisis is having a detrimental impact on the government administration, which is close to complete paralysis as it struggles to maintain its underpaid staff and cover its most pressing expenses. The economic hardship also reshuffled some private sector market dynamics, such as the rise of necessity-driven entrepreneurs (NDEs) in rural areas, many of whom belong to an already widespread informal economy.[19] Another environmental element is best understood when examined through a political economy lens, as it pertains to the interdependence between interests and incentives of different groups in society, on the one hand, and policy outcomes, on the other. In this case, it helps public and private stakeholders to commit or contribute to the implementation or enforcement and, eventually, to the overall success of a certain policy.

Fiscal constraints

According to Article 86 of the Municipal Act of 1977, Lebanese municipalities have seven sources of revenue, the most substantial of which are direct fees and central government transfers through the Independent Municipal Fund.[20] Fiscal challenges faced by municipalities can be broadly categorized as follows: gaps in the intergovernmental grant system, inefficiencies in the local taxation system, and under-provision of complementary fiscal resources,[21] in addition to the lack of tax adjustments that reflect the continuing depreciation of the Lebanese pound. Sustained, large deficits in the government's budget have caused it to fall behind on its financial commitments towards municipalities. Unpredictable disbursements by the Independent Municipal Fund (IMF), unfair distribution criteria, and discretionary deductions lead to major fiscal discrepancies between municipalities.

In addition, municipalities also suffer from low rates of tax collection. Some municipalities collect less than 30% of taxes, whereas others collect over 80%.[22] Moreover, despite the fact that municipalities have a legal right to collect 36 different taxes and fees, they typically focus almost exclusively on three sources: fees for rental value, sewage, building permits. There are many factors that contribute to the poor tax collection performance and these range from poor administration, inadequate IT system/manual paper-based system, lack of organizational incentives, lack of legal enforcement actions, lack of a collection mentality with staff and of payment mentality among the constituency, among many others.[23]

The economic collapse has exacerbated these challenges twofold. As Lebanese households suffer under economic hardship, municipalities are reluctant to pursue a more aggressive tax collection approach, on the one hand, and with the Lebanese pound losing more than 90% of its value, municipal revenues have seen dramatic reduction, on the other.

Under such conditions, municipalities can barely provide the most basic services, let alone invest in the implementation of new legislation, such as the PPL. For many municipal councils across the country, their focus today is on essentials like securing electricity supply, managing waste, and paying salaries, with essential repairs and maintenance as the most pressing priorities.

Administrative and technical capacities

Municipalities in Lebanon differ in size in terms of area, population, municipal council, financial revenues, and administration. Around 70% of Lebanese municipalities are small, with a registered population of less than 4,000.[24] Most of these municipalities are lacking in administrative capacity—it is estimated that about 400 municipalities have a very weak administration and another 400 with no employees whatsoever.[25] Moreover, with their paycheck losing most of its value, leaving them unable to meet their most basic needs, public employees are needless to say demoralized and unmotivated. For many, their salaries are now averaging $40 per month, which cannot even cover their transportation expenses. As a result, work stoppages are a regular occurrence among municipal employees, as is the case with central government workers.

Understandably, many municipalities voiced concerns about provisions relating to the appointment criteria for members of the Tendering Committee and the Acceptance Committee, which require candidates nominated by their administrations to be at least a third grade public employee. This was problematic because many municipalities simply did not have third grade[26]

22
These figures are cited in the Ministry of Interior and Municipalities' 'Municipal Finance Studies Program: Final Strategic Framework' (2011).

23
Ministry of Interior and Municipalities, ICMA. 'Municipal Finance Studies Program: Final Strategic Framework,' First Municipal Infrastructure Project, 2011.

