MAPS | Methodology for Assessing Procurement Systems

ASSESSMENT OF MAURITIUS E-PROCUREMENT

2024

Testing the MAPS Module on E-Procurement

MAPS APPROVED

Mauritius

Assessment of the e-Procurement system (e-PS)
November 2023

Version: June 2024

AFRICAN DEVELOPMENT BANK GROUP

Republic of Mauritius

Intellectual Property Disclaimer

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Acknowledgements

Acronyms

AfDB	African Development Bank
APP	Annual Procurement Plan
BACECA	Building and Civil Engineering Contractors' Association
BEC	Bid Evaluation Committee
BO	Beneficial Ownership
BoQ	Bill of Quantity
CC	Competition Commission
CIB	Central Informatics Bureau
CIDB	Construction Industry Development Board
CPAR	Country Procurement Assessment Report
CPB	Central Procurement Board
CPV	Common Procurement Vocabulary
CSO	Civil Society Organization
DBC	Departmental Bid Committee
DGTS	Digital Government Transformation Strategy
DRS	Disaster Recovery Site
DSC	Digital Signature Certificate
E-PS	Electronic Procurement System of Mauritius
EDB	Economic Development Board
FAQ	Frequently Asked Questions
GCC	General Conditions of Contract
GOC	Government Open Center
GoM	The Government of Mauritius
IaaS	Infrastructure as a Service
IFB	Invitation for Bids
IFMIS	Integrated Financial Management Information System
IPS	Intrusion Prevention System
IPSAS	International Public Sector Accounting Standards
IRP	Independent Review Panel
JV	Joint Venture
NAO	National Audit Office
OCDS	Open Contracting Data Standards
MAPS	Methodology for Assessing Procurement Systems
MIS	Management Information System
MOFEPD	Ministry of Finance, Economic Planning and Development
MTCI	Ministry of Technology, Communication, and Innovation
PEFA	Public Expenditure and Financial accountability
PFM	Public Finance Management
PPO	Procurement Policy Office
PPA	Public Procurement Act 2006 - last updated 13 September 2021
PPR	Public Procurement Regulations 2008 -last updated 26 November 2021
PPP	Public Private Partnership
PSBTS	Public Sector Business Transformation Strategy
QoS	Quality of Service
SCC	Special Conditions of Contract

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SDG	United Nations Sustainable Development Goals
SLA	Service Level Agreement
SOE	State-owned Enterprises
SME	Small and Medium Enterprises
SPP	Sustainable Public Procurement
SPOC	Single Point of Contact
TI	Transparency International
TTL	Task Team Leader
UNCITRAL	United Nations Commission on International Trade Law
UTM	University of Technology Mauritius
WB	The World Bank Group

Currency Unit: 1 USD = MUR 40

FISCAL YEAR July 1- June 30

Executive summary

Background

Mauritius aims to become a high-income country by 2030 and has positioned itself as a leading business and financial services hub in the Indian Ocean region. The Government is committed to improving governance, efficiency, and transparency in public procurement processes through use of technology driven solutions, to achieve its development goals and align with the Government's Vision 2030. [1]

This MAPS e-Procurement Assessment, using the MAPS e-Procurement Supplementary Module (version for the pilot, dated January 2023), was triggered by the core Mauritius MAPS Assessment Report of 2022, which identified challenges in the existing e-Procurement System (e-PS). This MAPS e-Procurement Assessment Report provides findings on the strengths and gaps in the e-PS and includes recommendations for enhancements. The main activities for this MAPS e-Procurement Assessment were carried out between November 2022 and June 2023 and included active engagement with stakeholders and a field mission in Mauritius during November/December 2022, with a Validation Workshop held on 2 December 2022.

There have been significant public procurement reforms over the last two decades in Mauritius, including introduction of e-PS in 2015. Strong leadership and political commitment on mandatory use of e-Procurement has broadly increased the adoption of the e-PS contributing to the better management of procurements and enhanced efficiency especially on the bidding process.

While the e-PS has contributed to the transformation of the procurement sector tremendously, the Assessment identified several issues with the e-PS which significantly hinder its effectiveness. Of particular concern is the selective use of the e-PS by public bodies (meaning that only a small percentage of the total value of public procurement is conducted through e-PS), and the prevalence of offline evaluation and award. This contributes to the overall lack of comprehensive data available through e-PS, reducing transparency and meaningful analysis to identify areas for improvement and enhance accountability. Other issues identified include: insufficient alignment with the procurement legal framework; cumbersome system and process design; lack of support for open contracting data; disconnect between procurement planning and actual procurements; lack of interface with other e-services; limited private sector and civil society engagement; non-existence of a comprehensive e-procurement strategy or sustainable public procurement considerations. Addressing these issues will require a number of measures including significant updating of the e-PS following a critical review. This will need to be supported by a clear e-Procurement Strategy and roadmap, improved integration between e-services, greater collaboration between stakeholders and enhanced user capacity

Priority areas for improvement are listed below with reference to the "Four Pillars" of the MAPS Supplementary Module on e-Procurement. These priority areas for improvement and recommendations in the Report will help align the e-PS ecosystem with the reform initiatives of the Government of Mauritius (GoM) and leverage the potential of e-Procurement for achieving the development goals of the country.

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[1] <u>mauritius_jan-feb_2017_reprint_compr.pdf (un-page.org)</u>

Priority areas for improvement

Prepare e-Procurement strategy and roadmap: The Government should prepare a comprehensive e-Procurement Strategy and roadmap incorporating the rollout plan, training and capacity building plan, sustainability plan, communication plan, and system enhancement plans with required resource commitment clearly allocated.

Undertake a review to understand reasons for non-use of e-PS and to identify remedial measures: A high level, comprehensive policy review and intervention is urgently required to: understand reasons for non-compliance and the highly selective use of e-PS; identify legal and practical measures to resolve the problem. Issues to be considered include: non-publication of Annual Procurement Plans, limited use of e-PS for higher value procurements, offline evaluation and award, non-use of available and activated e-PS modules. This is likely to require change management and incentive programs to ensure full and consistent implementation of the Government's policy and legal requirement for all public bodies to use the e-PS on a mandatory basis.

Establish robust coordination and engagement mechanisms between the PPO and stakeholders: The PPO should establish formal, robust coordination mechanisms and communication channels with public bodies, CPB, finance and budget authorities, audit institutions and the Independent Review Panel to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem. The PPO should also lead efforts to increase engagement with both the private sector and civil society including creating a formal forum for regular open dialogue with supported by an outreach campaign to ensure wide engagement and capacity building.

Roll out Open Contracting Data Standards: as the backbone for the storage and timely publishing of accurate data for the complete life-cycle of the procurement process, from planning to contract execution. Comprehensive data should be available to all stakeholders to permit analysis, and particularly for measuring, monitoring, and evaluating procurement performance. The roll out of publication of OCDS data from e-PS must be supported by a program to build capacities for procurement data use and analysis with suitable quality and content adjusted for the differing needs of all the users, including suppliers, public bodies and civil society.

Overview of compliance

The following table provides an overview of the findings of the assessment on the level of sub-indicators. Each sub-indicator is identified depending on the findings (full compliance / gaps identified / substantive gaps identified). This table also shows the red flags identified.

Table 1: Overview of compliance / gaps identified

PILLAR I Legal, regulatory, and Policy framework		Full compliance	Minor Gaps identified	Substantive gaps identified	Red flags
1. The legal and regulatory framework enables e-Procurement.	1(a) – Regulation of the use of e-Procurement	-	-	x	-
	1(b) – Elements necessary for e-Procurement	-	x	-	-
2. E-Procurement follows a strategy that is aligned with broader government policies	2(a) – e-Procurement strategy	-	-	x	-
	2(b) – e-Procurement support to government policies	-	x	x	-

PILLAR II Institutional Framework and Management Capacity		Full compliance	Minor Gaps identified	Substantive gaps identified	Red flags
3. The e-Procurement ecosystem has a well-established and operational governance and management structure	3(a) - Status and legal and regulatory basis of the institution responsible for the e-Procurement ecosystem	x	-	-	-
	3(b) - Coordination between the institution responsible for the e-Procurement ecosystem and other relevant government entities	-	-	x	3(b)(b) 3(b)(c) 3(b)(d) 3(b)(e)
	3(c) - Capacity of the institution responsible for the e-Procurement ecosystem	-	-	x	3(c)(b)
4. The e-Procurement ecosystem relies on an adequate business model	4(a) - Operating business model and implementation type of the e-Procurement platform	-	-	x	-
	4(b) - Funding for the e-Procurement ecosystem	x	-	-	-
5. The e-Procurement ecosystem has a strong capacity to develop and improve	5(a) – Capacity development for e-Procurement	-	x	x	-
	5(b) – Advice and assistance	-	x	x	
	5(c) – Performance monitoring	-	-	x	5(c)(c)

PILLAR III Procurement Operations and Market Practices		Full compliance	Minor Gaps identified	Substantive gaps identified	Red flags
6. The e-Procurement ecosystem enables the achievement of the country's procurement objectives.	6(a) – Planning in the e-Procurement ecosystem	-	-	x	6(a)(a), 6(a)(b)
	6(b) – Selection and contracting in the e-Procurement ecosystem	-	x	x	6(b)(h)
	6(c) – Contract management in the e-Procurement ecosystem	-	-	x	-
7. The e-Procurement ecosystem's technical characteristics render it effective and secure	7(a) – Architecture of the e-Procurement ecosystem	-	-	x	7(a)(a)
	7(b) – Infrastructure of the e-Procurement ecosystem	-	x	x	-
	7(c) - User interaction	-	x	x	-
	7(d) - Integrity of the information	-	x	-	-
	7(e) - Confidentiality of the information	-	-	x	-
8. The e-Procurement ecosystem takes advantage of additional technical and functional features available for a variety of procurement methods	8(a) - Procurement methods	-	-	x	-
	8(b) - Functionalities	-	x	x	8(b)(f)
9. Data from the s-Procurement ecosystem facilitates decision-making	9(a) - Open data	-	-	x	-
	9(b) - Data access and presentation	-	-	x	-
10. The private sector is fully engaged with the e-Procurement ecosystem	10(a)- Dialogue between the public and private sectors	-	-	x	-
	10(b)- Private sector's use of the e-Procurement ecosystem	-	-	x	-
	10(c) - Use of e-Procurement for specific sectors	-	-	x	-

PILLAR IV Accountability, Integrity and Transparency of the Public Procurement System		Full compliance	Minor Gaps identified	Substantive gaps identified	Red flags
11. The e-Procurement ecosystem ensures civil society engagement	11(a) – Dialogue between government and civil society	-	-	X	11(a)(a)
	11(b) Direct engagement from civil society	-	-	X	11(b)(a)
12. The e-Procurement ecosystem enables effective treatment of risks, control and audit.	12(a) - Internal and external control	-	-	X	-
	12(b) - Identification and treatment of risks	-	-	X	-
13. The e-Procurement ecosystem facilitates the review of complaints and appeals	13(a) E-complaints	-	-	X	-

1. Introduction

1.1. Context

Mauritius, an upper-middle-income and well-diversified economy, has consolidated its position as the leading business and financial services hub in the Indian Ocean. It aims to join the league of high-income countries by 2030 by fully exploiting its resources, political stability, and strategic location between Africa and Asia in terms of its Vision 2030. Public procurement constitutes a significant expenditure of the country's GDP. Based on World Bank report[2], the GDP of Mauritius in 2019 was USD 14.048 billion.

The Government of Mauritius (GoM) is focusing on building public sector capacity and addressing efficiency bottlenecks to achieve competition, transparency, and value for money, including through efficient procurement processes. Having achieved progress in governance, Mauritius seeks to consolidate results and achieve efficiency gains across policy areas. Successive administrations supported by strong institutions have demonstrated a strong commitment to reform, positioning Mauritius as a continent leader in several other areas, including governance, business environment, and economic freedom[3].

A full "core" MAPS Assessment was conducted in the period December 2021 to November 2022. The core MAPS Assessment was led by the Procurement Policy Office (PPO), under the aegis of Ministry of Finance, Economic Planning and Development (MOFEPD), with support from the African Development Bank (AfDB) in collaboration with the Government and in association with the World Bank. One of the objectives of the core MAPS Assessment process was to help the Government benchmark its progress on the e-Procurement front and identify opportunities for improvements in e-Procurement.

The core MAPS Assessment identified a number of challenges in the e-PS system, with key Gaps being: inadequate alignment between the legal framework (PPA and PPR) and the e-PS; full potential of e-PS not in use; Open Contracting Data not supported by e-PS; bid evaluation process being conducted off-line, and; resource constraints in implementation of e-PS including end-to-end usage of e-PS. These findings flagged the need to deepen the assessment of the e-procurement system using the MAPS Supplementary Module on e-Procurement.

This assessment, using the MAPS Supplementary e-Procurement Module (v.June 2022), is a pilot project. Mauritius is the first country to have conducted an assessment using the MAPS Supplementary e-Procurement Module ("e-PS MAPS Assessment"). The e-PS MAPS Assessment has been led by the PPO, with financial support provided by the African Development Bank (AfDB).

This assessment is timely as part of the public procurement reform agenda **of** replacing traditional government procurement with an electronic Procurement System (e-PS), as it aligns with the GoM's Vision 2030 [4] to transform the government business landscape towards smart, efficient, and technology-driven public procurement.

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[2] Mauritius | Data (worldbank.org)
[3] 2014-2018 - Mauritius Country Strategy Paper (afdb.org)
[4] mauritius_jan-feb_2017_reprint_compr.pdf (un-page.org)

1.2. Objectives

The main objective of the assessment is to identify specific weaknesses and gaps of the current e-PS, applying the MAPS Supplementary Module on e-Procurement, and benchmark it against other systems in line with international best practices and standards. The assessment results may be used in enhancing the public procurement policies and strategies for the better use and leverage of the e-PS and developing functional specifications for enhancing the e-PS system.

1.3 Scope

The assessment was conducted by applying all the four pillars of MAPS i.e. (i) legal, regulatory and policy framework; (ii) institutional framework and management capacity; (iii) procurement operations and market practices; and (iv) accountability, integrity, and transparency of the Public Procurement System.

1.4. Methodology

The methodology included a desk-review, a field mission for consultations with stakeholders of the e-PS and its ecosystem, a validation workshop with stakeholders, qualitative and quantitative analysis to support the assessment, preparation of the draft report, review of the draft report by stakeholders, incorporation of the comments and feedback, and the finalization of the report (see Table 2). The MAPs Assesmsnet team also conducted an anonymous survey issued to bidders and public body users, using Google Forms. A total of 88 responses were received.

Table 2: Key Steps in MAPS e-PS Assessment for Mauritius

Methodology – Key steps in the MAPS e-PS Assessment

1. Desk review
    a. Review of prevalent procurement legislation and e-Procurement System arrangements
    b. Review of previous as-is and to-be designs of the e-PS
    c. International practices
    d. Identification of Key stakeholders
2. Review and preliminary analysis of the e-PS Ecosystem
    a. Validation of the facts from the desk review
    b. Face to face consultation with the Key stakeholders
    c. Review of e-PS ecosystem including e-PS System, infrastructure, technical capacity, operational arrangements, interoperability issues, etc.
3. In-field and desk review work on the Identification of challenges, gaps by using MAPS e-GP Supplementary Module tool in a pilot basis.
    a. Collection of data and system facts from different resources, e-PS, consultation with stakeholders, documents, survey, etc.
    b. Preparation of draft report on gaps, challenges, and recommendations
    c. Feedback from the PPO, AfDB, MAPS Secretariat, ATAG, and other stakeholders
    4. Incorporation of the comments and feedback and finalization of the report.

An in-field mission was conducted in Mauritius during the end of November and the beginning of December 2022. The assessment team had meetings with the PPO, CPB, IRP, representatives from the

private sector, and other stakeholders. An in-depth review of the e-PS ecosystem was conducted for the purpose of analysis, to identify the strengths and Gaps, and make Recommendations for improvement.

The time line for main activities of the MAPS e-PS Assessment ran from November 2022 to June 2023. See Table 3

Table 3: Timeline for MAPS e-PS Assessment Mauritius

Task	Activity/**Deliverable**	Date for activities/delivery deadline
1	Submission to PPO of **draft Inception Report**	7 November 2022
2	Feedback from PPO on draft Inception Report, amendments	7 to 9 November 2022
3	Submission to PPO of agreed **final Inception Report**	10 November 2022
4	In-field Mission to review the e-PS ecosystem using MAPS e-GP Supplementary Module and face to face stakeholder consultation for as-is analysis, to -be discussion, data and information collection	20 November – 3 December 2022
5	Submission of 1st draft MAPS e-GP Supplementary Assessment Report for Peer Review	May, 2023
6	Submission of the Draft MAPS e-GP Supplementary Assessment Report to the MAPS Secretariat	November 2023
7	Comments received from the MAPS Secretariat and ATAG	January 2024
8	Submission of the revised final MAPS e-GP Supplementary Assessment Report	June 2024
9	Publication of the Report after approval from the MAPS secretariat	July 2024

1.5. Assessment Team

The MAPS e-PS Assessment was led by the PPO. The assessment was carried out by Dr. Rajesh Kumar Shakya, the Lead Assessor (e-Procurement Specialist) and Ms. Susan Penelope Smith (the Legal Consultant). The project team constituted Mr. Amilcar Bilale (the Task Team Leader and Regional Procurement Coordinator, AfDB) and Ms. Chongo Chitupila (Senior Procurement Officer, AfDB) as Co-TTL, Mr. Nagaraju Duthaluri (Lead Procurement Specialist, the World Bank), Mr. Antonio Chamuco (Procurement Specialist, the World Bank), Mr. Antonio Chamuço (Senior Procurement Specialist, the World Bank), Ms. Caroline Ntumwa (Senior Country Economist, AfDB), and Ms. Genenieve Angoran, Senior Procurement Information Systems Officer, AfDB), provided guidance with occasional support.

1.6. Consultations with the Key Stakeholders

The Assessment Team held ongoing and detailed discussions with the Procurement Policy Office and met with the Central Procurement Board, Nextender (the E-Procurement System Supplier), the Independent Review Panel (IRP), State Law Office, and the Building and Civil Engineering Contractors' Association (BACECA).

1.6.1. Central Procurement Board (CPB)

A meeting was held with the members of the Central Procurement Board (CPB) informing them of the MAPS e-PS Assessment, requesting their participation and seeking their comments on the e-PS. The Chair of the CPB shared his experience with the e-PS. The CPB also highlighted capacity gaps observed in the public bodies and at the CPB.

1.6.2. Nextender

A meeting was held with Nextender, the e-PS vendor, to discuss the system architecture, issues related to functions, processes and approaches observed and encountered while assessing the e-PS. The Assessment Team also discussed the technical feasibility of the e-PS configuration and proposed a few quick enhancements to the system to make it more efficient as well as enable the Challenge and Appeals and the Contract Monitoring Modules. Nextender affirmed the ability to implement the enhancements within a short period of time.

1.6.3. The Independent Review Panel (IRP)

A meeting was held with the Independent Review Panel to discuss the MAPS e-PS Assessment and, in particular, a provisional recommendation that the appeal module on the e-PS should go live, as well as suggestions or measures to further enhance transparency in the publication of IRP decisions. During this helpful discussion, the MAPS Assessment Team also received further information on the conduct of appeals and recent decisions of the IRP and Supreme Court.

1.6.4. The Building and Civil Engineering Contractors' Association (BACECA)

A meeting was held with the representative of the BACECA to discuss and understand the challenges the suppliers, consultants, and contractors are facing in the e-PS and their expectations. The representatives pointed out the issues relating to the appropriate use of nomenclature in harmonization with the standard documents and the e-PS. The BACECA representatives also provided examples of other challenges encountered intermittently in the use of the e-PS.

1.7. Validation Workshop

A Validation Workshop was organized in Port Louis, Mauritius on 2 December 2022. Stakeholders comprising Government Departments, Public Bodies, State Owned Enterprises, Statutory Bodies, Private Sector Entities and development partners participated in the workshop both physically and virtually. The purpose of the Validation Workshop was to present to the Stakeholders, the status of the e-Procurement System of Mauritius, findings of the strengths and Gaps identified from the MAPs e-PS Assessment and initial recommendations to address the Gaps. The workshop also provided a forum for comments and feedback from Stakeholders. The event concluded with a presentation from the PPO on the 2022 amendments to the Public Procurement Act and recently issued Directives. The Validation Workshop broadly validated the assessment findings.

Before the stakeholder validation workshop, several consultations were held with the PPO, Central Procurement Board (CPB), Independent Review Panel (IRP), MOFEPD, representatives from BACECA, e-PS Vendor, and other stakeholders. Follow-up consultations were carried out with the Government Open Center (GOC) in regards to the data center.

After the preparation of the draft Assessment Report, peer review was undertaken by reviewers from the African Development Bank (Mr. Emmanuel Chisesa); and from the World Bank (Ms. Swayamsiddha Mohanty and Mr. Mustafizur Rahman). Further review and guidance were provided by AfDB Management. All observations have been reflected in this revised Assessment Report.

1.8. Limitations

There were no substantial limitations in the assessment.

2. Analysis of Country Context

2.1. Political, economic and geostrategic situation of the country

Mauritius, an island nation known for its stability and economic diversification, offers a promising backdrop for the successful implementation of its e-Procurement System (e-PS). Located in the Indian Ocean, Mauritius boasts a population of 1.3 million and a strong economic presence beyond tourism, with established sectors like financial services, Business Process Outsourcing (BPO), and IT services. This economic diversification, coupled with a stable political environment, positions Mauritius well for leveraging technology to improve its public procurement processes.

The e-PS, launched in 2015, reflects this commitment to progress by aiming to streamline procedures and minimize corruption risks. With a vision to join the ranks of developed economies by 2030, Mauritius demonstrates a commitment to progress. (See the core MAPS Assessment for a more detailed analysis of these aspects).

2.1.1. Political Context

Mauritius' long history of stable, multi-party democracy positions the country well for the effective implementation of its e-Procurement System (e-PS). Since gaining independence in 1968, peaceful transitions of power through elections have been the norm. This political stability fosters an environment where long-term initiatives, like the e-PS, can be implemented with greater continuity and focus.

While the current political landscape (Westminster model with Prime Minister Pravind Kumar Jugnauth) is important to note, the emphasis here is on the overall stability that underpins successful e-procurement system adoption.

2.1.2. Economic Overview

Analyzing Mauritius' economic factors provides useful context for assessing the implementation and sustainability of the e-Procurement System (e-PS) within the current Mauritian economic landscape. While a detailed analysis of Mauritius' overall economic situation is available in the MAPS Core assessment, this section focuses on aspects relevant to the implementation of the e-Procurement System.

Economic Recovery and Growth: Mauritius' economy demonstrated resilience following the COVID-19 pandemic. After a sharp contraction in 2020, the real GDP growth rebounded significantly in 2022, primarily fueled by the resurgence of the tourism sector. Other key sectors like manufacturing, financial services, and agriculture also contributed to this growth. This positive trend is projected to continue with moderate growth forecasts for 2023 and 2024.

Fiscal Considerations for e-PS Implementation: The Mauritian government faces a budget deficit, although it has narrowed compared to peak pandemic levels. While the debt-to-GDP ratio remains high, it's projected to decrease in the coming years. This fiscal situation may impact resource allocation for the e-PS. Analyzing the government's budgetary priorities will be crucial to undeerstanding its commitment to investing in and sustaining the e-PS.

External Factors and e-PS Sustainability: The current account deficit and import coverage ratio are points to consider. These factors influence the availability of foreign currency, which could impact the procurement of technology or expertise required for the e-PS, if necessary. Monitoring these trends will be important for assessing the e-PS's long-term sustainability.

Inflation and e-PS Costs: While inflation has shown a declining trend recently, it remains above pre-pandemic levels. Rising inflation might potentially increase the operational costs associated with the e-PS, such as maintaining the system infrastructure. It's important to understand how the government plans to address these potential cost fluctuations.

2.1.3. Social Context

Understanding Mauritius' social development landscape provides valuable insights into user capacity, accessibility considerations, and potential employment impacts related to the e-PS implementation. While a detailed analysis of Mauritius' social landscape is available in the core MAPS Assessment, this section highlights aspects relevant to the e-Procurement System implementation.

Literacy and User Capacity for the e-PS: Mauritius boasts significant improvements in literacy rates over the past two decades. This translates to a potentially strong user base for the e-PS. However, it is important to assess the digital literacy levels within this population. Can users comfortably navigate the e-PS platform and utilize its functionalities effectively?

Socioeconomic Considerations and e-PS Accessibility: Despite progress, Mauritius acknowledges pockets of poverty within the country. The e-PS should be designed and implemented with accessibility in mind. Can all potential suppliers, regardless of socio-economic background, participate in the e-PS? Are there any digital divide concerns that need to be addressed to ensure inclusivity?

Impact on Employment and the e-PS: The e-PS has the potential to impact employment within the public procurement sector. While some traditional roles might be streamlined, the e-PS could also create new opportunities for jobs requiring technical skills to manage and maintain the system. Analyzing this potential impact on the workforce will be crucial.

2.1.4. Development Challenges

A clear understanding of key development challenges is crucial for building a resilient and adaptable e-PS that can support Mauritius' continued economic growth and achieve the goals outlined in Vision 2030. While Mauritius has achieved significant economic progress, reaching high-income status, challenges remain that could impact the long-term success of the e-Procurement System.

Potential Slowdown in Key Sectors: The e-PS needs to be adaptable to potential slowdowns in core economic sectors like tourism, transportation, and potentially even financial services due to stricter anti-money laundering regulations. Can the e-PS be leveraged to support diversification into new growth areas identified by the government, such as knowledge-based industries?

Addressing Skills Shortages and Connectivity Gaps: The e-PS's successful operation hinges on a skilled workforce with expertise in e-procurement management and robust internet connectivity across the country. How can the e-PS implementation address potential skills gaps through training programs or attracting qualified professionals? Does the current IT infrastructure provide reliable internet access, particularly in remote areas? Limited access could restrict participation from potential suppliers, hindering the e-PS's reach and inclusivity.

Vision 2030 and Infrastructure Investment: Mauritius' long-term strategy, Vision 2030, emphasizes strengthening physical infrastructure. While this focus on improved inland transport, port, and airport infrastructure is crucial for overall economic growth, its potential impact on the e-PS should also be considered. Can this infrastructure development be leveraged to improve internet connectivity and bridge the digital divide, ultimately benefiting the e-PS?

2.2. The Public Procurement System and its links to the public finance management and public governance systems

A robust legal framework and a strong PFM system are essential for the e-PS' success. The e-PS, in turn, can contribute to improvements in transparency and efficiency within Mauritius' public procurement system. The e-PS is built on the legal foundation established by the Public Procurement Act (PPA) 2006 and its supporting regulations. It is helpful to note the following points, with specific reference to the e-PS:

- **Alignment with International Best Practices:** The PPA is based on the UNCITRAL Model Law on Public Procurement, ensuring adherence to international best practices in transparency and accountability. This aligns well with the e-PS' goal of promoting a fair and efficient procurement process.
- **Public Procurement Policy Office (PPO):** The PPO's mission statement emphasizes building a modern and efficient public procurement system. The e-PS is a key tool for achieving this goal.
- **Scale of Public Procurement:** Public procurement spending represents a significant portion of Mauritius' GDP. Ensuring efficient use of these resources is crucial. The e-PS can streamline processes and potentially lead to cost savings.

2.2.1   Public Financial Management and the e-PS

A well-functioning Public Financial Management (PFM) system is essential to a successful e-PS, particularly in terms of enhancing accountability and transparency. A well-functiong e-PS can, in turn, assist in delivering effective, more transparent and comprehensive budget processes and enhance value for money outcomes including by means of increased, fairer, competition.

Ongoing public sector reforms demonstrate the Government's commitment to improving efficiency and transparency. By integrating with these initiatives, the e-PS can leverage this supportive ecosystem to achieve its full potential.

The Mauritian Government's ongoing reform initiatives, as highlighted in the 2019/2020 MOFEPD Annual Report, create a supportive environment for the e-Procurement System. A number of initiatives are particularly relevant and welcome:

- **Accrual-Based Accounting:** The implementation of accrual accounting will provide more accurate financial data for the government. This improved data can be integrated with the e-PS to provide a more comprehensive picture of public spending and procurement activities.
- **Computerized Government Asset Register (GAR):** A centralized register of government assets can be linked to the e-PS to improve asset management and procurement decisions. For example, the e-PS could identify situations where new purchases are unnecessary due to existing underutilized assets.
- **Computerized Inventory Management System (e-IMS):** This system streamlines inventory management across government warehouses. Real-time data on inventory levels can be integrated with the e-PS, ensuring that procurement decisions are based on actual needs and preventing unnecessary stockpiling.
- **Performance-Based Budgeting & Enhanced Reporting:** Linking budgets to strategic objectives and centralizing performance reports will provide valuable data for the e-PS. This data can be used to track spending patterns and identify areas for improvement.
- **Strengthened Internal Audit & Risk Management:** A robust internal audit system can provide oversight of the e-PS and mitigate potential risks.
- **Centralized Database on Statutory Bodies:** Improved information sharing can enhance transparency and coordination in public procurement, especially with state-owned enterprises.

- **Accelerating Project Delivery:** By consolidating PSIP functions, the government aims to streamline project delivery. The e-PS can further expedite processes and improve contract management.

The PPO also has some specific initiatves outlined which should provide positive developments in terms of budget and cost issues, in particular:
- **Realistic Cost Estimates:** Developing a dynamic schedule of rates can help ensure bids are aligned with realistic costs, promoting efficient resource allocation.
- **Bills of Quantities for Capital Projects:** Requiring public bodies to prepare Bills of Quantities will enhance budget accuracy and contribute to informed procurement decisions within the e-PS.

2.1.2 Key Stakeholders

There are three institutions established under the PPA that operate independently under the aegis of the Ministry of Finance and Economic Development, namely:

- **Procurement Policy Office (PPO):** The PPO is a strong institution in charge of the normative/regulatory function under the aegis of (MOFEPD). PPO is responsible for formulation of policies, issue of Standard Bidding Documents, Regulations, Directives and Guidelines as well as training of public bodies and suppliers among others**.** To discharge its function, PPO has powers to carry out procurement audits. The PPO also set up and manages the e-PS. PPO is the body authorised to proceed with suspension, disqualification or debarment of suppliers under the PPA.
- **Central Procurement Board (CPB):** The Central Procurement Board conducts bidding processes and selection of suppliers for contracts above prescribed thresholds for "major contracts" on behalf of public bodies. The CPB has the potential to boost good practices and build public trust in public contracts.
- **Independent Review Panel (IRP):** The IRP is the independent body to which bidders may submit an appeal. The IRP undertakes reviews of procurement procedures and responses to bidder challenges by public bodies, following the application of an unsatisfied bidder pursuant to s.45 of the PPA. The IRP has the capacity to strengthen bidding and selection proceedings under the legal framework. Participants in procurement proceedings have the right to challenge decisions or actions taken by the public body and the challenge is considered by the public body.

In addition to those institutions, Ministries and Departments and other organizations/institutions who influence the operating environment of public procurement are listed below in Table 4. The core MAPS Assessment describes their establishment and roles in more detail.

Table 4: Other key stakeholder organizations

Other key stakeholder organizations
Ministry of Finance, Economic Planning and Development (MOFEPD): The Ministry is responsible for formulating the economic development policies and for the economic management of the affairs of Government. The Ministry has leadership and strong interest in the public procurement reform agenda.
Economic Development Board (EDB): The mandate of EDB includes to provide strong institutional support for strategic economic planning and ensure greater coherence and effectiveness in economic policy formulation; promote Mauritius as an attractive investment and business center, a competitive export platform as well as an International Financial Centre (IFC). EDB has strategic influence and importance in procurement reforms.

Public Bodies: There are 205 procuring entities (Ministries, Government Departments, local authorities, parastatal bodies and other specified bodies) falling under the ambit of the PPA. Public Bodies are authorized to procure independently and are responsible for conducting procurement processes, bid evaluation and award and contract implementation.

National Audit Office (NAO): The Supreme Audit Institution. The NAO's audit covers areas of financial reporting, procurement management, contract management, assets management, enforcement of laws and regulations, and value for money audits. NAO supports the main objective of public procurement to acquire goods and services and to undertake works that are required by Government for delivery of its services to the citizens in the most economic, efficient and effective manner.

Independent Commission Against Corruption (ICAC): ICAC has strong expertise in general anti-corruption requirements under the legislation and high influence as oversight and accountability enforcement agency.

Competition Commission (CC): They have an important role in studies on bid-rigging and collusive practices, in particular.

Private Sector and Consultancy Organizations: Key institutions are the Mauritius Chamber of Commerce and Industry and Building and Civil Engineering Contractors Association who should provide private sector perspective.

Civil Society Organizations: Key organizations include Transparency International, TI (Mauritius) and Mauritius Council of Social Services (MACOSS) who should provide independent citizen-led perspectives.

Academia and Training institutions: in particular, the University of Technology Mauritius (UTM) and the Civil Service College.

Media: with roles in oversight and information provision.

2.3. National policy objectives and sustainable development goals

The Mauritian government's national priorities, ongoing reforms, and specific initiatives by the PPO all demonstrate a strong commitment to a more efficient and transparent public procurement system. The e-PS, when implemented effectively, can be a key driver in achieving these goals. The national policy objectives and commitment to Sustainable Development Goals (SDGs) present a strong case for the e-Procurement System, by:

- **Revitalizing the Economy:** The government's focus on reviving and strengthening resilience aligns with the e-PS's potential to improve efficiency and potentially reduce procurement costs. Freed-up resources can then be channeled towards other critical areas.
- **Public Sector Investment:** The substantial investments planned in social and economic infrastructure over the next five years highlight the importance of efficient procurement processes. The e-PS can streamline these processes and ensure optimal use of public funds.

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Sustainable Public Procurement Framework: The PPO is tasked with implementing the Sustainable Public Procurement Framework. This SPP Framework is to be implemented in phases and aligns with the Sustainable Development Goals (SDGs). The Government of Mauritius plans to implement sustainable procurement for civil Works and Consultancy Services. This positions the e-PS as a tool for promoting environmental and social considerations in procurement.[5]

2.4. Public Procurement Reform

2.4.1 Milestones in public procurement reform

Mauritius' public procurement system has undergone a fascinating journey, marked by continuous efforts to improve transparency, efficiency, and accountability. Notable milestones are as follows:

- **Pre-Independence & Early Regulations (Up to 1994):** In this period, procurement relied heavily on the Crown Agents, a centralized system with limited oversight. The introduction of basic guidelines in 1968 and a Financial Management Manual in 1990 represented a step towards more structured procurement practices, but these regulations primarily focused on low-value central government purchases.
- **The Central Tender Board Act (1994):** This act marked a shift towards a more centralized approach. The newly established Central Tender Board (CTB) aimed to streamline procurement processes and ensure proper oversight. However, concerns arose about the efficiency of a highly centralized system.
- **Public Procurement Transparency and Equity Act (1999):** Recognizing the limitations of a purely centralized model, this Act introduced a more balanced approach. It established a central procurement division within the Ministry of Finance to oversee procurement above a certain threshold, while allowing for decentralized decision-making on lower-value purchases. However, this act was short-lived and repealed in 2000.
- **Country Procurement Assessment Report (CPAR) 2002:** This World Bank report provided a valuable external evaluation of Mauritius' public procurement system. While acknowledging the positive steps taken, the CPAR identified areas for improvement, such as: strengthening the legal framework for procurement; standardizing and computerizing procurement documentation; enhancing training for public officials involved in procurement; integrating post-procurement reviews into audits.
- **Post-CPAR Reforms and the White Paper (2002-2011):** Following the CPAR's recommendations, the government embarked on a series of reforms. These included capacity building initiatives to equip public officials with the necessary skills for effective procurement. The 2011 White Paper on Public Procurement System Review further emphasized the need for modernization, proposing measures to streamline procedures and embrace decentralized and modernized concepts.
- **Use of Country Procurement Systems (UCS) Assessment (2009):** This World Bank assessment conducted a more in-depth evaluation using standardized methodologies. The UCS report acknowledged progress since the CPAR but highlighted the need for further improvements in areas such as: Efficiency of procurement processes, and; strengthening checks and balances within the system.
- **Public Expenditure and Financial Accountability (PEFA) Assessment (2015):** The 2015 PEFA report assigned a "C" grade to Mauritius' public procurement system. This grade pointed to specific weaknesses, particularly in: transparency of procurement processes, especially bid opening and contract award publication; competition in procurement, potentially limited by factors not

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[5] Budget Measures Explanatory Notes Main Provisions To Be Included In The Finance (Miscellaneous Provisions) Bill 2021, Annex to Budget Speech 2021. Available at: https://mof.govmu.org/Pages/budget_2021_22/budget2021_2022.aspx

addressed in the existing system; and effectiveness of complaint mechanisms for addressing procurement irregularities.

2.4.2 e-PS for Mauritius 2013 to 2023

Mauritius procured an e-procurement software system following an International Competitive Bidding process in 2013. The Government procured a Commercial-off-the-shelf (COTS) implementation type, with the system customized for local use.

The e-PS is designed following monolithic architecture. It is developed using an open-source database and programming platforms and runs on the open-source server operating system and application servers. The e-PS is hosted in the Scalable Government Cloud operated by the Government Open Center (GOC).[6] The GOC operates the Government Datacenter through which hosting services are provided to Ministries and Departments. The Government Cloud provides Infrastructure-as-a-Service (IaaS) for the e-PS, and the GOC provides the infrastructure (data center Equipment, Operating System, network and network equipment, and data backup). The e-procurement system can be accessed through the Government Intranet Network System (GINS) and the Internet.

The business model is contractual. The e-PS vendor owns the source code, and the PPO has a perpetual license under the contract between the vendor and the purchaser. The e-PS software is held in escrow, in accordance with Government policy, in case the service provider cannot deliver in the future.

The e-PS was launched through a soft launch by operationalizing the modules in Phase 1 on 28 September 2015, with the publication of the first electronic Invitation for Bid (IFB) by the Mauritius Police Force. There were three phases of implementation of e-PS Modules.

Table 5: e-PS Modules

Phase I	Phase II	Phase III
Supplier Registration Module	Online bid evaluation Module	Framework Agreement
Procurement Plan Module	Challenge and appeal	Reverse Auction
Bidding Document Preparation, Vetting, and Publishing Module	Award of Contract	Contract Monitoring
Bid Preparation and submission Module	Management Information System	Pre-bid Meeting tool
Bid Closing and Opening Module		

The following modules were developed but are not yet activated: Challenge and appeal, Reverse Auction and Contract Monitoring.

On 31 July 2017, the development phase was completed, and the Warranty Phase began. On 1 December 2018, the Warranty Phase ended, and a 5-year Maintenance and Support Phase began. The Maintenance and Support Agreement with the e-PS vendor was completed in November 2023 and was extended for an additional year up to November 2024, in accordance with the contract terms which state that after the 5-year maintenance & support agreement, the purchaser and vendor can agree to a yearly maintenance & support agreement for up to a maximum of three (3) years.

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[6] https://ncb.govmu.org/ncb/govtcloud.html

2.4.3 The e-PS: A Catalyst for Transformation

The introduction of the e-Procurement System (e-PS) in 2015 can be seen as a culmination of ongoing reform efforts. The limitations identified in assessments like the CPAR, UCS, and PEFA all pointed towards the need for a more transparent, efficient, and accountable procurement system. The e-PS, with its focus on online processes, centralized data, and accessibility, directly addresses these concerns.