24
Atallah, 2014.

25
Atallah, 2014.

26
Public servants, excluding military/security personnel are classified in five grades, grade one being the highest level (the level of Director General) and grade five being the lowest.

employees. In the case of the Tendering Committee, the law provides a way out of this problem by allowing procuring entities to choose any name from a PPA-approved list of names approved by the PPA, even if they are not part of that particular institution. As for the Acceptance Committee, an amendment of Article 101 passed on 26 September 2022, which changed the recruitment criteria so as to make it possible for municipalities to nominate employees from any available grade, or from the municipal council, in cases where there is no staff.

Digital literacy remains at a very low level among public employees, and training is certainly needed. This is why Article 72 of the law stipulates that public procurement officers are required to participate in annual training by the Ministry of Finance – Institut des Finances Basil Fuleihan (IoF). To date, the institute has trained around 100 municipalities. The IoF however is part of the weighed down public sector, and unless proper funding and support is provided, its ability to ramp up its training programs on a national scale will be in jeopardy.

An underdeveloped ICT infrastructure

Information and Communication Technologies (ICT) is a growing sector in Lebanon, expanding at an annual rate of 4.8% since 2004, and contributing to around 2.1% of the nation's GDP in 2018.[27] Despite this, Lebanon is certainly behind many of its regional and global peer states in catching up with the rapid pace of ICT development, especially in the public sector. In 2020, Lebanon ranked 127th among 193 countries worldwide on the UN's e-Government Development Index and 148th in e-participation. An assessment by the Samir Kassir Foundation (Skeyes) and Smartgov revealed that most of the Lebanese government's platforms are in the early stage of e-government development and fail to meet basic standards for security, UX/UI design, speed, mobile-friendliness, or accessibility. Despite passing Lebanon's long awaited Digital Transformation Strategy on 12 May 2022, the government's record on digitizing the public sector is not very encouraging.

The first attempt to develop an e-government, single point-of-contact portal, was with the Dawlati platform, which was launched in September 2013. Initially funded by the Arab Fund, the Dawlati portal contained minimal functions, such as accessing information about transactions and standard forms, in addition to some e-services and e-transactions by government institutions. Dawlati was discontinued eight years after its launch, despite considerable funding by international donors to get it fully functional and

inter-operable. In 2019, the government implemented its Digital Transformation Strategy using the Commercial Register Through Interoperable Platform (CRTIP)[28] project, which included upgrading Dawlati. The project ended in May 2021, without any apparent results.

One e-government project, IMPACT, stands out however as one of very few successes in Lebanon's attempts at e-government. The platform's development, which was led by the Central Inspection Bureau (CIB), aimed to support the national response to the Covid-19 crisis and to digitize the government's audit exercise by providing the CIB with data that is relevant to the work of to its inspectorates. The platform included sectoral modules, such as the National Vaccination module, which stores data relevant to vaccine deployment. It also provides an open portal that displays data collected from municipalities on some issues, such as Covid-19 cases and lockdown measures, municipal needs, and some development indicators.

The way municipalities used the platform and the frequency of their engagement varied over time and across municipalities, as shown by analytics from the user activity section of the portal. In addition, analysis by The Policy Initiative of user activity on the platform has shown that forms with clear short-term incentives, such as the Ministry of Social Affair's (MoSA) National Social Solidarity Program, were the most frequented by municipalities.[29]

Locally, digitizing municipalities has not been any more successful. Hundreds of municipalities do not have an independent website, and resort to privately owned and managed domains to allocate a section that provides basic information. Some municipalities were, however, able to digitize their services. The Zouk Michael municipality, for example, has been able to build a well-designed, well-featured website that serves more than a mere display of information. Some of the e-services available on its website include online payment of fees, applying for different kinds of construction permits, notification of occupancy or alteration in the purpose of use, advertisement permits, among others. The municipality of Jbeil-Byblos has also shown a serious commitment to digitize; however, the e-services section on its website is still under development. Some municipalities have invested in a mobile application that for the most part displays information and announcements, and allows for the submission of complaints.