The successful implementation of the e-PS has the potential to transform Mauritius' public procurement system by supporting improvements in transparency, competition, efficiency and accountability:

- **Transparency:** The online platform promotes transparency by providing open access to information on tenders, bids, and awards. This reduces the risk of favoritism and ensures a level playing field for bidders.
- **Competition:** The e-PS facilitates wider participation by streamlining bid submission processes and making them accessible to a broader range of potential suppliers. This fosters competition and potentially leads to better pricing for the government.
- **Efficiency:** The e-PS automates many manual tasks, reducing administrative burdens and expediting procurement processes. This allows for faster project delivery and saves resources.
- **Accountability:** The e-PS creates an auditable trail of all procurement activities, enhancing accountability and reducing the risk of fraud or corruption.

3. Assessment

3.1. Pillar I - Legal, Regulatory and Policy Framework

Pillar I assesses the existing legal, regulatory and policy framework for public procurement. It identifies the formal rules and procedures governing public procurement and evaluates how they compare to international standards. The practical implementation and operation of this framework is the subject of Pillars II and III. The indicators within Pillar I embrace recent developments and innovations that have been increasingly employed to make public procurement more efficient. Pillar I also considers international obligations and national policy objectives to ensure that public procurement lives up to its important strategic role and contributes to sustainability.

E-Proc-Indicator 1. The legal and regulatory framework enables e-Procurement.

This indicator assesses the extent to which the national legal and regulatory framework enables and/or mandates the use of e-Procurement, building on the information collected in sub-indicator 1(j) of the core methodology. This includes primary and secondary legislation directly related to public procurement, as well as rules governing elements required for e-Procurement, such as electronic means of authentication, archiving, electronic communications, e-commerce, among others, which may be established in laws and regulations not necessarily directly related to procurement.

- **Synthesis of the indicator**

The e-PS is a mandatory platform for all public procurement exercises in Mauritius. The e-PS facilitates the procurement processes and promotes transparency and accountability. The legal and regulatory framework in Mauritius mandates the use of an e-Procurement system (e-PS) for all forms of open advertised bidding. All public bodies are required to use the e-PS for their procurement exercises. Procurement information, including annual procurement plans, advertisement/tender notices, procurement documents, and some award notices, must be disclosed on the e-PS portal. However, some public bodies are not complying with this requirement. All the e-Standard Bidding Documents (e-SBDs) are available in the e-PS, along with the data forms converted into web forms and templates but the number of available documents modelled on a paper-based approach to procurement makes preparation of bid documents cumbersome and results in the e-Standard Bidding Documents being poorly aligned with the e-PS workflow. The PPA permits use of electronic means of communication, including for conclusion of contracts, with the Electronic Transaction Act 2000 (ETA) allowing a full-fledged use of an electronic medium for the communication, validity and authentication of documents and providing the legal foundation for digital contracts and their use. The registration process on the e-PS is simple and there are processes in place to ensure that the system is used in a secure and confidential manner. The Data Protection Act provides a robust framework for the collection, storage, and use of personal data.

- **Findings**

The legal and regulatory framework mandates all procuring entities ("public bodies") to use e-Procurement. PPA s.26A (1) Electronic bidding process provides that there shall be an electronic bidding system to receive and process bidding documents for evaluation and for the award of any procurement contract, in accordance with such regulations as may be made. Directive No.47 dated 21

August 2020, Mandatory Use of the e-Procurement System[7] ("Directive No.47") mandated use of the e-Procurement System, to be implemented in two phases. The Appendix to Directive No. 47 listed 55 high spending public bodies required to "undertake all their procurement exercises through the e-Procurement System" with immediate effect (21 August 2020). The remaining public bodies were required to "fully onboard the the e-Procurement System" by 31 December 2020, meaning that with effect from 1 January 2021, all 205 public bodies must undertake all their procurement exercises through the e-PS. However, in practice not all public bodies are using e-PS. In the 2020/2021 Financial year, out of 205 public bodies, 83 public bodies used the e-Procurement System, and in 2021/2022 it rose to 91 (44% out of mandated public bodies). In the year after, it was expected to rise to 105 public bodies. The remaining 100 public bodies either procure through line ministries or procure rarely. The 57 High Spending Public Bodies represented 95% of Total IFBs (volume) and 98% of Total Public Procurement Spend (value).

The legal and regulatory framework enables the use of e-Procurement across the procurement cycle for all forms of open advertised bidding, with most relevant provisions found in the Public Procurement (Electronic Bidding System) Regulations 2015 ("EBS Regulations").[8] EBS Regulations R.9 on Procurement Request requires every public body, as far as possible , to "manage all procurement requests through the e-procurement system" and includes a requirement at R.12 for every public body to post on the e-procurement system "the procurements undertaken using the open advertised bidding method", "expression of interest" and "pre-qualification proceeding", with bidding documents to be made available on the e-PS "for suppliers to view and consider participation in the bidding exercise." The EBS Regulations include provisions on electronic bid preparation and submission, opening of electronic bids and allows for evaluation of bids carried out through the e-PS as well as notification of award of the contract through the e-PS. The EBS Regulations also provide that the offer of a contract shall be accepted and communicated through the e-PS and requires every public body to keep electronic records of procurement proceedings.

In practice, as explained further under Pillar III, use of e-PS is mainly limited to low value procurement, evaluation of bids is predominantly an off-line process and compliance with obligations to publish information and notices is low. Paper based procurement is still common, despite being prescribed in the legal framework for use only in exceptional cases (see findings at Pillar III). In addition, due to "exempt organisation" provisions in the legal framework[9], not all competitive procurement by all public bodies must be conducted through e-PS and due to lack of data it is not currently possible to assess the impact of this exemption.

EBS Regulations R.10 also requires publication on e-PS of an annual procurement plan for procurements using the open advertised bidding method. In practice this requirement is poorly

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[7] Directive No.47, dated 21 August 2020, Mandatory Use of the e-Procurement System
https://ppo.govmu.org/Documents/Directives/Directives%202020/Directive%20No%2047.pdf
[8] Public Procurement (Electronic Bidding System) Regulations 2015 (as amended)
https://ppo.govmu.org/Documents/Regulations/Public%20Procurement%20%28Electronic%20Bidding%20System%29%20Nov%202016.pdf
[9] Exemptions: As pointed out in the Core MAPS Assessment Report, PPA s.3(1) provides for some procurements by named public bodies/types of public bodies to be exempt from the full coverage of the PPA. These are referred to in the PPA as "exempt organisations" although this term is rather misleading as only one public body, the Independent Commission Against Corruption (ICAC), is fully exempt from the full application of the PPA. In the case of the other public bodies listed as "exempt organisations" (there are nine named bodies and 3 Ministries listed, plus a general reference to "any public body"), the exemption from the application of the PPA is partial. It is not an exemption for all contracts which that public body wishes to award. It is an exemption only in respect of contracts of a type or subject matter listed in Schedule 1 of the PPR and by reference to the organisation concerned, in which cases its own internal rules must be used. Only one public body, the Independent Commission Against Corruption (ICAC) is fully exempted from the use of the e-PS. Please refer to the analysis under Indicator Matrix 1(a)(b).

observed (see findings under Pillar III). The legal and regulatory framework mandates and facilitates use of e-PS but it is not being used to its full potential.

As noted above, the legal and regulatory framework mandates disclosure of procurement information including advertisement/tender notices, procurement documents and award notices. The legal framework does not, however, mandate that this information is accessible through commonly used browsers or in open data format. The disclosure requirements are not sufficiently clear or comprehensive and, in particular, do not require disclosure of contracts and contract amendments in all cases.

The PPA and PPR were originally drafted when procurement was paper-based and they are not well aligned with the now mandatory use of e-PS. This lack of alignment can also be seen in the model procurement documents available for use in the e-PS. There is an extensive collection of model procurement documents for mandatory use in e-Procurement ("e-SBDs'). e-SBDs are available as web-forms but there are about 400 templates for completion by the public body in order to tailor the document for a particular procurement, the templates are not packaged according to the specific procurement methods and the terminology used is sometimes inconsistent. These factors combine to make the bidding document preparation process cumbersome, with confusing template selection requirements and lengthy workflows.

The PPA permits use of electronic means of communication including for conclusion of contracts. S.26A PPA Electronic bidding process confirms that "Any reference in [the PPA] to a document which has to be submitted in writing shall include reference to a document submitted electronically under the electronic bidding system." The Electronic Transaction Act 2000 (ETA) allows a full-fledged use of an electronic medium for the communication, validity of document, and authentication and provides the legal foundation for digital contracts and their use. The e-PS uses a Digital Certificate, also called Digital Signature Certificate (DSC), for signing and encryption/decryption of data filled on the e-PS. Obtaining a DSC is simple and takes one to two days. All users also must install Java and NexProcure Signing and Encryption software to make the DSC work on that computer. The procurement legal framework does not, however, address in detail digital signature of contracts and the e-PS does not have a function to digitally sign the contract and capture the contract details, although digital signatures are used to authenticate the users in the system at earlier stages in the process before the issuance of notice of contract award. There are no instructions available for foreign bidders to obtain the DSC.

The legal framework provides for enrolment and registration of all suppliers, including foreign bidders, on e-PS and the enrolment and registration process on e-PS is straightforward. The CIDB Registration digital platform for Contractors is open and accessible from the CIDB website, but there is no interoperability between the CIDB Registration Digital Platform and the e-PS and enrolment.

The PPA and PPR do not specifically address the scope and permitted use of personal data because the collection, processing, use, transfer, disclosure of, and right of, access to personal data is governed by specialised legislation, the Data Protection Act 2017 ("DPA"), which came into effect in 2018. [10] The DPA has been drafted to align with the European Union General Data Protection Regulation (GDPR) and provides a robust framework for the collection, storage, and use of personal data. Personal data is broadly defined in s.2 DPA as "any information relating to a data subject." There is a comprehensive definition of "special categories of personal data." The National Open Data Policy ensures that personal data is not disclosed without appropriate safeguards in place.

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[10] Data Protection Act 2017, Act 20 of 2017.

- **Gaps**

1(a)(a) **Poor alignment between legal and regulatory framework and e-PS:** The legal and regulatory framework for procurement does not adequately define e-procurement. The PPA and PPR are poorly aligned with the use of e-procurement and the e-PS in practice and both pieces of legislation require updating.

1(a)(b) **Non-application of the Public Procurement Act to exempt organisations:** Directive No. 47 mandates use of e-PS by all public bodies but the "exempt organisation" provisions in PPA s.3(1) mean that certain types or subject matter of procurement by listed organisations are carved out from application of the PPA and thus do not have to be procured using the e-PS. This could significantly impact the accuracy of national procurement spend analysis based on e-PS data, which may result in untriangulated policy decisions.

1(a)(c) **No requirement for information to be published in accessible browser or open data format:** The legal framework does not mandate the disclosure of comprehensive procurement information in an easily accessible commonly used browser and/or in open data format. The disclosure requirements are not sufficiently clear or comprehensive and, in particular, do not require disclosure of contracts and contract amendments in all cases.

1(a)(d) **e-SBDs not fully aligned with e-PS workflows and there are too many templates:** e-SBDs are based on documents prepared for paper-based procurement and are not fully aligned with the workflows and functionalities of the e-Procurement System. The bidding document preparation process is cumbersome, with confusing template selection requirements and lengthy workflows.

1(b)(a) **Lack of provisions on e-PS and contract formation/signature (Minor Gap):** The PPA permits use of electronic means of communication including for conclusion of contracts and the Electronic Transaction Act 2000 provides the legal foundation for digital contracts and their use. However, provisions in the procurement legal framework and the operation of e-PS processes stop at the point when a notice of contract award is sent to the best-evaluated bidder. The procurement legal framework does not, however, address in detail digital signature of contracts and the e-PS does not have a function to digitally sign the contract and capture the contract details, although digital signatures are used to authenticate the users in the system at earlier stages in the process before the issuance of notice of contract award.

1(b)(b) **No on-line instruction for foreign bidders on Digital Signature Certificate and lack of interface between e-PS and CIDB digital system (Minor Gap):** The enrolment and registration process on e-PS is simple, but could be improved by providing instructions to the foreign bidders on obtaining and using a Digital Signature Certificate (DSC). There is no interface built between the CIDB digital system and e-PS.

- **Recommendations**

1(a)(a) **Poor alignment between legal and regulatory framework and e-PS:** Undertake a critical review of the PPA, PPR, Public Procurement (Electronic Bidding System) Regulations 2015 and other procurement legal framework documents to include appropriate definitions and clarity of coverage of e-procurement and ensure that the legal framework documents are fully aligned with use of e-procurement and the e-PS in practice.

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1(a)(b) **Non-application of the PPA to procurement subject to exempt organisation provisions:** In order to ensure accurate assessment and analysis of national public procurement expenditure, amend legal provisions to require prompt submission of specified data to e-PS relating to procurement by public bodies which falls outside the application of the PPA pursuant to the "exempt organisation" provisions in the PPA s.3(1) & PPR.

It is also recommended, with the benefit of this more comprehensive data, that PPO review and assess the impact of the exempt organisation provisions on the market and, if relevant, to consider measures to improve efficiency and effectiveness. This could include, for example, mandating publication of all procurement opportunities, including procurement falling within the "exempt organisation" provisions, on e-PS to ensure that suppliers only need to look at one source to identify all procurement opportunities.

1(a)(c) **No requirement for information to be published in accessible browser or open data format:** Amend the legal/regulatory framework to mandate the disclosure of listed comprehensive procurement information in an easily accessible commonly used browser/interface ideally in open data format. It may be advisable to prepare a single consolidated list of what information must be published and when. Add requirements for disclosure of comprehensive procurement related information, in particular, publication of contract award notices, contracts and contract amendments on e-PS. Consider also measures to enforce compliance with these publication and disclosure provisions.

1(a)(d) **e-SBDs not fully aligned with e-PS workflows and there are too many templates:** The e-SBDs and the e-PS should be fully harmonized in terms of processes, flows, and the nomenclatures used across the whole procurement cycle. The process of the selection and preparation of the bidding document needs simplification to achieve efficiency.

1(b)(a) **Lack of provisions on e-PS and contract formation/signature (Minor Gap):** Amend provisions in the procurement legal framework to align with the Electronic Transaction Act 2000 and fully support the validity and authenticity of electronic means and documents, including use of digital signatures, so as to enable use of the e-PS to leverage the benefits of already available technologies.

1(b)(b) **No on-line instruction for foreign bidders on Digital Signature Certificate and lack of interface between e-PS and CIDB digital system (Minor Gap):** Guidance on enrolment and registration process for use of e-PS should be amended to include clear instruction to the foreign bidders on obtaining and using the Digital Signature Certificates (DSC). The CIDB digital platform and the e-PS should be interfaced to facilitate the exchange of registration information on works contractors between the systems, to enhance efficiency and data consistency in both systems.

Summary of substantive gaps and recommendations of e-Procurement Indicator 1

For full wording of Gaps and Recommendations, see above.

	Substantive gap	Risk classification and red flags	Recommendations
1(a)(a)	Poor alignment between legal and regulatory	High risk	Undertake a critical review of the PPA, PPR, Public Procurement (Electronic Bidding System) Regulations 2015 and other procurement legal framework documents to include appropriate

	framework and e-PS		definitions and clarity of coverage of e-procurement and ensure that the legal framework documents are fully aligned with use of e-procurement and the e-PS in practice.
1(a)(b)	Non-application of the PPA to procurement subject to exempt organisation provisions	High risk	Amend legal provisions to require prompt submission of specified data to e-PS relating to procurement by public bodies which falls outside the application of the PPA pursuant to the "exempt organisation" provisions. Review and assess the impact of the exempt organisation provisions on the market.
1(a)(c)	No requirement for information to be published in accessible browser or open data format	High risk	Amend the legal/regulatory framework to mandate the disclosure of listed comprehensive procurement information in an easily accessible commonly used browser/interface ideally in open data format.
1(a)(d)	e-SBDs not fully aligned with e-PS workflows and there are too many templates	High Risk	The e-SBDs and the e-PS should be fully harmonized in terms of processes, flows, and the nomenclatures used across the whole procurement cycle. The process of the selection and preparation of the bidding document needs simplification to achieve efficiency.

Suggestions for improvement

1(b)(c)   Scope and use of personal data
The PPA and PPR do not specifically address the scope and permitted use of personal data because the collection, processing, use, transfer, disclosure of, and right of access to personal data is governed by specialised legislation, the Data Protection Act 2017 ("DPA"). [11]

To provide further clarity, consider including specific reference to DPA requirements in the PPA.

E-Proc-Indicator 2. e-Procurement follows a strategy that is aligned with broader government policies.

The purpose of this indicator is to assess whether there is strategic focus on continuous improvement of the e-Procurement ecosystem, as well as whether e-Procurement is part of a wider digitization strategy and supports key cross-cutting government objectives, including sustainability and innovation.

- **Synthesis of the indicator**

   There is no dedicated national strategy or roadmap for improving the functioning and update of e-Procurement across the public sector or for engaging the private sector. Implementation is on-

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[11] Data Protection Act 2017, Act 20 of 2017.

going. e-Procurement is explicitly considered and referenced as a factor in the latest Digital Government Transformation Strategy 2018-2022. Mauritius is still in the early stages of development of a comprehensive strategy and practice for sustainable public procurement (social, economic, and environmental (including climate)). The PPO is required to introduce a Sustainable Public Procurement Framework to ensure public bodies consider the environmental and social impact of their procurement decisions. The e-PS does not currently enable capture and report of data related to climate change mitigation and adaptation and environmental protection, which fosters innovation or innovative solutions, or on job creation. Data on SME participation is available through e-PS but it is not differentiated to permit further analysis in terms of diversity, gender equality, worker or minority protection, etc. These data capture and reporting requirements should be picked up in the development of the e-PS .

- **Findings**

There is no dedicated national strategy or roadmap for improving the functioning and update of e-Procurement across the public sector or for engaging the private sector. The Annual Report of the PPO for the year 2014[12] included a plan for e-PS implementation in three (3) phases. The activities and initiatives are ad hoc and not fully supported by the program and resources and the three phases have not been fully implemented, including roll out of Modules such as the Challenge and Appeals Module and Contract Monitoring.

The Digital Government Transformation Strategy 2018-2022 prepared by the Central Informatics Bureau (CIB) of the Ministry of Technology, Communication and Innovation (MTCI)[13] emphasizes how critical it is to optimize, transform and create better government services and to achieve large-scale business optimization that improves effectiveness. It recommends the "e-Procurement by default" principle and provision of training and support to both public bodies and suppliers. The Government plans to enhance the e-PS based on the recommendations of the Core MAPS Assessment and this MAPS e-PS assessment.

Mauritius is still in the early stages of development of a comprehensive strategy and practice for sustainable public procurement (social, economic, and environmental (including climate)). A National Action Plan on Sustainable Public Procurement (SPP) for Mauritius (2011-2015) was developed in 2011 under the United Nations Environment Program Mauritius.[14] The National Action Plan on SPP identified aims and objectives to promote and achieve SPP in Mauritius, with particular focus on the procurement of seven products and services for which sustainable criteria and alternatives are available with the potential of generating substantial sustainability impacts over their lifecycle. One outcome of the 2021 budget process was that the PPO is required to introduce a Sustainable Public Procurement Framework, to be implemented in a phased manner, to ensure public bodies consider the environmental and social impact of their procurement decisions.[15]

Th e-PS does not currently enable capture and report of data related to climate change mitigation and adaptation and environmental protection, which fosters innovation or innovative solutions, or on job creation. Some information on SME participation is available through e-PS. Directive No.

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[12] https://ppo.govmu.org/Documents/Annual%20Reports/PPO%20annual%20report%202014.pdf

[13] Digital Government Transformation Strategy 2018-2022, Central Informatics Bureau, Ministry of Technology, Communication and Innovation. https://mdpa.govmu.org/mdpa/strategicplans/DigitalGovernmentTransformation.pdf

[14] Ministry of Finance ,Economic Planning and Development. Available at: https://wedocs.unep.org/handle/20.500.11822/37423

[15] https://mauritiusbudget.com/wp-content/uploads/2022/02/2021_22budgetspeech_english.pdf

5 dated 13 March 2012 contains provisions on promoting Small and Medium Enterpeises (SMEs). The e-PS captures SME data at the time of registration. In the 2020-2021 fiscal year, the value of Contracts awarded to SMEs (above MUR 100,000) as a percentage of Total Value of all Contracts was 12.51% (See Figure 2). The data on SME participation is not differentiated to permit further analysis in terms of diversity, gender equality, worker or minority protection, etc. The government is considering SPP requirements in the new enhancements of the e-PS.
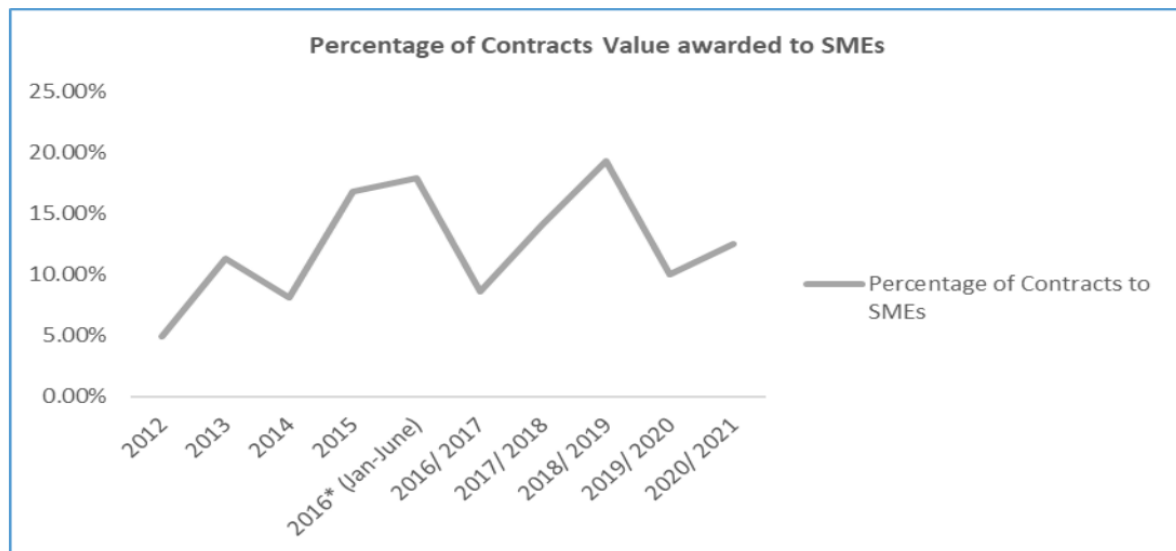
Figure 2: Contracts awarded to SMEs – trend of SMEs' share in public procurement contracts[16]
   Source: PPO Annual Report 2020/2021

- **Gaps**

2(a)(a) **No e-Procurement strategy or roadmap:** There is no dedicated national strategy or roadmap for improving the functioning and update of the e-Procurement across the public sector or for engaging the private sector.

2(b)(a) **Data on climate change not captured:** The e-PS does not currently enable capture and reporting of data related to climate change mitigation and adaptation and environmental protection.

2(b)(b) **Data on innovation not captured:** The e-PS does not currently enable capture and reporting of data on procurement which supports data driven decision making and fosters innovation or innovative solutions.

2(b)(c) **Data on job creation not captured:** The e-PS does not capture any data on how many jobs are created through procurement contracts.

2(b)(d) **Data on SME participation is not differentiated (Minor gap):** Data on SME participation is available through e-PS but it is not differentiated to permit further analysis in terms of diversity, gender equality, worker or minority protection, etc. This will need to be aligned with the preparation of a Sustainable Public Procurement Strategy and supporting

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[16] PPO Annual Report 2020/21 https://ppo.govmu.org/Documents/Annual%20Reports/AR2020-21.pdf

implementation plan, as recommended in the Core MAPS Assessment. In order to be meaningful and useful the data to be collected will need to link into identified SPP targets so that measurement against targets can be undertaken based on quality data collected through the e-PS.

- **Recommendations**

2(a)(a) **No e-Procurement strategy or roadmap:** The Government should prepare a comprehensive e-Procurement Strategy and roadmap incorporating the rollout plan, training and capacity building plan, sustainability plan, communication plan, and system enhancement plans with required resource commitment clearly allocated. The e-Procurement strategy should be consistent with the Sustainable Public Procurement Strategy and other relevant strategies aligned with broader Government policies.

2(b)(a) **Data on climate change not captured:** Climate change mitigation and adaptation and environmental protection information should be incorporated in the new enhanced e-PS to capture and report data on these issues.

This will need to be aligned with the preparation of a Sustainable Public Procurement Strategy and supporting implementation plan, as recommended in the Core MAPS Assessment. In order to be meaningful and useful the data to be collected will need to link into identified SPP targets so that measurement against targets can be undertaken based on quality data collected through the e-PS.

Data collection on climate change and environmental protection could, for example, cover use of climate/environmental criteria and measurement against performance targets in contract delivery.[17]

2(b)(b) **Data on innovation not captured:** Innovation related information should be incorporated in the new enhanced e-PS to capture and report data on these issues.

The e-Procurement ecosystem can be used to capture innovation-related data and facilitate data-driven decision-making by providing buyers and suppliers with access to data on procurement activities and performance by publishing data following Open Contracting Data Standard (OCDS). This data can be used to identify opportunities for innovation and to evaluate the effectiveness of innovative solutions.

2(b)(c) **Data on job creation not captured:** Job creation information should be incorporated in the new enhanced e-PS to capture and report data on these issues. Recommendations on how the e-Procurement ecosystem can enable capturing and reporting data related to job creation includes:

(a) Data Collection:
 1. Include fields in tender documents and contracts that require suppliers to specify the number of jobs created (permanent vs. temporary), job types, and location;
 2. Consider industry-specific details like skill sets required;
 3. Develop functionalities within the e-PS for suppliers to electronically report job creation data during contract fulfilment stages; and
 4. Explore integrating the e-PS with existing government employment databases for potential verification and cross-referencing.

(b) Data Reporting:

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[17] Extensive guidance is available. See for, example, Green Flags: How open data can throw light of sustainable procurement, Step-by-step guidance, Open Contracting Partnership, November 2021
https://www.open-contracting.org/wp-content/uploads/2021/11/OCP2021-Green-Flags_-How-open-data-can-throw-light-on-sustainable-procurement-.pdf

1. Develop dashboards or reports within the e-PS that aggregate and analyze captured job creation data;
2. Allow filtering by sector, location, project type, etc., to understand the impact of procurement on job creation; and
3. Publish anonymized job creation data reports in an open format for public access and further analysis. This can be through adherence to Open Contracting Data Standards (OCDS) for wider accessibility.

2(b)(d) **Data on SME participation is not differentiated (Minor gap):** More social inclusion related information should be incorporated in the new enhanced e-PS to capture and report data on these issues. Recommendations on how the e-Procurement ecosystem can enable capturing and reporting data related to Social Inclusion (diversity, gender equality, worker and minority protection) include:

(a) Data Collection:
1. Integrate fields into the e-PS for bidders to self-declare their diversity status (e.g., minority-owned, women-owned, employing people with disabilities);
2. Include standard clauses in procurement contracts that require suppliers to adhere to social inclusion practices. These clauses can encourage aspects such as:
    o Fair hiring practices promoting diversity and equal opportunity.
    o Subcontracting opportunities for diverse businesses.
    o Meeting specific local hiring targets, or employing a certain percentage of minorities or women.
    o Compliance with labor laws and worker protection standards.
3. Provide flexible data submission options for suppliers. This could include:
    o Pre-populated drop-down menus for easy selection of diversity categories.
    o Upload functionality for supporting documents showcasing social inclusion efforts (e.g., diversity reports, certifications).

(b) Data Reporting:
1. Develop dashboards within the e-PS to track and analyze social inclusion data. These dashboards could display metrics such as:
    o Number of contracts awarded to diverse suppliers.
    o Percentage of workforce employed by contractors from underrepresented groups.
    o Compliance rates with social inclusion clauses in contracts.
2. Generate anonymized reports highlighting the overall impact of e-Procurement on social inclusion goals.

Suggestions for improvement

2(b)(b) **Data on innovation not captured:** In addition to capturing and reporting of data on procurement which can support data-driven decision making and foster innovation and innovative solutions, the e-Procurement ecosystem can foster innovation in a number of other ways, including:
1. Encouraging participation from innovative suppliers: The e-Procurement ecosystem can be designed to encourage participation from innovative suppliers by providing them with a platform to showcase their innovative products and services. This can be achieved by allowing suppliers to submit proposals for innovative solutions and evaluating them based on their potential to meet the needs of the organization.

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2. Promoting collaboration between buyers and suppliers: The e-Procurement ecosystem can be used to promote collaboration between buyers and suppliers by creating opportunities for joint problem-solving and innovation. For example, buyers can work with suppliers to identify areas where innovation is needed and develop innovative solutions together.

3. Providing access to innovation funding: The e-Procurement ecosystem can be used to provide access to innovation funding by creating mechanisms for buyers to fund innovative solutions developed by suppliers. This can be achieved by creating innovation funds or providing access to existing funding sources.

4. Supporting the adoption of innovative procurement methods: The e-Procurement ecosystem can be used to support the adoption of innovative procurement methods, such as e-reverse auctions, competitive dialogue, innovation competitions, design thinking and other agile procurement. These methods can help buyers and suppliers to collaborate more effectively and develop innovative solutions that meet their needs.

Summary of substantive gaps and recommendations of e-Procurement Indicator 2

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-indicator 2(a)(a) No e-Procurement strategy or roadmap	High risk	The Government should prepare a comprehensive e-Procurement Strategy and roadmap incorporating the rollout plan, training and capacity building plan, sustainability plan, communication plan, and system enhancement plans with required resource commitment. The e-Procurement strategy should align with the Sustainable Public Procurement Strategy and other relevant strategies aligned with broader Government policies.
Sub-indicator 2(b)(a) Data on climate change not captured	High risk	Climate change mitigation and adaptation and environmental protection information should be incorporated in the new enhanced e-PS to capture and report data on these issues.
Sub-indicator 2(b)(b) Data on innovation not captured	Low Risk	Innovation related information should be incorporated in the new enhanced e-PS to capture and report data on these issues.
Sub-indicator 2(b)(c) Data on job creation not captured	Low Risk	Job creation information should be incorporated in the new enhanced e-PS to capture and report data on these issues.

3.2. Pillar II - Institutional Framework and Management Capacity

Pillar II of the MAPS core methodology assesses how the procurement system as defined by the legal and regulatory framework in a country is operating in practice through the institutions and management systems that are part of the overall public sector governance in the country.

For the e-Procurement module, Pillar II assesses the governance and management structures that govern the e-Procurement ecosystem as well as the institutions that are responsible for its operation and policies, and whether these have all the capacities required for the system to operate well. With procurement being a cross-cutting government function, this pillar also analyses how coordination regarding e-Procurement works among government entities.

E-Proc-Indicator 3. The e-Procurement ecosystem has a well-established and operational governance and management structure.

This indicator refers to the governance structure of the e-Procurement ecosystem, the institutions responsible for its management and policies, as well as the coordination schemes among them.

- **Synthesis of the indicator**

The PPO is the normative and regulatory procurement body with responsibility for regulating and setting standards for the operation, implementation and continuous improvement of the e-PS.

There is good coordination between the PPO and the Central Informatics Bureau (CIB). The e-PS unit at the PPO is understaffed. The e-PS unit and the PPO relies heavily on contractual staff, there is no business continuity team at the PPO and there is a high risk of vendor lock in. Staff working in the e-PS unit are skilled and knowledgeable about the e-PS and undergo ad-hoc training. There is, however, no documented formal requirement for staff to undergo training to update their knowledge and skills.

- **Findings**

The PPO is the normative and regulatory procurement body with responsibility for regulating and setting standards for the operation, implementation and continuous improvement of the e-PS. This is provided for in the PPA and PPR. EBS Regulations R.3 provides for the PPO to issue instructions to public bodies for the implementation of the e-procurement system under those Regulations.

The PPO/e-PS Unit engages with public bodies and other stakeholders to gather feedback for improvement ofthe e-Procurement ecosystem, in particular through the Helpline, Single Points of Contact and through training. The PPO/e-PS Unit also has contact with CPB, audit institutions and the Independent Review Panel on an ad hoc basis, such as when auditors require access to procurement files. There is, however, no evidence of existence of formal, robust, coordination mechanisms and communication channels to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem between PPO and public bodies, CPB, audit institutions or the Independent Review Panel. The core MAPS Assessment report also highlighted that there is a need for better coordination between the various stakeholders involved in public procurement.

There is good coordination between the PPO and the Central Informatics Bureau (CIB). The CIB is actively involved with PPO in the e-PS under the Digitization agenda of the country and to ensure the

implementation and the enhancements of the e-PS are carried out in line with the Digital Transformation Strategy 2018-2022.

According to the findings of the Core MAPS Assessment, salaries of PPO staff are partly from the PPO allocated budget and partly from MOFEPD and actual figures are difficult to establish but "budget as such is not a constraint for proper staffing". The practical constraints relate to availability of suitably qualified staff. The e-PS unit at the PPO is understaffed and lacks the resources to effectively manage the e-PS. Out of 15 positions, only six (6) are filled. Current staff fulfil multiple roles, with most of the positions focused on supporting bidders and public bodies. The e-PS and PPO heavily rely on contractual staff with senior/middle management positions filled by non- permanent staff or staff on deputation from MOFEPD (see PPO Organogram at Figure 3). There is no business continuity team at the PPO and there is a high risk of vendor lock in.

Staff working in the e-PS unit are skilled and knowledgeable about the e-PS. There is, however, no documented formal requirement for staff to undergo training to update their knowledge and skills on e-PS, its changes, new technologies, and ways of addressing the challenges faced. In practice, the staff responsible for the e-Procurement ecosystem undergo training on an ad hoc basis.
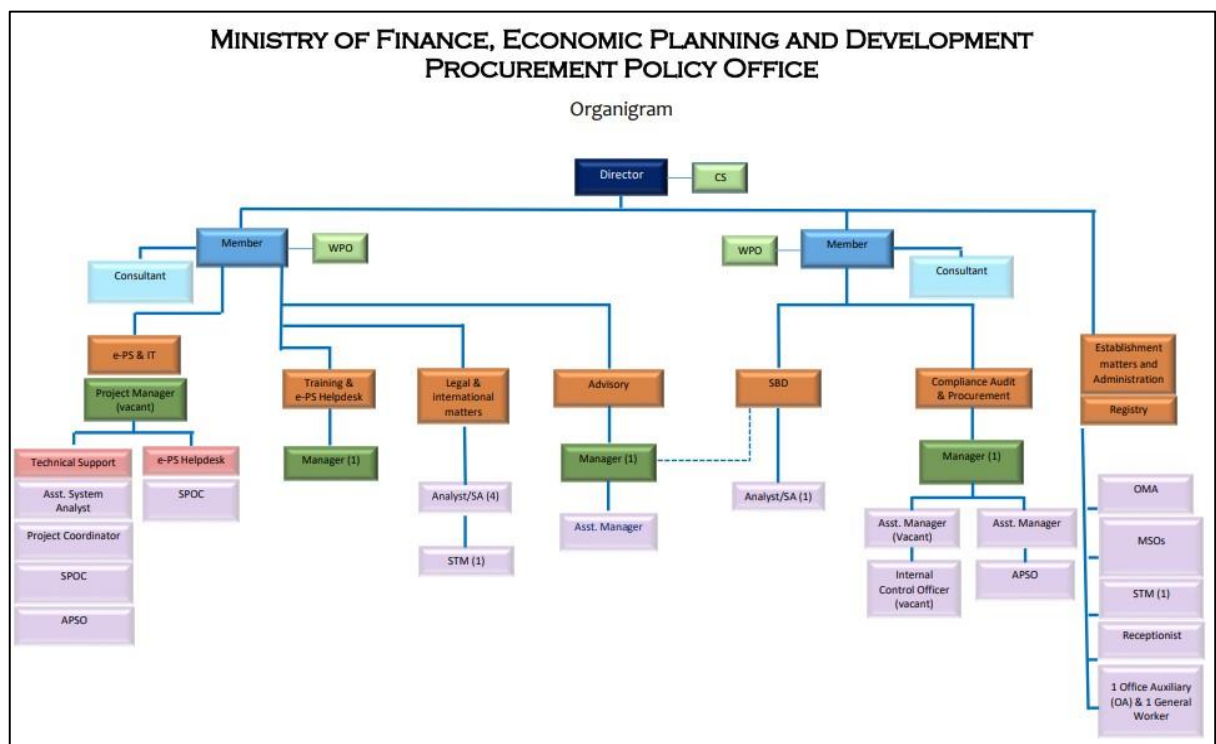
Figure 3: PPO Organigram

- **Gaps**

3(b)(b)   **There is no evidence of robust coordination mechanisms between the PPO and public bodies, including the CPB:** There is no evidence of robust coordination mechanisms between the PPO and public bodies, including the CPB, to interact and work together to continuously improve the e-Procurement ecosystem.
Weak coordination is confirmed by the evidence of partial use by public bodies and CPB of the e-PS and its full functionalities, as identified elsewhere in this Report.

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► This Gap is assigned a Red flag because it requires active cooperation with and participation by a number of institutions in addition to the PPO.

3(b)(c) **There is no evidence of robust coordination mechanisms between the PPO and budgetary and treasury authorities:** There is no evidence of robust coordination mechanisms between the PPO and budgetary and treasury authorities, to interact and work together to continuously improve the e-Procurement ecosystem.
► This Gap is assigned a Red flag because it requires active cooperation with and participation by a number of institutions in addition to the PPO.

3(b)(d) **There is no evidence of robust coordination mechanisms between PPO and audit institutions:** Co-ordination between PPO and audit authorities (internal audit and National Audit Office) is ad hoc and procurement specific. There is no evidence of robust coordination mechanisms between the PPO and audit authorities, to interact and work together to continuously improve the e-Procurement ecosystem.
► This Gap is assigned a Red flag because it requires active cooperation with and participation by a number of institutions in addition to the PPO.

3(b)(e) **There is no evidence of robust coordination mechanisms between the PPO and Independent Review Panel.**
An area of particular concern is that the IRP module is not enabled in the e-PS.
► This Gap is assigned a Red flag because it requires active cooperation with and participation by a number of institutions in addition to the PPO.

3(c)(b) **The PPO e-PS unit is under-resourced and risk of vendor lock in is high:** The e-PS unit at the PPO is understaffed. The current working staff is overloaded with multiple roles because not all planned positions have been filled. The PPO does not have a business-continuity team on standby to avoid a vendor lock situation.
► This Gap is assigned a Red flag because the significant and ongoing under-resourcing of the PPO and lack of measures to ensure business continuity present a high risk and significant impact on the effective operation of the procurement system and the solution does not lie solely with the PPO.

3(c)(c) **No formal requirement for ongoing regular training for e-PS staff:** There is no formal requirement that the e-PS staff undergo regular training to update their knowledge and skills on e-PS, its changes, new technologies, and ways of addressing the challenges faced.

- **Recommendations**

3(b)(b) ► **There is no evidence of robust coordination mechanisms between the PPO and public bodies, including the CPB:** The PPO should establish formal, robust coordination mechanisms and communication channels with public bodies and the CPB to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem.

3(b)(c) ► **There is no evidence of robust coordination mechanisms between the PPO and budgetary and treasury authorities:** The PPO should establish formal, robust coordination mechanisms and communication channels with budgetary and treasury

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authorities to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem.