The political economy context

Political economy analysis seeks to understand the interests and incentives of different groups in society, and how policy outcomes are produced as a

28
The Commercial Register Through Interoperable Platform (CRTIP) was the first fully interoperable service in Lebanon, based on the Lebanon Government Digital Transformation Strategy and included:
- Transforming and upgrading the Dawlati portal 2013 to become the Lebanon Government Common Portal
- CROSS – One Stop Shop for Business Registration (OMSAR, 2016).

29
Maktabi et al., 2022.

result. This lens makes policy making more sensitive to the cultural and social intricacies relating to the realm of public affairs and can help avoid or resolve any potential clash between policy changes and social norms. Accordingly, political economy analysis is relevant for the formulation and implementation of effective procurement reforms.

A culture of clientelism and opaqueness dominates Lebanon's institutional mindset, exhibiting a strong resistance—or, at best, a lack of any enthusiasm—for reforms. The implementation of an e-procurement platform infringes on those norms and disrupts the business-as-usual mindset among government officials. This gap, or even divergence between social norms and legislation, has been a major factor determining the effectiveness and longevity of law enforcement and policy implementation in Lebanon. And while promoting transparency and introducing it to the social value-system is nothing short of a strategic endeavor that spans generations, there are nonetheless more practical mitigation strategies. Highlighting the gains that could be garnered by adopting e-procurement can positively impact 'change receptivity' among municipal officials.

Recommendations

Building organizational and operational capacities

- **Capacity-building programs for SMEs:** Experts consulted for this study suggested that training to mainstream the use of the platform may take up to three years. It is important to engage stakeholders, particularly the municipalities, throughout the implementation process, and to provide them with the capacities needed to transition from a paper-based procurement process to a digitized one, which is already happening. It is just as important to design capacity-building programs for SMEs operating on the municipal level, and to increase the outreach of such programs among those businesses, especially in sectors that are involved in public procurement. Municipalities, the Ministry of Industry, Ministry of Economy and Trade, and business organizations, such as the Chamber of Commerce, Industry and Agriculture of Beirut should collaborate with the IoF to organize such programs.

- **More reliance on core municipal staff:** A common practice in Lebanese municipalities is the limited reliance on municipal employees to conduct procurement. With municipal councils and associates handling procurement activities, the process is disrupted with each election cycle. Consequently, core municipal staff capacities don't have a chance to develop adequately. It is therefore important for municipal councils to confer procurement-

related tasks on available and authorized core municipal staff. The PPA should also ensure that only municipalities that lack any eligible staff can nominate members of the municipal council to the Acceptance Committee as per Article 101 of the PPL.

■ **Effective messaging:** Article 72 of the PPL calls for training programs to raise awareness among public and private procurement officers on issues like corruption, fraud, and lack of integrity. It is indeed important for public servants to understand both the different forms of illicit professional conduct within the scope of public procurement and the impact of such conduct on the public interest. But, as previously explained, through a political economy analysis, such conduct stems from deeply embedded, and change-resistant, social norms.

Current capacity building activities by the IoF should therefore focus on the most considerable challenges to PPL's implementation, one of which is employee resistance, a key factor in undermining organizational change initiatives.[30] Here, adequately formulated and delivered, receiver-oriented messaging is a major determinant of receptivity among employees. Drawing on the experience of IMPACT, the most widely used e-government platform in Lebanon, one key lesson is that the perceived urgency, importance, and utility of the platform by the general public and public employees was crucial to its success.

Based on this, capacity-building activities should highlight the benefits of change, not just for institutions, but for employees and the private businesses that will use the platform. This can be achieved by highlighting the functional aspects of the platform, which will make accomplishing certain tasks easier, or the long-term savings that could bring more financial security to their jobs. It can also highlight the savings in transport costs (both in time and fuel consumption) for both employees and businesses, who can now make transactions from almost anywhere.

Important features of the platform design

■ **Platform features:** The PPA and its donor partners are advised to aim for an e-procurement system that is modular, flexible, scalable, and secure. For example, in the case of the introduction of a new procedure in the regulations, the system must be flexible and modular enough to enable its integration in the system. User trust in the security measures applied to protect the data is of paramount importance. Consequently, data protection should be a priority in the platform's development plan, which

30
Maurer, 1996; Maurer, 1997; Spiker and Lesser, 1995; Waldersee and Griffiths, 1997.

should deploy the latest and most advanced security measures to the processing of personal user data.