In particular, PPO and budgetary/treasury authorities will need to fully coordinate future developments, particularly in information systems to ensure that the updated e-PS is structured to ensure effective interface for data exchange with the budgetary and treasury system (IFMIS), Public Investment Management (PIM) System, and with the Public Sector Investment Program (PSIP).

To further enhance coordination, measures should be introduced to ensure that all Annual Procurement Plans (APP) and Contract Award information are published in the e-PS. Additionally, the downstream procurement proceedings must have a link with the approved APP. All procurements should be initiated only after the APP is endorsed, which establishes fiscal discipline and encourages planned and informed procurements. The e-Contract Management and Monitoring module should be implemented to ensure the contract quality, time, and cost based on the contractual terms and conditions.

3(b)(d) ► **There is no evidence of robust coordination mechanisms between PPO and audit institutions:** The PPO should establish formal, robust coordination mechanisms and communication channels with audit and monitoring authorities to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem.
In particular, a comprehensive and interactive Monitoring and Audit functionality should be built in the e-PS to facilitate the effective monitoring and audit of the procurement and contract execution in the e-PS.
The government should encourage the use of the contract management and performance monitoring system by all public bodies for procurement and also for contract execution.

3(b)(e) ► **There is no evidence of robust coordination mechanisms between the PPO and Independent Review Panel:** The PPO should establish formal, robust coordination mechanisms and communication channels with the Independent Review Panel to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem.
The Appeals module should be enabled in the e-PS and the established coordination mechanism should include provision for continuous feedback and suggestions for improvement on the operation of that Module.

3(c)(b) ► **The PPO e-PS unit is under-resourced due to inability to fill vacancies and risk of vendor lock in is high:** It is highly recommended that that the vacant positions in the e-PS unit be filled and a dedicated business continuity technical team under the PPO be formed with all technical, administrative, and supporting expertise to ensure the smooth operation of the e-PS in collaboration with the CIB, ensure knowledge transfer and avoid a vendor-lock situation.

The recruitment and mobilization of the business continuity team is urgent. The Business Continuity team may consist of experts with skills in software architecture, business analysis, database administration, web programming and designing, quality assurance, change management and capacity building, training, communication skills, and other supporting skills. The Business continuity technical team could be in-house or outsourced, State-owned Enterprise, Public Private Partnership (PPP)-based model, or another sustainable arrangement.

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See also, Recommendations at 4(a)(b).

3(c)(c)   **No formal requirement for ongoing regular training for e-PS staff:** There should be a clearly documented requirement to undergo knowledge and skills updating training programs for all people responsible for the e-PS ecosystem.

Summary of substantive gaps and recommendations of e-Procurement Indicator 3

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-indicator 3(b)(b) No evidence of robust coordination mechanisms between the PPO and public bodies, including the CPB	High risk **Red Flag**	The PPO should establish formal, robust coordination mechanisms and communication channels with public bodies and the CPB to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem.
Sub-indicator 3(b)(c) No evidence of robust coordination mechanisms between the PPO and budgetary and treasury authorities	High risk **Red Flag**	The PPO should establish formal, robust coordination mechanisms and communication channels with budgetary and treasury authorities to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem. In particular, PPO and budgetary/treasury authorities will need to fully coordinate future developments, particularly in information systems to ensure that the updated e-PS is structured to ensure effective interface for data exchange with the budgetary and treasury system (IFMIS), Public Investment Management (PIM) System, and with the Public Sector Investment Program (PSIP).
Sub-indicator 3(b)(d) No evidence of robust coordination mechanisms between the PPO and audit institutions.	High risk **Red Flag**	The PPO should establish formal, robust coordination mechanisms and communication channels with audit and monitoring authorities to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem. In particular, a comprehensive and interactive Monitoring and Audit functionality should be built in the e-PS to facilitate the effective monitoring and audit of the procurement and contract execution in the e-PS.
Sub-indicator 3(b)(e) No evidence of robust coordination mechanisms	High risk **Red Flag**	The PPO should establish formal, robust coordination mechanisms and communication channels with the Independent Review Panel to facilitate regular interaction and joint working to

between the PPO and Independent Review Panel		continuously improve the e-Procurement ecosystem. The Appeals module should be enabled in the e-PS and the established coordination mechanism should include provision for continuous feedback and suggestions for improvement on the operation of that Module.
Sub-indicator 3(c)(b) The PPO e-PS unit is under-resourced and risk of vendor lock in is high	High Risk **Red Flag**	It is highly recommended that that the vacant positions in the e-PS unit be filled and a dedicated business continuity technical team under the PPO be formed with all technical, administrative, and supporting expertise to ensure the smooth operation of the e-PS in collaboration with the CIB, ensure knowledge transfer and avoid a vendor-lock situation. See also, Recommendations at 4(a)(b).
Sub-indicator 3(c)(c) No formal requirement for ongoing regular training for e-PS staff	Medium Risk	There should be a clearly documented requirement to undergo knowledge and skills updating training programs for all people responsible for the e-PS ecosystem.

Suggestions for improvement

3(a)(a)   Assignment of responsibility to PPO
The legal and regulatory framework could be amended to *explicitly assign* to the PPO, the responsibility for regulating and setting standards for the operation, implementation, and continuous improvement of the e-Procurement ecosystem.

E-Proc-Indicator 4. The e-Procurement ecosystem relies on an adequate business model.

E-Procurement platforms may be deployed and operated in different business model arrangements with varying degrees of outsourcing and government ownership of the platforms and data. Single or multiple platforms may be used, as well as diverse architecture, infrastructure and service schemes. Regardless of the nature of the e-Procurement platforms, they should have a functioning and sustainable business model that allows them to deliver results over the long run. The ecosystem should establish the standards for this to happen.

- **Synthesis of the indicator**

The e-PS does not have well documented business model for operation of the e-PS platform or a sufficiently clear policy on data control and ownership. The e-PS team in Mauritius does not have adequate technical capabilities to operate, manage and maintain the e-PS system independently. Knowledge transfer from the e-PS Vendor to PPO has been insufficient. The PPO lacks a business continuity team and a well-written strategy document to ensure future development and minimize vendor lock-in. The e-PS is updated whenever there are relevant amendments to the procurement

legal framework, in the event of changes triggered by the circular or directives, or in response to user feedback. The vendor has provided the e-PS design and system documents, which the PPO maintains. Responsibility for funding the operation of the e-PS lies wholly with the Government of Mauritius. The e-PS system does not charge any fee to its users.

- **Findings**

The e-PS does not have a well documented business model for operation of the e-PS platform or a sufficiently clear policy on data control and ownership, except a few binding terms in the Terms of Use of the e-PS available on the e-PS website. The e-PS platform is hosted at the GOC cloud, but the e-PS vendor has full access to the data for maintaining the e-PS and report generation purposes under the e-PS maintenance and Support contract. There is the possibility of data abuse arising from access to and control of data by the e-GP vendor.

The e-PS team in Mauritius does not have adequate technical capabilities to operate, manage and maintain the e-PS system independently. Mauritius procured an e-procurement software system following an International Competitive Bidding process in 2013. The Government procured a Commercial-off-the-shelf (COTS) implementation type, with the system customized for local use. The e-PS vendor owns the source code, and the PPO has a perpetual license under the contract between the vendor and the purchaser. The e-PS software is held in escrow, in accordance with Government policy, in case the service provider cannot deliver in the future. The e-PS was launched through a soft launch by operationalizing the modules in Phase 1 on 28 September 2015, with the publication of the first electronic Invitation for Bid (IFB) by the Mauritius Police Force.

There were three phases of development including development of e-Ps Modules which concluded in 2017, but not all modules are currently activated and available for use (for further details, see section 2.4.2 Analysis of Country Context, e-PS for Mauritius.). The Maintenance and Support Agreement with the e-PS vendor was completed in November 2023 and renewed until November 2024. Knowledge transfer from the e-PS Vendor to PPO has been insufficient. The PPO lacks a business continuity team and a well-written strategy document to ensure future development and minimize vendor lock-in.

The e-PS is updated whenever there are relevant amendments to the procurement legal framework, in the event of changes triggered by the circular or directives, or in response to user feedback. There is a change request process in place. A change request may also arise to modify or add functionality to the e-PS for various reasons, such as fixing defects, adding new features, improving performance, or updating the system to comply with new regulations or standards. The vendor has provided the e-PS design and system documents, which the PPO maintains. The documents are not frequently updated to keep them relevant to the e-PS's regular updates.

The e-Procurement System is accessible to all registered and non-registered users free of charge. Responsibility for funding the operation of the e-PS lies wholly with the Government of Mauritius. The e-PS system does not charge its users any fees. The only charge the bidder will incur when using the e-PS is for acquiring the digital signature certificate, the cost of which is not prohibitive, ranging between ten and forty United States Dollars (USD 10 and USD 40).

- **Gaps**

4(a)(a) **No clearly documented business model for e-PS:** The e-PS does not have a well-documented business model to operate the e-PS platform or a clear policy on data control and ownership, except a few binding terms in the Terms of Use of the e-PS available on

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the e-PS website. There is the possibility of data abuse arising from access to and control of data by the e-GP vendor.

4(a)(b)   **No business continuity team and strategy for development to minimize vendor lock in:** The PPO lacks a business continuity team and a well-written strategy document to ensure future development and minimize vendor lock-in. The e-PS team in Mauritius does not have adequate technical capabilities to operate, manage and maintain the e-PS system independently.

- **Recommendations**

4(a)(a)   **No clearly documented business model for e-PS:** The e-PS should have a clearly documented business model and implementation strategies with clear mandate and authority for the designated agency, unit or entity to operate the e-PS platform, scope to collect, manage, use, own, and control the e-PS data.

4(a)(b)   **No business continuity team and strategy for development and to minimize vendor lock in:** It is recommended that the knowledge transfer process from the e-PS vendor to PPO be done regularly. This process is essential and urgent.
The PPO should establish a business continuity team with all required technical and management skills to operate the e-PS independently. To minimize the vendor lock in situation, the business continuity team must work alongside the vendor's technical team in parallel in addressing the technical issues and fixing and enhancing the e-PS. The PPO should develop a well-written strategy document to ensure future development and minimize vendor lock in.
See also, Recommendations at 3(c)(b).

Summary of substantive gaps and recommendations of e-Procurement Indicator 4

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-indicator 4(a)(a) **No clearly documented business model for e-PS**.	High risk	The e-PS should have a clearly documented business model and implementation strategies with clear mandate and authority for the designated agency, unit or entity to operate the e-PS platform, scope to collect, manage, use, own, and control the e-PS data.
Sub-indicator 4(a)(b) **No business continuity team and strategy for development and to minimize vendor lock in**	High risk	Knowledge transfer from the e-PS vendor to PPO should be done regularly. This process is essential and urgent. The PPO should establish a business continuity team with all required technical and management skills to operate the e-PS independently. To minimize the vendor lock in situation, the business continuity team must work alongside the vendor's technical team in parallel in addressing the technical issues and fixing and enhancing the e-PS.

		The PPO should develop a well-written strategy document to ensure future development and minimize vendor lock in. See also, Recommendations at 3(c)(b).

E-Proc-Indicator 5. The e-Procurement ecosystem has a strong capacity to develop and improve

Aligned with Indicator 8 of the MAPS core methodology, this indicator focuses on the strategies and ability of the e-Procurement ecosystem to develop and improve.

- **Synthesis of the indicator**

The PPO organizes training programs on use of the e-procurement system annually for suppliers, public body users, and auditors. The training materials were last updated in February 2019. There is no comprehensive routine evaluation and monitoring scheme to assess the effectiveness of the capacity-building program against performance indicators. The majority of respondents to the survey conducted for this MAPS Assessment found the training provided by PPO to be satisfactory. The training post within the e-PS unit at PPO is currently vacant which will present challenges to the effective delivery of ongoing capacity building programmes.

The PPO offers a Helpdesk for e-PS users, providing technical support during office hours, with initial contact from suppliers made by e-mail only. There is no telephone based hotline/helpline. All the queries are recorded in the issue tracking tool by the Helpdesk agents, and the system allows tracking the resolution status of the queries. Feedback from users on service received is mixed, with an average of 40% of users finding the service level satisfactory.

There are no planned regular and ongoing e-PS training programs for helpdesk staff. There are no documented scripts for answering user questions and providing support. The users can access the manuals, FAQs, and training material, including videos and other resources, from the e-PS homepage but the FAQ[18] and other material is not updated regularly. Performance of the e-PS is not measured on an ongoing or regular basis. The PPO collects user feedback through the Helpdesk when issues are raised by the e-PS users and acts on the feedback received.

The Government of Mauritius has shown leadership and a strong desire to reform the public procurement sector and use e-procurement as the tool for such transformation. All high spending public bodies have onboarded e-PS. There has been a significant rise in the number of procurements being carried out through the e-PS. In 2021/2022, a total of 4783 procurements out of 7666 were carried out through the e-PS, which accounts for 62% of the total number of procurements. However, analysis of procurement using e-PS by spend reveals that only 7% of total procurement value was carried out through the e-PS in 2021/2022. This is a matter of significant concern, requiring urgent action.

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[18] https://eproc.publicprocurement.govmu.org/files/masterfiles/FAQ.pdf

- **Findings**

The PPO organizes training programs on the use of the e-procurement system annually for suppliers, public body users, and auditor in accordance with its mandate. In 2021, 46.05% of procurement staff in public bodies participated in the training, a significant increase on previous years (see Figure 4). In 2021 the number of procurement staff in public bodies was 515.
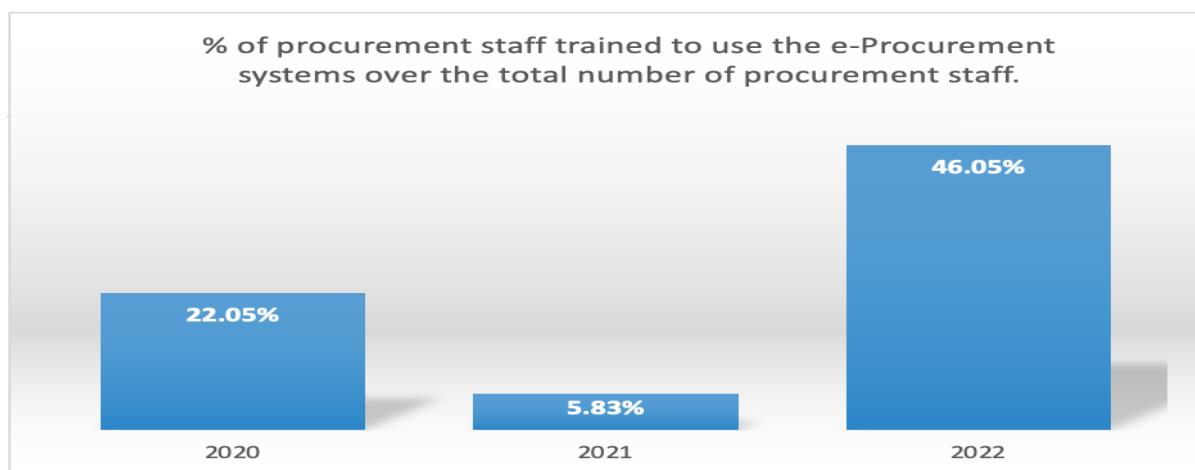
Figure 4: Procurement staff trained to use e-PS

The level of participation by suppliers in face to face training is low. In 2022, 4700 suppliers registered on the e-PS but face to face training was provided only to 2% of registered suppliers. This may be because of the availability of the dedicated YouTube channel with videos on the Supplier Registration and bidding processes and the support provided to bidders by the Helpdesk (see below).

The PPO e-GP unit has the skills to conduct training programs for users. The PPO has provided training to 40% of internal auditors in using e-PS. The majority of respondents (61%) to the survey of bidders and public body users conducted for this MAPS Assessment found the training provided by PPO to be satisfactory. The training post within the e-PS unit at PPO is currently vacant which will present challenges to the effective delivery of ongoing capacity building programmes.

The PPO has also developed a Diploma/BSc (Hons) in Procurement and Supply Management program in partnership with the University of Technology Mauritius (UTM). The PPO has received a grant from the African Development Bank which includes support for a capacity building training programme on use of e-PS.

There is no comprehensive routine evaluation and monitoring scheme to assess the effectiveness of the capacity-building program against performance indicators. Presently, information gathered from the NAO report, decisions of the IRP, complaints, e-PS Help feedback, and frequently asked questions is used to adjust training programmes. The training materials were last updated in February 2019.

The Procurement Policy Office has set up a Help Desk to provide technical support to users of the eProcurement System. Two people work at the helpdesk, but one of them works for only half a day. Supplier support is provided through the e-Procurement Helpdesk. Help desk support is available during office hours between 09:00 and 16:00 hours MUT (Mauritian Standard Time) on working days, Monday to Friday. Users make initial contact using a designated email address. The Helpdesk agents

support the users primarily through email, over the phone, and a software tool called TeamViewer on an ad hoc basis for handholding in critical situations. There is no telephone based hotline/helpline and users commented that this would be useful to have. All the queries are recorded in the issue tracking tool by the Helpdesk agents, and the system allows tracking the resolution status of the queries. According to the queries recorded in the issue tracking software, 100% of the queries were resolved in 2022. The survey result reflects that about 10% of the respondents feel that the service level is "Excellent" Regarding Response time and solving of Issues, and 8% of respondents feel the service is "Excellent" on Quality of Service. On average, 40% of respondents are satisfied with the Response time, Solving issues, and Quality of Service.

Helpdesk staff had initial training before they started to provide support on e-PS, but there are no planned regular and ongoing training programs for these staff and there are no documented scripts for answering user questions and providing support. Users can access the manuals, FAQs, and training material, including videos and other resources, from the e-PS homepage (see Figure 5) but the FAQ[19] and other material is not updated regularly. The last update to the FAQ was in 2015. The user manuals have not been updated since they were provided by the vendor during phased introduction in 2015 to 2017.
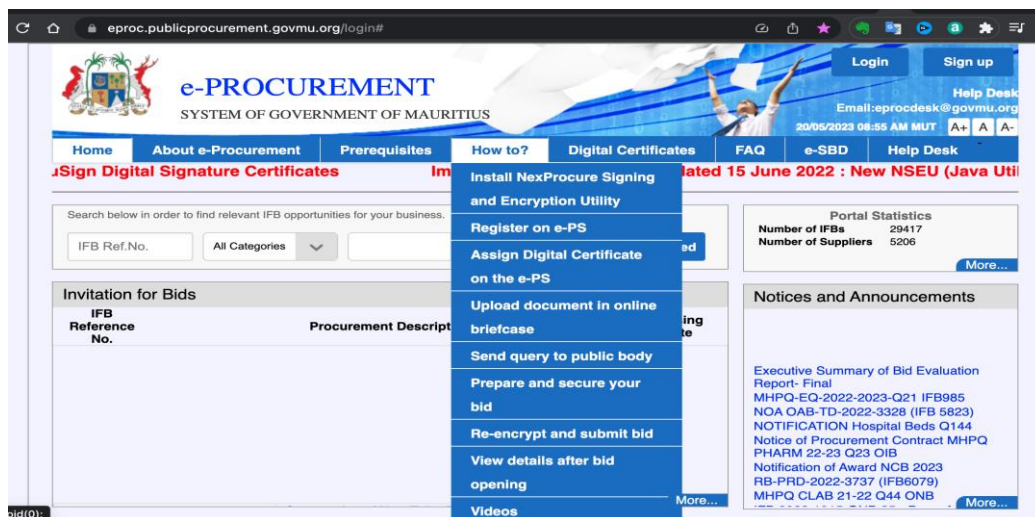
Figure 5: Access to resources for users

The PPO does not have any indicators in place to ensure ongoing and regular measurement of the performance of the e-Procurement System and performance of the e-PS is not measured on an ongoing or regular basis. The PPO does, however, collect user feedback through the Helpdesk when issues are raised by the e-PS users and acts on the feedback received.

The Government of Mauritius has shown leadership and a strong desire to reform the public procurement sector and use e-procurement as the tool for such transformation. From 1 January 2021, all public bodies have been mandated to use the e-PS.

The number of public bodies using e-PS has grown steadily. 205 public bodies fall under the purview of the PPA. Given the limited resources available at the Procurement Policy Office, in terms of training and support capacity, a strategy of voluntary onboarding of 55 high-spending public bodies was

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[19] https://eproc.publicprocurement.govmu.org/files/masterfiles/FAQ.pdf

adopted. The volume and ratio of spend by the top 57 high spending authorities represents a very significant percentage of the total public procurement volume and spend (see Figure 6).
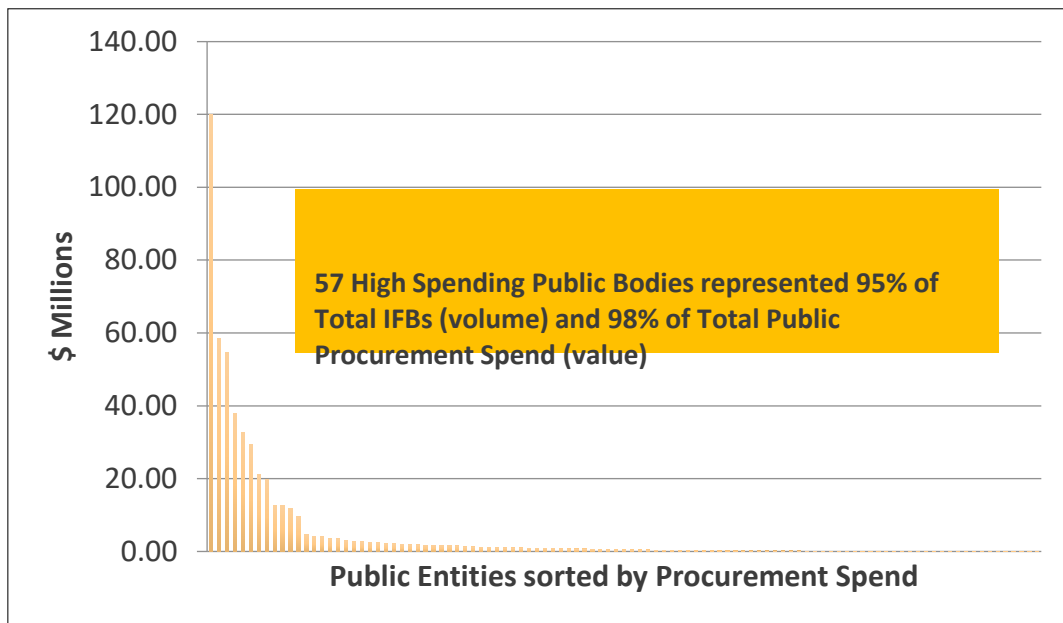
Figure 6: Distribution of public bodies according to procurement volume and spend

In 2020/2021, out of 205 public bodies, 83 public bodies used the e-Procurement System, and in 2021/2022 it rose to 91 (44% out of mandated public bodies). (See Figure 7). In 2023, it will rise to 105 public bodies. The remaining 100 public bodies either procure through line ministries or procure rarely. The 57 High Spending Public Bodies represented 95% of Total IFBs (volume) and 98% of Total Public Procurement Spend (value).
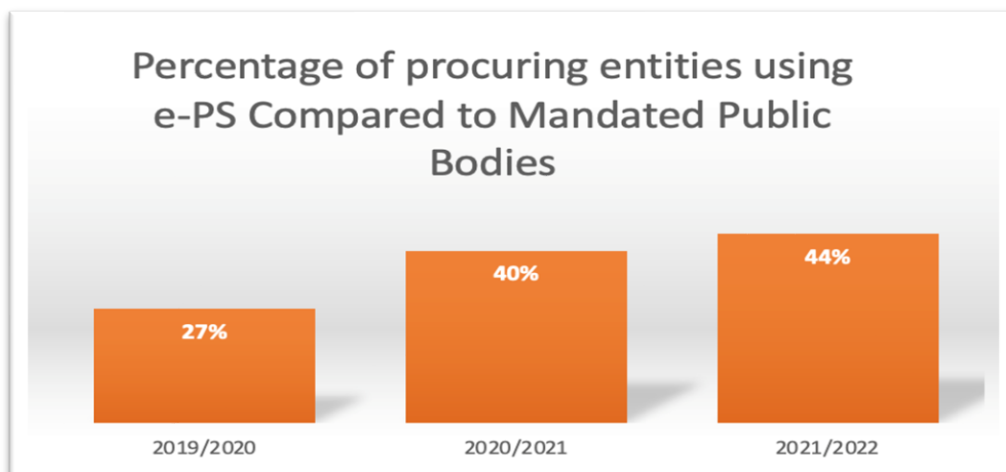
Figure 7: Public bodies using e-PS

There has been a significant rise in the number of procurements being carried out through the e-PS. In 2021/2022, a total of 4783 procurements out of 7666 were carried out through the e-PS, which accounts for 62% of the total number of procurements (see Figure 8). However, analysis of procurement using e-PS by spend reveals that only 7% of total procurement value was carried out

through the e-PS in 2021/2022, signalling an alarming situation in the public procurement sector. On the one hand, the rise in the number of procurements carried out through the e-PS shows an encouraging trend, on the other hand, the use of e-PS for large-value contracts is extremely nominal. It indicates that most large value procurements are carried out outside the e-PS, and only small value procurements are conducted through the e-PS (see Figure 9).
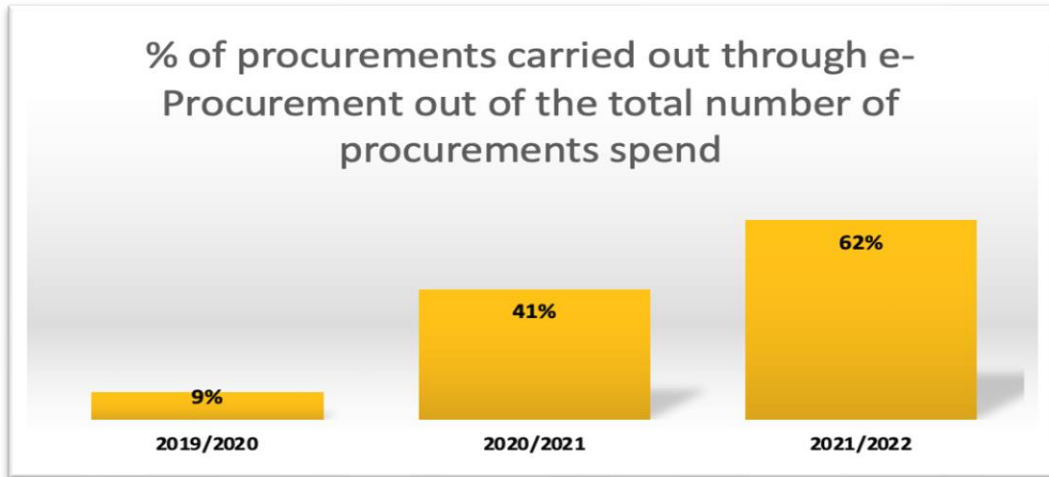
Figure 8: Percentage of procurements carried out through e-PS - number
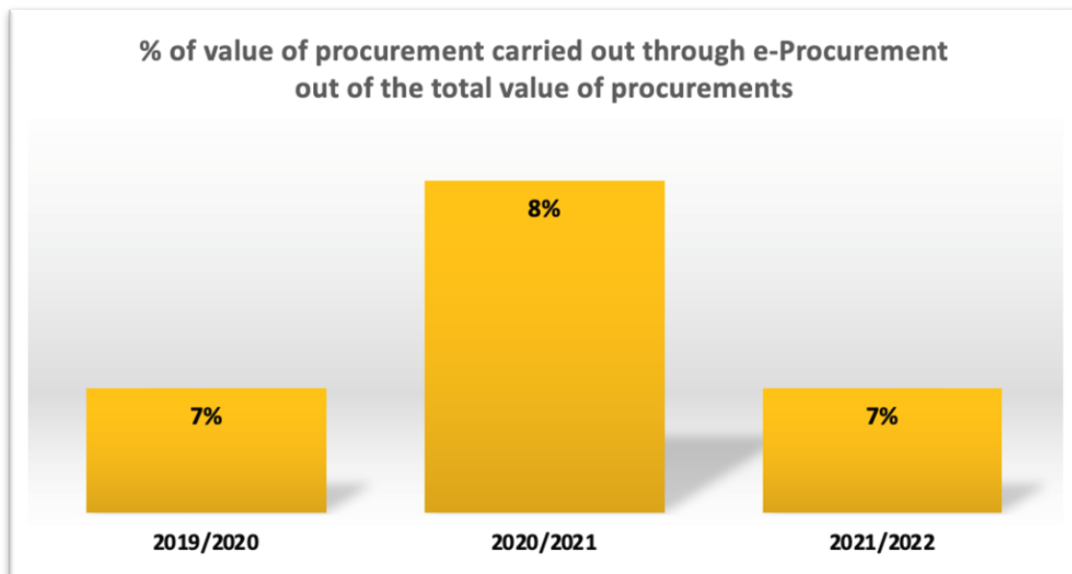
Figure 9: Percentage of procurement using e-Ps - value

- **Gaps**

5(a)(a)   **Unfilled vacancy for training post within the e-PS Unit of the PPO:** The training post within the e-PS unit at PPO is currently vacant which will present challenges to the effective delivery of ongoing well-established capacity building programmes.

5(a)(b)   **No routine evaluation and adjustment of e-PS training programmes:** There is no process in place to evaluate and adjust the training programs and their contents periodically based on feedback and need. The FAQ, training material, and user manuals are not updated on a regular basis.

5(b)(a)   **Helpdesk operational hours and modes of contact could be improved:** The Helpdesk operates only during business hours on working days, which has a negative impact on some users who prepare bids and conduct other activities outside of government business.
A telephone hotline/helpline is not available thus reducing accessibility of the support service.

5(b)(c)   **No regular training and scripts for Helpdesk staff:** There are no planned regular and ongoing e-PS training programs for Helpdesk staff. There are no documented scripts for answering user questions and providing support.

5(b)(d)   **Resources not updated:** The FAQs, manuals and other resources have not been updated since they were first developed or delivered and do not cover the manuals for the IRP process, or for auditors and other stakeholder other than suppliers and the public bodies.

5(c)(a)   **No regular performance measurement of e-PS:** Performance of the e-PS is not measured on an ongoing or regular basis.

5(c)(c)   **Adoption of e-Procurement is limited:** Adoption of the e-PS appears to be very selective, despite its use being mandated in the legal framework. Public bodies are not using e-PS for all procurements, especially large-value procurements. The Assessment reveals that only small-value procurements are carried out through the e-PS. Public bodies rarely publish annual procurement plans and the e-PS is not linked with those plans, thus further hindering the ability to identify and track procurements.
► This Gap is assigned a Red flag because of the significant and cross-cutting impact of deliberate failure to use e-PS for the vast majority of government procurement (when measured by total value) and need for high level Government intervention in support of the PPO.

- **Recommendations**

5(a)(a)   **Unfilled vacancy for training post within the e-PS Unit of the PPO (Minor gap):** Substantial efforts should be made to fill the e-PS training post.

5(a)(b)   **No routine evaluation and adjustment of e-PS training programmes:** There should be a process in place to evaluate and adjust the training programs for their quality, time and content. FAQs, user manuals, and training material should be updated in a routine manner to reflect the feedback and needs of the users.

5(b)(a)   **Helpdesk operational hours and modes of contact could be improved:** The Helpdesk operation should operate 24/7 and be a component of consideration in the business model decision for the future implementation of e-PS. The PPO should also consider providing phone-based hotline/helpline support.

5(b)(c)   **No regular training and scripts for Helpdesk staff:** To improve e-PS user support, the PPO should establish a regular training program on e-PS for helpdesk staff and for SPOCs

(Single Points of Contact). The PPO should develop documented scripts and a knowledge base for common issues. In preparing and delivering training, scripts and knowledge base the PPO should collaborate with the vendor for training materials and leverage their support resources. User inquiries should be monitored regularly, and training and resources should be refined based on information gathered from those inquiries and user feedback.

5(b)(d) **Resources not updated:** The FAQ, manuals and other resources should be reviewed and updated in a regular basis to ensure their reliability and authenticity for all users and stakeholders. Review and updating should include analysis of data from the issue tracking software database to enhance the support material to be provided to the users. Additionally, manuals for the Challenge and Appeal, Auditors, and other stakeholders should be developed and made available on the e-PS.

5(c)(a) **No regular performance measurement of e-PS:** Introduce performance measurement of e-PS on an ongoing and regular basis. A comprehensive tool with Key Performance Indicators (KPIs) for measuring performance of e-PS should be developed which can be used to gather data with the aim of improving system performance on a continuous basis.

5(c)(c) **Adoption of e-Procurement is limited:** A high level, comprehensive policy review and intervention is urgently required to: understand reasons for non-compliance and the highly selective use of e-PS; and identify legal and practical measures to resolve the problem. This is likely to require change management and incentive programs to ensure full and consistent implementation of the Government's policy and legal requirement for all public bodies to use the e-PS on a mandatory basis.

Summary of substantive gaps and recommendations of e-Procurement Indicator 5

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-Indicator 5(a)(b) No routine evaluation and adjustment of e-PS training programmes	Medium Risk	There should be a process in place to evaluate and adjust the training programs for their time and contents. FAQs, user manuals, and training material should be updated in a routine manner to reflect the feedback and needs of the users.
Sub-Indicator 5(b)(c) No regular training and scripts for Helpdesk staf	Medium Risk	To improve e-PS user support, the PPO should, with support of the e-Ps Vendor, establish a regular training program for helpdesk staff documented scripts and a knowledge base for common issues. User inquiries should be monitored regularly, and training and resources should be refined based on feedback.
Sub-Indicator 5(b)(d) Resources not updated	Medium Risk	The FAQ, manuals and other resources should be reviewed and updated in a regular basis to ensure

		their reliability and authenticity for all users and stakeholders.
Sub-Indicator 5(c)(a) No regular performance measurement of e-PS	Medium Risk	Introduce performance measurement of e-PS on an ongoing and regular basis. A comprehensive tool with Key Performance Indicators (KPIs) for measuring performance of e-PS should be developed which can be used to gather data with the aim of improving system performance on a continuous basis.
Sub-Indicator 5(c)(c) Adoption of e-Procurement is limited and selective despite requirements for mandatory use.	High Risk Red Flag	A high level, comprehensive policy review and intervention is urgently required to: understand reasons for non-compliance and the highly selective use of e-PS; identify legal and practical measures to resolve the problem. This is likely to require change management and incentive programs to ensure full and consistent implementation of the Government's policy and legal requirement for all public bodies to use the e-PS on a mandatory basis.

Suggestions for improvement

5(c)(b)   **Enhanced user feedback**
PPO to consider an online public procurement discussion forum and suggestion boxes to further assist in effectively gather feedback from e-PS users and potentially capture a a wider range of user experiences and suggestions, leading to a more comprehensive set of feedback for improving the e-PS.

3.3 Pillar III. Procurement Operations and Market Practices

Pillar III in the MAPS core methodology focuses on the way the procurement system in a country operates and performs in practice. For the e-Procurement module, this pillar focuses on the functional and technical features of a particular platform or platforms in the e-Procurement ecosystem, as well as how procuring entities use these features. In addition, it evaluates the interaction of the private sector with the e-Procurement ecosystem.

E-Proc-Indicator 6. The e-Procurement ecosystem enables the achievement of the country's procurement objectives.

The available functional features of the platforms that make up the e-Procurement ecosystem should allow procuring entities to achieve the objectives they seek through procurement. Depending on the configuration of the assessed jurisdiction's e-Procurement ecosystem, this can be achieved via modules in a single e-Procurement system, or through different platforms.

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- **Synthesis of the indicator**

The e-PS does not support the creation of annual procurement plans (APP) and thus does not provide linkage between planned procurements and procurement processes. APPs can be uploaded to the e-PS in PDF format, but in practice they are prepared offline and rarely published on e-PS. The e-PS does not support the planning of individual procurements and is not linked to corresponding budget information or budget treasury systems. The e-PS does not allow for use of all procurement methods described in the legal/regulatory framework. The e-PS allows for use of model procurement documents but the documents are numerous, with potential for incorrect application, and the workflow is modelled on paper-based procurement and not fully aligned with the workflows and functionalities of the e-PS and thus does not provide linkage between planned procurements and procurement processes. The e-PS allows for handling and logging of communications, including questions, requests for clarification and responses.

Bidding documents include a section for the establishment of requirements to define the mandatory eligibility criteria, qualification criteria, as well as the award criteria to be used for evaluation but the terminology used is not sufficiently well aligned with the legal framework.

e-PS supports submission of bids but there are critical issues to resolve including the redundant decrypt and encrypt requirement for bidders after the closing of the bid submission date. In addition, e-PS does not support two-stage bidding. Bid security submission is inefficient as it does not permit direct interface with the banks.

The Bid Evaluation Module available through e-PS is well-built, with the potential to work well. In practice, however, bid evaluation is carried out predominantly offline, hindering the end-to-end usage of the e-PS. The contract award module is not often used. In practice, the Contract award notice is prepared offline and rarely published. The e-PS does not support the generation of electronic contracts. The PPO has already developed the e-Contract Monitoring Module, but it is not in activated for use in operations.

- **Findings**

PPR R.10 requires that a public body, at the beginning of every financial year, prepare an Annual Procurement Plan (APP), publish it on its website and periodically update and revise it, except for low-value and restrictive procurements. EBS Regulations R.10 requires an annual procurement plan [for procurements] using the open advertised bidding method to be posted on the e-PS. The e-PS does not, however, support the creation of annual procurement plans (APP). APPs can be uploaded to the e-PS in PDF format, but in practice they are prepared offline and rarely published on e-PS. The MAPS Assessment team found only 10 APPs uploaded to the e-PS (see Figure 10). APPs can be found only if someone searches the e-PS platform with known parameters. The e-PS does not support the planning of individual procurements and is not linked to corresponding budget information or budget treasury systems.

Figure 10: APPs listed under Notices and Announcement on e-PS website

The preparation of the Invitation to Bids or preparation of the bidding document does not start from selecting the procurement package from the approved Annual Procurement Plan (APP). The Invitation of Bids or the preparation of the Bidding document can be started without any procurement package from the plan. The APP has no connection or trail with the downstream procurement proceeding. The planning of individual procurement packages is not linked with the budget information. There is lack integration of system from budget preparation to planning treasury operations for payments in e-PS, even though e-PS is operational since 28 September 2015 and use of e-PS is mandatory since 1 January 2021.

The e-PS does not allow for use of all procurement methods described in the legal/regulatory framework. A review of the Procurement methods listed in s.15 of the PPA and the e-PS reveals that some of the procurement methods listed in the PPA are not implemented in the e-PS, including competitive negotiation and electronic reverse auction.

EBS Regulations R.12 on the Release of bidding documents, requires bidding documents to be made available on the e-PS for suppliers to view and consider participation in the bidding exercise, and the documents are adequately published. e-PS allows for use of model procurement documents but the documents are numerous, with potential for incorrect application, and the workflow is modelled on paper-based procurement and not fully aligned with the workflows and functionalities of the e-PS. There are standard contract conditions for most types of contracts and General Conditions of Contract, and their use is mandatory.

The e-PS does not provide the facility to create the Annual or multiannual procurement plans, and thus does not provide linkage between planned procurements and procurement processes. The e-PS supports bid preparation and submission for the single-stage method to a limited degree. For the two-envelope method, the system only supports bid submission. The e-PS allows for handling and logging of communications, including questions, requests for clarification and responses. The e-PS allows bidders to communicate with public bodies through their user dashboard. Potential bidders can

request a clarification of the procurement documents before the closing of the bid submission deadline. The public body must respond in a timely manner, making the response available to all bidders using the e-PS.