■ **e-Procurement-centered API deployment across government:** APIs facilitate interaction between two software programs and help integrate databases, applications, and devices. These interfaces allow for seamless communication between systems/servers of different government agencies, and in doing so, creating a single, streamlined online process for users. The technology is therefore seen as an enabler of digital transformation in governments, as expressed by the European Commission's Joint Research Centre, which describes APIs as having revolutionized the way 'digital is done' in the private sector.

In Lebanon, foreign contributions from the Arab Fund, EU, UNDP, World Bank, and others has been funneled to fund interoperability initiatives with little results to show.[31] Some experts attribute this failure to the donor-driven nature of these initiatives and the fact that Lebanese decision makers often lack true commitment to completing projects. It is thus important for future initiatives to have a clear set of tangible and measurable ICT deliverables.

Prioritizing public e-procurement and other government servers (for websites/platforms/portals) relevant to public procurement as key areas for API deployment is critical to the success of the central e-procurement platform. For example, this could allow for an automatic authentication of a bidder's official registration, certificates, and other tender requirements, by connecting the platform to other government offices, such as ministries and directorates (industry and trade, finance, agriculture, economy, etc.), the commercial registry, and the chambers of commerce, industry, and agriculture.

Certainly, APIs are not a stand-alone solution to achieve interoperability on a large scale, which requires common standards, guidelines, and practices, as well as cooperation across branches of government, both within administrative sectors and between the public and private sectors. It is therefore important to develop an API strategy that addresses these areas and which can improve the Lebanese government's API infrastructure and expand its deployment across government agencies and institutions.

■ **A feature-rich Content Management System (CMS):** CMS is the software used by an organization to manage, store, and publish digital content online. Its main advantage is that it allows back-end users of a website to upload and modify content and create functional pages with relative ease

31
Skeyes & Smartgov, 2022.

and without the need for outsourcing to an HTML or PHP literate developer. The very nature of public procurement activities require a website that delivers comprehensive, accurate, and up-to-date content, which can all be facilitated by an interoperable CMS. Despite the cost increase, the PPA should require a feature-rich CMS for the e-procurement platform as it can, in the long-run, bring down expenses by reducing website maintenance costs and eliminating the need for web developers or webmasters for simple content updates.[32]

- **Improving internet services:** A government can create the best e-procurement system that covers all procurement stages, is interoperable and has a user friendly interface, and ultimately prepare and equip its administrative apparatus, all while engaging and supporting the private sector. Yet, in the absence of reliable internet services, and the unequal access to it, e-procurement can never be mainstreamed. The impact of this factor on the successful adoption of e-procurement in developing countries is significant.[33] This is one in a list of reasons why the Lebanese Council of Ministers and the Ministry of Telecommunications should address the unprecedented deterioration in internet services and commit to improving the related telecom infrastructure.

General recommendation

Critical Success Factors (CFSs) assessments: The digitization of government is a strategic endeavor that requires long-term goals and a clear roadmap. Setting plans and goals in this case requires having a comprehensive understanding of the main factors behind the successful implementation of e-procurement on the level of municipalities. Here, Critical Success Factors (CFSs) is a useful quantitative assessment of Information Systems (IS), because it locates areas or functions where events and actions must occur to ensure successful performance. Periodic CSFs assessments by the MoF or the PPA, are therefore essential for e-procurement's broad deployment on the municipal level and instrumental in preventing its demise.

32
Short, 2009.

33
A study assessing Critical Success Factors (CSFs) for e-Procurement Adoption in the Nigerian Construction Industry revealed that relevant stakeholders perceived the most critical success factor for the adoption of e-procurement to be the availability of reliable, affordable, and fast internet services (Afolabi et al., 2019).

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