The preparation of IFB and Bidding document includes a section for the establishment of requirements to define the mandatory eligibility criteria, qualification criteria, as well as the award criteria to be used for evaluation but the terminology used is not sufficiently well aligned with the legal framework.

e-PS supports submission of bids but there are critical issues to resolve including the redundant decrypt and encrypt requirement for bidders after the closing of the bid submission date. In addition, e-PS does not support two-stage bidding. Bid security submission is inefficient as it does not permit direct interface with the banks. The Bid Evaluation Module available through e-PS is well-built, with the potential to work well. In practice, however, bid evaluation is carried out predominantly offline, hindering the end-to-end usage of the e-PS. Most of the public bodies carry out the evaluation process and awarding process outside the e-PS. All the members of the evaluation committee sit in the same room, and they evaluate. There is only one entry in the e-PS from the group. The PPO has not issued any guidelines on how the committee should be formed and how the evaluation should be carried out using the e-PS.

There is no dedicated section for the Evaluation Report and Contract awards in the e-PS and this information is rarely published. The contract award module is not often used. In practice, the Contract award notice is prepared offline and rarely published. The e-PS does not support the generation of electronic contracts. The PPO has already developed the e-Contract Monitoring Module, but it is not in activated for use in operations.

- **Gaps**

6(a)(a)	**Annual Procurement Plans not prepared and published through e-PS**: Annual Procurement Plans and multi-year annual procurement plans are not created in the e-PS, and only a handful of public entities upload their APP to the e-PS in a pdf version. This is despite legislative requirements to do so. ► This Gap is assigned a Red flag because it impacts the overall effectiveness of the procurement system and inhibits the proper functioning of both internal and external control systems.
6(a)(b)	e-**PS does not support the planning of individual procurements:** The e-PS does not support the planning of individual procurements and is not linked to corresponding budget information or budget treasury systems (IFMIS). ► This Gap is assigned a Red flag because linkage to corresponding budget information or treasury systems requires inter-nstitutional cooperation which lies outside the procurement sphere.
6(b)(a)	**e-PS does not cover all listed procurement methods (Minor gap):** The e-PS does not cover all listed procurement methods. The following methods are not catered for within the e-PS: community procurement, competitive negotiations, departmental execution, and e-Reverse auctions. The E-Reverse Auction module has been developed but is yet to be enabled in the system.

6(b)(b) **e-SBDs are not well aligned with e-PS workflow and preparation of bidding documents is cumbersome:** As noted in the analysis at 1(a)(d), e-SBDs are based on documents prepared for paper-based procurement and are not fully aligned with the workflows and functionalities of the e-PS. The bidding document preparation process is cumbersome, with inconsistent terminology, confusing template selection requirements and lengthy workflows.

6(b)(c) **e-PS does not provide linkage between planned procurements and procurement processes:** The e-PS does not provide the facility to create the Annual or multiannual procurement plans, and thus does not provide linkage between planned procurements and procurement processes.

6(b)(d) **e-PS is not used to prepare bidding documents based on online date an information input:** The preparation of bid documents is not fully or effectively supported by the e-PS, with significant potential for selection and use of incorrect bid documents.

6(b)(f) **The names assigned to the evaluation methods in the e-PS are not well aligned with the PPA and PPR** (Minor gap).

6(b)(g) **There are redundant encryption requirements, two stage bidding is not supported by e-PS and efficiency of bid security submission is sub-optimal:** There is a redundant decrypt and encrypt process requirement for bidders who submit their bids after the closing time of the bid submission, creating an unnecessary burden. The e-PS does not support two-stage bidding. Bid security submission is inefficient as it does not permit direct interface with the banks.

6(b)(h) **Evaluation and award is generally carried out off line:** Most of the public bodies carry out the evaluation process and awarding process outside the e-PS. There is no dedicated section for the Evaluation Report and Contract awards in the e-PS and this information is rarely published.
► This Gap is assigned a Red flag because failure to conduct evaluation and award through the e-PS and publish the outcomes has a negative impact on the procurement system as a whole in terms of efficiency, consistency and transparency of process.

6(c)(a) **e-PS does not support the generation of electronic contracts.**

6(c)(b) **e-PS Contract Monitoring Module is not activated:** The PPO has already developed the e-Contract Monitoring Modules, but it is not activated for use in operations

- **Recommendations**

6(a)(a) ► **Annual Procurement Plans not prepared and published through e-PS**: Annual Procurement Plans (APP)/multi-year procurement plans should be created in the e-PS and public bodies should be mandated to do so, with publication monitored and enforced. APPs should be integrated with downstream activities and budget information.

6(a)(b) ► **e-PS does not support the planning of individual procurements:** e-PS should be used to plan individual procurements to tie in both with Annual Procurement Plans and corresponding budget information.

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6(b)(a)   **e-PS does not cover all listed procurement methods (Minor gap):** All the procurement methods and types of contracts that the legal/regulatory framework establishes should be available for use through the e-PS, with any necessary amendments made to the legal/regulatory framework. The use of the E-Reverse Auction method should be implemented as soon as possible as that module is ready.

6(b)(b)   **e-SBDs are not well aligned with e-PS workflow and preparation of bidding documents is cumbersome:** The standard model documents and templates and their creation process are in the system, but their presentation should be re-engineered to facilitate effective use (see also, recommendation at 1(a)(d)).

6(b)(c)   **e-PS does not provide linkage between planned procurements and procurement processes:** The e-PS should be updated to permit preparation of Annual Procurement Plans in the e-PS and the downstream process for individual procurement processes should be linked to the disclosed plans.

6(b)(d)   **e-PS is not used to prepare bidding documents based on online date an information input:** The e-PS should be structured so as to generate the bidding documents based on the data and information entered online by public bodies in the relevant data-capturing templates and then the bidding documents should be made available for users to download. The nomenclature used in the e-PS should align with the PPA and PPR.

6(b)(f)   **The names assigned to the evaluation methods in the e-PS are not well aligned with the PPA and PPR (**Minor gap): The names used for different processes, functions, methods and items in the e-PS, should be fully aligned with the PPA and PPR.

6(b)(g)   **There are redundant encryption requirements, two stage bidding is not supported by e-PS and efficiency of bid security submission is sub-optimal:** The Bid submission module should be re-engineered to make it more efficient and hassle-free for the bidders. This includes removing the additional process of decrypting and encrypting before bid opening, aligning with the spirit of the PPA and PPR.
The e-PS should have a facility to use Two-stage/multi-stage bidding for complex projects.
The bid security submission should be automated through the e-Guarantee module facilitating integration with the banks (see Analysis, Gap and Recommendations at 7(a)(a)).

6(b)(h)   **►Evaluation and award is generally carried out off line:** To improve efficiency and consistency, evaluation should be carried out using the e-PS, with evaluation results properly entered into the e-PS. To enhance transparency and ensure the end-to-end usage of the e-PS, the public bodies should prepare and publish the Summary of the Evaluation Report and the Contract Award Notices using the e-PS.

6(c)(a)   **e-PS does not support the generation of electronic contracts.**
For data consistency and ease of use, contract templates in the e-PS should be automatically populated with data already captured, and all documents comprising the contract should be bundled when generating the electronic contract. The PPO should ensure that the public bodies use the Electronic Contract Module.

6(c)(b)   **e-PS Contract Monitoring Module is not activated:** The e-Ps Contract Monitoring Module should be activated for use for the management of amendments, extensions,

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and contract follow-up and oversight, as well as information including overruns and reasons for delays and terminations.

Summary of substantive gaps and recommendations of e-Procurement Indicator 6

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-indicator 6(a)(a) Annual Procurement Plans not prepared and published through e-PS	High Risk **Red flag**	Annual Procurement Plans (APP)/multi-year procurement plans should be created in the e-PS and public bodies should be mandated to do so, with publication monitored and enforced. APPs should be integrated with downstream activities and budget information.
Sub-indicator 6(a)(b) e-PS does not support the planning of individual procurements.	High Risk **Red flag**	e-PS should be used to plan individual procurements to tie in both with Annual Procurement Plans and corresponding budget information.
Sub-indicator 6(b)(b) e-SBDs are not well aligned with e-PS workflow and preparation of bidding documents is cumbersome	Medium risk	The standard model documents and templates and their creation process are in the system, but their presentation should be re-engineered to facilitate effective use (see also, recommendation at 1(a)(d)).
Sub-indicator 6(b)(c) e-PS does not provide linkage between planned procurements and procurement processes	High Risk	The e-PS should be updated to permit preparation of Annual Procurement Plans in the e-PS and the downstream process for individual procurement processes should be linked to the disclosed plans.
Sub-indicator 6(b)(d) e-PS is not used to prepare bidding documents based on online date an information input	Medium risk	The e-PS should be structured so as to generate the bidding documents based on the data and information entered online by public bodies in the relevant data-capturing templates and then the bidding documents should be made available for users to download. The nomenclature used in the e-PS should align with the PPA and PPR.
Sub-indicator 6(b)(g) There are redundant encryption requirements, two stage bidding is not supported by e-PS and efficiency of bid security submission is sub-optimal	High Risk	The Bid submission module should be re-engineered to make it more efficient and hassle-free for the bidders. The e-PS should have a facility to use Two-stage/multi-stage bidding. The bid security submission should be automated through the e-Guarantee module facilitating integration with the banks. (see Analysis, Gap and Recommendations at 7(a)(a)).

Sub-indicator 6(b)(h) Evaluation and award is generally carried out off line	High Risk **Red Flag**	To improve efficiency and consistency, evaluation should be carried out in using the e-PS, with evaluation results properly entered into the e-PS. To enhance transparency and ensure the end-to-end usage of the e-PS, the public bodies should prepare and publish the Summary of the Evaluation Report and the Contract Award Notices using the e-PS.
Sub-indicator 6(c)(a) e-PS does not support the generation of electronic contracts.	Medium Risk	For data consistency and ease of use, contract templates in the e-PS should be automatically populated with data already captured through the previous processes, and all documents comprising the contract should be bundled when generating the electronic contract. The PPO should ensure that the public bodies use the Electronic Contract Module.
Sub-indicator 6(c)(b) e-PS Contract Monitoring Module is not activated	Medium Risk	The e-PS Contract Monitoring Module should be activated for use for the management of amendments, extensions, and contract follow-up and oversight, as well as information including overruns and reasons for delays and terminations.

Suggestions for improvement

6(b)(e) Messaging users of e-PS
Consider including a message on the e-PS system for users to check the spam folder if emails are not received in their inbox. It may also be appropriate to consider enabling SMS alerts and provide for users to opt into SMS alerts.

E-Proc-Indicator 7. The e-Procurement ecosystem's technical characteristics render it effective and secure.

In a world where government affairs are increasingly conducted through digitally based tools, e-Procurement will be operating within a broader infrastructural ecosystem of e-government. As with traditional steel-and-concrete infrastructure, this entails that due consideration must be made as to the technical characteristics of digital infrastructure, and naturally the same goes for e-Procurement.

- **Synthesis of the indicator**

The e-PS does not interface with any external e-Services, despite the availability of the Government's InfoHighway interoperability framework. The e-PS does not capture data in an automated way that enables business intelligence analytics. The e-PS is hosted in the Scalable Government Cloud operated by the Government Open Center (GOC).[20]. The Government Cloud provides Infrastructure-as-a-Service (IaaS) for the e-PS, and the necessary infrastructure. The e-PS can be accessed through the Government Intranet Network System (GINS) and the Internet. There is no data warehouse or business continuity plan. The planned Disaster Recovery Site (DRS) is not yet available. The Internet to the Data Center comes from a single source. The e-PS does not have a well-documented contingency plan and

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[20] https://ncb.govmu.org/ncb/govtcloud.html

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a policy on virus management. There are systems set up to address security and virus issues, with a server-based virus scanner installed in the GOC data center. There have been three IT security audits, in 2015, 2017 and 2019. A Functional audit has not been carried out.

The e-PS is designed in compliance with the PPA and PPR and follows the same manual workflow converted into the digital workflow. The workflows are not configurable. The e-PS uses a single sign on, but access to the e-PS is subject to limitations resulting from software and browser issues. A Digital Signature Certificate (DSC) is mandatory to sign digitally, encrypt, and decrypt bid documents and other documents. The e-PS cannot be used for any transactions on mobile devices. User satisfaction level on accessibility is low. The e-PS does not use responsive web design to ensure a seamless user experience across all devices.

Bids are encrypted by the bidders on their own computer before submission and remain encrypted until the bid opening. However, bid submission is not closed automatically at the stipulated bid closing time. There is an unnecessary additional process requiring bidders to decrypt their bid, re-encrypt it and re-submit it to the e-PS after the bid closing. Decisions throughout the procurement process carry a time stamp and credentials, which is stored in the audit log, and information cannot be changed. The e-PS does not capture device information. There is no option for the bidders to mark parts of their bid as confidential. The Terms of Use have not been updated since the e-PS was launched.

- **Findings**

The e-PS is a web-based monolith system, using open architect. It utilizes open-source database and programming platforms, such as Java/JSP and MySQL, running on the Ubuntu Linux operating system and WildFly application server. The e-PS was developed using the technology stack available in 2014-2015. The e-PS is modular and uses a single sign-on.

The e-PS is compliance focused and it does not interface with any external e-Services, despite the availability of the Government's InfoHighway interoperability framework. The e-PS is thus not interfaced with external e-services, such as the Treasury finance or budget systems, the Registrar of Companies or the tax authorities. Bidders provide all data, information, and scanned copies of credentials and certificates. There is no automated exchange of data and documents with any external systems. The e-PS does not capture data in an automated way that enables business intelligence analytics.

The e-PS is able to capture data but the way in which the process and documents/forms are currently set up and used, including requiring significant levels of user choice, means that there are reliability issues and data is inconsistent and incomplete. The e-PS has about 400 templates prepared from different bidding documents and procurement processes to capture data. The forms do not have proper validations in all the fields, in terms of data format value range and thresholds or formats, and options for selection. It is common practice for forms to be downloaded and completed off line. Data is not available or it is incomplete in the e-PS for many processes, as many public bodies do not use the modules in the e-PS after the bid opening or evaluation.

The e-procurement System is hosted in the Scalable Government Cloud operated by the Government Open Center (GOC).[21] The GOC operates the Government Datacenter through which hosting services are provided to Ministries and Departments. The Government Cloud provides Infrastructure-as-a-Service (IaaS) for the e-PS, and the GOC provides the infrastructure (data center Equipment, Operating System, network and network equipment, and data backup). The e-procurement system can be

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[21] https://ncb.govmu.org/ncb/govtcloud.html

accessed through the Government Intranet Network System (GINS) and the Internet. The e-PS does not have a data warehouse, so the resource-consuming audit trails and report generation slow the system. There is no business continuity plan. Despite having a robust primary data center infrastructure, the Disaster Recovery Site (DRS) is still unavailable but will soon be opened at Rodrigues Island. Absence of the DRS poses a huge risk to business continuity as well as risks to system data failure and data loss in case of any kind of disaster in the country.

Mauritius generally has a well-developed internet infrastructure and relatively high levels of internet connectivity. The internet to the Data Center comes from a single supplier, Mauritius Telecom. The Datacenter ensures the high availability of the e-PS. A server architecture diagram (see Figure 11) shows the redundancy maintained on its servers and equipment. Figure 11 does not show the firewalls and Intrusion Prevention System (IPS) and all other equipment, but there is security equipment such as firewalls and IPS which filter all traffic. GOC has confirmed that there is security equipment such as firewalls and IPS which filter all traffic. The GOC has installed CLAMAV Antivirus on the web application servers, and every file uploaded to the server is scanned for viruses. The data center architecture for e-PS follows a High Availability setup designed to minimize downtime and ensure continuous operation of the e-PS. It typically involves redundant components and failover mechanisms to provide resilience and minimize service disruptions.
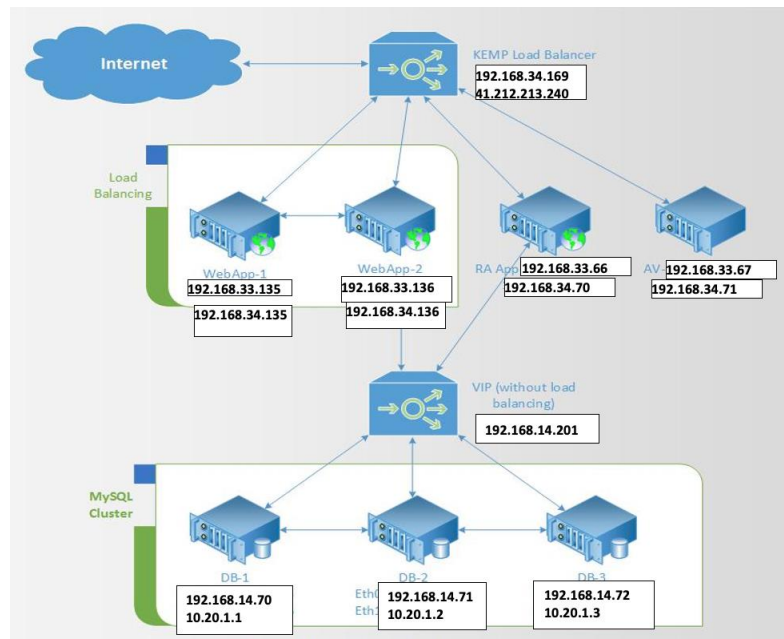
Figure 11: Data Center Architecture

Periodic data backup is carried out. According to the PPO, full back up is carried out every 8 hours and incremental back up every hour. It takes 4 hours to recover from an incident. A recovery policy is in place under an SLA with the e-PS vendor, but the e-PS does not have a well-documented contingency plan. The PPO and the data center do not have a written policy on virus detection, and how the documents or bids will be treated in case a bidder file contains a virus. The server-based virus scanner may not be capable of detecting viruses in the encrypted files submitted by bidders through e-PS, as it may require decryption. There is no data warehouse for the e-PS which means that obtaining Management Information System (MIS) reports and audit trails (one of the largest databases on the system) is time-consuming during business hours.

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Technical audits are comprised of e-PS functional, performance, and security audits. There have been three IT security audits, in 2015, 2017 and 2019. Following the most recent IT security audit by the IT Security Unit (ITSU) in 2019, their recommendations for resolution of issues identified have been implemented. A Functional audit has not been carried out. A comprehensive tool with KPIs for measuring performance (System and functional) and IT system security is not available.

The e-PS is designed in compliance with the PPA and PPR and follows the same manual workflow converted into the digital workflow, with nominal re-engineering. Based on the user feedback in the survey conducted for this MAPS Assessment, the "processes are too lengthy" and cumbersome. The design of the system is compliance-centric. The digital workflow is hard-coded in the system and not configurable.

The e-PS has Terms of Use that users must agree to in order to use the platform. The Terms of Use comprise the System and Privacy and Confidentiality Policy of the e-PS platform. The Terms of Use have not been updated since the e-PS was launched.

Accessibility to the e-Ps is subject to limitations resulting from software and browser issues. The system usually runs properly only on client computers with Windows 8 or Windows 10 operating systems and also runs on the specific browser versions of Google Chrome, Microsoft Edge, and Mozilla Firefox. A Digital Signature Certificate (DSC) is mandatory to sign digitally, encrypt, and decrypt bid documents and other documents. Bidders must install Java and Java-based Utility software (NSEU) for signing, encrypting, and decrypting to be able to use their DSC. Information on the DSC requirements should be more clearly communicated. The e-PS cannot be used for any transactions on mobile devices. User satisfaction level on accessibility is low, with 66.7% of users who participated in the Survey conducted for this MAPS Assessment expressing their dissatisfaction with the accessibility of the e-PS. (See Figure 12).
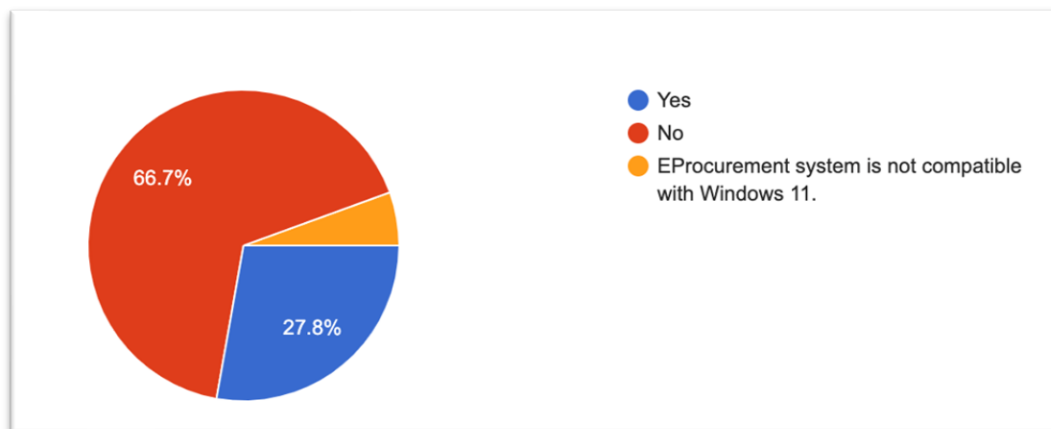
Figure 12: User Satisfaction level with e-PS
Source: MAPS Survey on the use of e-PS (2022-2023)

As noted earlier, e-PS is designed using monolithic architecture. There are no independent modules linked to it and it uses a single sign-on. It does not use responsive web design to ensure a seamless user experience across all devices.

Bids are encrypted by the bidders on their own computer before submission and remain encrypted until the bid opening. However, the e-PS bid Preparation and Submission module and Bid Closing and Opening Module have two critical issues that need to be resolved. The two issues are: (i) the bid closing

process, which is not automatic; and (ii) a redundant process after bid closing requiring bidders to first decrypt the bids, then encrypt them again, and re-submit to the e-PS. The Survey for this MAPS Assessment revealed that 42.9% of the bidders had experienced technological issues in submitting bids (see Figure 13). There was feedback that the system downtime was sometimes too long and slow, especially in uploading documents and in decryption and encryption procedures after bid closing.
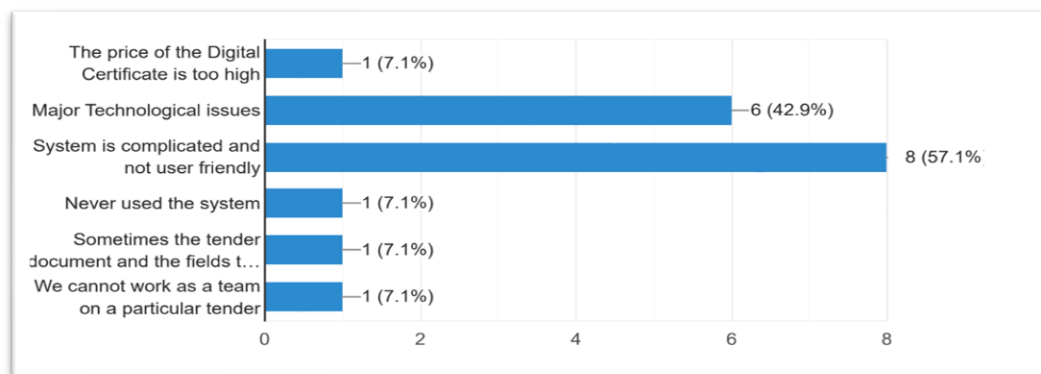
Figure 131: Results of survey conducted for this MAPS Assessment – reasons for being unable to bid
Source: MAPS Survey on the use of e-PS (2022-2023)

Decisions throughout the procurement process carry a time stamp and credentials, which is stored in the audit log, and information cannot be changed. The e-PS does not, however, capture device information to provide a full record of user actitvity for security compliance and trouble shooting. The e-PS does not provide a facility for Users to mark parts of their bid as confidential. However, once Bids are submitted, the whole bid is kept confidential in the e-PS server.

- **Gaps**

7(a)(a) **The system is not interfaced with any external e-services:** The system is not interfaced with any external e-services, such as the budget, treasury/payment, tax, business registrar, invoice, and banks for bid securities. There is no automated exchange of data and documents with any external systems.
► This Gap is assigned a Red flag because it requires high levels of inter-institutional cooperation and inter-institutional interoperability of IT information systems.

7(a)(b) **The e-Ps does not capture data in an automated way that enables business intelligence analytics:** The e-PS is able to capture data but the way in which the process and documents/forms are currently set up and used, including requiring significant levels of user choice, means that there are reliability issues and data is inconsistent and incomplete.

7(b)(a) **e-PS does not have a data warehouse (Minor gap):** The e-PS does not have a data warehouse, so the resource-consuming audit trails and report generation slow the system. Disaster Recovery Site (DRS) is a crucial component for risk management and business continuity strategy. It ensures that critical systems and data can be quickly restored, minimizes downtime, protects against data loss, and helps maintain the organization's operations and reputation during unexpected events. Despite having a robust primary data center infrastructure, the DRS is not available and there is also no data warehouse established in Mauritius, which poses a risk of data security and business continuity.

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7(b)(b)   **Single source of internet (Minor gap):** The Internet to the Data Center comes from a single source. However, for the sake of redundancy, reliability, and high availability of the Data center, internet connectivity from multiple sources is required.

7(b)(c)   **e-PS ecosystem does not have a well documented contingency plan:** The e-PS ecosystem does not have a well-documented contingency plan, virus management policy and other policies for data backup, archiving and access.

7(b)(d)   **The PPO and the data center do not have a written policy on virus detection (Minor gap):** The PPO and the data center do not have a written policy on virus detection, and how the documents or bids will be treated in case the bidder file contains a virus. The server-based virus scanner may not be capable of detecting viruses in encrypted files submitted by bidders, as it may require decryption.

7(b)(e)   **A comprehensive tool for measuring e-PS performance is not available (Minor gap):** A comprehensive tool with KPIs for measuring performance (System and functional) and IT system security is not available. A Functional audit has not been carried out.

7(c)(a)   **e-PS processes require re-engineering to make them efficient and simple (Minor gap):** The workflow is compliance-centric and largely compliant with the processes defined in the PPA and PPR and applied in a paper-based environment. However, processes are not well re-engineered to make them efficient and simple in the e-PS context. Currently, the processes are lengthy and cumbersome. The digital workflow is not configurable as processes are hard-coded in the e-PS application.

7(c)(b)   **The Terms of Use have not been reviewed and updated since the e-PS was launched (Minor gap).**

7(c)(c)   **e-PS is not browser-independent and cannot process transactions through mobile devices:** The e-PS is not browser-independent and cannot process transactions through mobile devices. A Digital Signature Certificate (DSC) is mandatory to sign digitally, encrypt, and decrypt bid documents and other documents. Bidders must install Java and Java-based Utility software (NSEU) for signing, encrypting, and decrypting to be able to use their DSC.

7(c)(e)   **e-PS does not use responsive web design:** The e-PS does not use responsive web design to ensure a seamless user experience across all devices.

7(d)(c)   **The e-PS does not capture device information (Minor gap):** Capturing device information in the e-PS provides a record of user activity for security, compliance, and troubleshooting.

7(e)(a)   **There is no option for bidders to mark parts of their bid as confidential.**

- **Recommendations**

7(a)(a)   **The system is not interfaced with any external e-services:** The use of the government's interoperability framework, the InfoHighway (https://ih.govmu.org/), should be leveraged to facilitate data sharing among public bodies. All interoperability with the e-PS should go through the InfoHighway.

An integration plan should be prepared, approved, and implemented by the Procurement Policy Office to integrate the e-procurement System with, as a minimum: the information system of the Corporate and Business Registration Department (Registrar of Companies) for supplier information and Beneficial Ownership information; the Mauritius Revenue Authority (Tax Authority) for verification of tax clearance status of bidders; Budgeting and disbursement system from the Ministry of Finance (IFMIS)(see analysis and recommendations at 3(b)(c); and all commercial banks, to enable an authorized bank officer to upload digitally signed bank guarantees/Securities following a bidder's request. The cooperation of the Bank of Mauritius and the Banker's Association should be sought before engagement with the commercial banks.

7(a)(b) **The e-Ps does not capture data in an automated way that enables business intelligence analytics:** The data-capturing forms must be critically reviewed to reduce the number of available forms and have proper validation at the field level and also at the form level. Measures should be implemented to ensure that public bodies use e-Ps for all stages of the procurement process, including planning and contract delivery, and to limit opportunities to prepare documents outside the e-PS, so that comprehensive and reliable data can be collected for data analytics purposes. The data and information in the e-PS should be published in machine-readable data format following OCDS. The e-PS should include a comprehensive Business Intelligence tool to process data and generate procurement insights for informed decision-making.

7(b)(a) **e-PS does not have a data warehouse (Minor gap):** Reliability and data security of the e-PS infrastructure should be ensured by establishing a data warehouse, Disaster Recovery Site (DRS) and business continuity plan.

7(b)(b) **Single source of internet (Minor gap)t:** To ensure the availability of the Internet in the data center, the connectivity should come from two different sources. Last-mile connectivity should also be easily accessible and affordable.

7(b)(c) **e-PS ecosystem does not have a documented contingency plan:** The PPO should develop an actionable contingency plan, virus management policy, and other policies for data backup, archiving, and access. The Data backup must be tested from time to time to ensure the data backed up can be retrieved when the system is in trouble.

7(b)(d) **The PPO and the data center do not have a written policy on virus detection (Minor gap):** There should be a written and approved virus management policy to manage situations of any virus infection in the documents uploaded to the e-PS. The Policy should also inform users about the consequences of virus-affected bids and documents.

7(b)(e) **A comprehensive tool for measuring e-PS performance is not available (Minor gap):** A comprehensive tool with KPIs for measuring performance (System and functional) and IT system security should be developed to be used for measuring and security audits whenever any significant changes in the system are made.
The functional audit should be carried out to ensure compliance of all the functions and processes with the PPA and PPR, and the system and security should adhere to best practices.
A third party should periodically audit the e-PS to guarantee that the ecosystem complies with relevant security best practices. The audit should include performance, security, and functional audits.

7(c)(a)   **e-PS processes require re-engineering to make them efficient and simple (Minor gap):** The e-PS digital workflow should be configurable and efficient and should not be hard-coded in the application.

7(c)(b)   **The Terms of Use have not been reviewed and updated since the e-PS was launched (Minor gap):** In order to ensure that the Terms of Use remain fit for purpose they should be reviewed to ensure that they are up to date, reflecting all relevant developments in the operation and use of e-PS.

7(c)(c)   **e-PS is not browser-independent and cannot process transactions through mobile devices:** The system should be browser-independent and provide easy access to users from any browser on desktops, laptops, and mobile devices without the installation of additional software.

7(c)(e)   **e-PS does not use responsive web design:** The e-PS should be designed using responsive web design.

7(d)(c)   **Bid submission processes require improvement(Minor gap):** The device information should be captured by the e-PS to record user activity for security.

7(e)(a)   **There is no option for the bidders to mark parts of their bid as confidential:** The e-PS should allow bidders to mark portions of their bids as confidential to protect proprietary information, innovations, business secrets, and bidder privacy.

Summary of substantive gaps and recommendations of e-Procurement Indicator 7

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-indicator 7(a)(a) The system is not interfaced with any external e-services	High Risk **Red flag**	The use of the government's interoperability framework, namely, the Info-Highway (https://ih.govmu.org/), should be leveraged to facilitate data sharing among public bodies. All interoperability with the e-PS should go through the Information Highway. An integration plan should be prepared, approved, and implemented by PPO to integrate the e-procurement System with, as a minimum: the information system of the Corporate and Business Registration Department (Registrar of Companies) for supplier information and Beneficial Ownership information; Mauritius Revenue Authority (Tax Authority) for verification of tax clearance status of bidders; Budgeting and disbursement system from the Ministry of Finance (IFMIS) (see analysis and

		recommendations at 3(b)(c) and commercial banks for guarantee/securities purposes.
Sub-indicator 7(a)(b) The e-Ps does not capture data in an automated way that enables business intelligence analysis	Medium Risk	The data-capturing forms should have proper validation at the field level and also at the form level. Measures should be implemented to ensure that public bodies use e-Ps for all stages of the procurement process and to limit opportunities to prepare documents outside the e-PS. The data and information in the e-PS should be published in machine-readable data format following OCDS. The e-PS should include a comprehensive Business Intelligence tool.
Sub-indicator 7(b)(c) e-PS ecosystem does not have a well-documented contingency plan	Medium Risk	The PPO should develop an actionable contingency plan, virus management policy, and other policies for data backup, archiving, and access. The data backup must be regularly tested.
Sub-indicator 7(c)(c) The e-PS is not browser-independent and cannot process transactions through mobile devices.	High Risk	The system should be browser-independent and provide easy access to users from any browser on desktops, laptops, and mobile devices without the installation of additional software.
Sub-indicator 7(c)(e) The e-PS does not use responsive web design	Low Risk	The e-PS should be designed using responsive web design.
Sub-indicator 7(e)(a) There is no option for the bidders to mark the parts of the bid as confidential.	Low risk	The e-PS should allow bidders to mark portions of their bids as confidential to protect proprietary information, innovations, business secrets, and bidder privacy.

Suggestions for improvement

7(c)(d)   Monitoring single sign on
Regular monitoring, updates, and security assessments should be performed to maintain the integrity and effectiveness of the Single Sign-on (SSO) infrastructure.

7(d)(b)   Bid submission processes require improvement: To provide necessary certainty, amend the operation of the system to ensure that bid submission is closed automatically at the stipulated bid closing time. To streamline bid submission, remove the additional process requiring bidders to decrypt their bid, re-encrypt it and re-submit it to the e-PS after the bid closing.

7(d)(d)   Audit log

The audit log should be isolated from the same production database to avoid unauthorized access and damage.

E-Proc-Indicator 8. The e-Procurement ecosystem takes advantage of additional technical and functional features available for a variety of procurement methods.

Once a basic e-Procurement ecosystem that is effective, accessible and reliable has been established, there is a host of potential gains to be made from taking advantage of available technical and functional features, in particular to support different procurement methods according to the needs of the procuring entities.

- **Synthesis of the indicator**

The legal framework allows for the use of electronic reverse auction. The e-PS module for electronic reverse auctions has been developed and is available in the e-Ps but it has not yet been activated and is not operational due to server resource issues. The legal framework allows for the use of framework agreements and they are already in use in Mauritius, but the e-PS framework agreement module is not commonly used. The legal framework does not include provisions on use of e-catalogues or dynamic purchasing systems. There is currently no module for procurement of PPP in the e-PS. The e-PS supports the classification of goods, works and services based on the standard Common Procurement Vocabulary (CPV) codes but use of this classification is partial and is not applied throughout the procurement cycle. The e-PS does not support two stage bidding procedures and it does not facilitate handling of joint ventures online. The e-PS is designed to accept multiple currencies. The e-PS is only available in English. The e-PS does not facilitate acceptance of bid securities and bonds using the efficiencies available from an IT based solution. The e-PS does not support the processes of electronic acceptance of products for effective inventory management or electronic invoicing.

- **Findings**

PPA s.73 provides for use of electronic reverse auctions, for simple bidding processes where the procurement can be accurately specified and evaluation is solely on price. Phase 3 of the development of the e-Procurement System which was completed in 2017, included the development of modules for framework agreements, electronic reverse auctions, contract monitoring and online pre-bid meetings. While the e-PS already includes the e-Reverse Auction module, enabling it requires additional server resources for real-time bidding and it has not been activated yet due to server resource issues. The PPO is awaiting clearance from the Government Online Center (GOC).

PPA s.29A provides for procurement by a public body or lead organisation using framework agreements. Framework agreements are already in use in Mauritius. The framework agreement module is activated but it is not commonly used by public bodies.

There is currently no module for procurement of PPP in the e-PS and no PPP/BOT projects have been conducted through e-PS. Procurement of PPPs is separately regulated with specialized PPP and BOT legislation, the BOT Act[22] and PPP Act.[23] There is legislative provision for establishment of a dedicated

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[22] The Build Operate Transfer Projects Act 2016 No.1 of 2016, Government Gazette of Mauritius No.29 of 2016 https://bot.govmu.org/Documents/BOT%20Projects%20Act%202016%20-%20version%205%20August%202021.pdf
[23] Public Private Partnerships Act 2004 No.37 of 2004
 https://bot.govmu.org/Documents/PPP%20Act%202004%20-%20version%205%20August%202021.pdf

BOT Projects Unit within the PPO, assigned with responsibility for developing policies and supporting the implementation of PPP and BOT Projects.

The e-PS supports the classification of goods, works and services based on the standard Common Procurement Vocabulary (CPV) codes but use of this classification is partial, using only the two top levels in the CPV hierarchy. CPV coding is not used throughout the procurement cycle, such as in the planning process or to record contract termination, thus reducing opportunities for effective tracking of conduct of procurements for the entire procurement cycle. As the coding standard used in the IFMIS system does not use CPV, the classification codes will have to be mapped for IFMIS integration.

The PPA permits use of two stage bidding (PPA s.15(1)(a)). In practice multi-stage procurements are not used and the e-PS does not support two stage bidding procedures.

The e-PS provides templates where the bidder provides all information about the joint venture. The lead bidder of the joint venture will respond to the Invitation for Bid with information collected from individual suppliers. The joint-venture formation process is not in the system. The process is completed outside the e-PS, and only the JV agreement and the details from the suppliers are entered into the e-PS.

The e-PS provides templates for all the price forms, and the templates allow to provide the prices at the unit level. The unit-level submission of data facilitates the extensive spend analysis using different data analytics tools, but the e-PS does not have any data analytics tool to leverage the already available data for business and policy decisions. In a few of the templates, there is no field-level validation to control the data consistency.

The e-PS is designed to accept multiple currencies and a different currency can be used at the item level. The currencies are converted into the local currency for evaluation purposes. The e-PS is designed only in the English language, and the information is displayed only in English, despite a number of languages being used in Mauritius.

Acceptance of the bid securities and bonds and their authenticity have been a huge challenge in the bidding process. As a solution, the e-PS, at the moment, accepts a scanned copy of the bid security with the bid submission. It also accepts Bid Securing Declarations, but in practice, this is not used. The e-PS is not integrated with financial institutions, so the electronic submission of the bid security or bonds is not available.

The e-PS does not support the processes of electronic acceptance of products for effective inventory management. The e-Contract Monitoring module is developed, but the module is not activated in the e-PS. The e-PS does not provide tools for electronic invoicing.

- **Gaps**

8(a)(a)   **e-PS Module for electronic reverse auctions not activated:** The e-PS module for electronic reverse auctions was developed in 2017, but it is not activated yet.

8(a)(b)   **e-Catalog and dynamic purchasing systems are not available in the e-PS**.

8(a)(c)   **PPP not conducted through e-PS:** PPP is not regulated through the PPA, and so the e-PS is not currently used for the tenders for contracting of PPPs and concessions.

8(b)(a)   **Use of the Common Procurement Vocabulary (CPV) in the e-PS is partial (Minor gap):** The use of the Common Procurement Vocabulary (CPV) in the e-PS is partial and does not cover the entire procurement cycle, thus reducing the quality of data, in particular for tracking procurement processes and outcomes and improving consistency and data analytics.

8(b)(b)   **e-PS does not support two stage bidding procedures.**

8(b)(c)   **The JV formation process is not in the-PS**.

8(b)(e)   **e-PS is only available in English:** The e-PS is designed only in the English language and it does not currently support multiple languages. This could have a negative impact on market competition, in particular for MSMEs which may not have the necessary language skills to easily engage in the English language only. Having an e-PS in the English language only could also adversely impact transparency and accountability for those wishing to use available data to monitor procurement activity.

8(b)(f)   **Banks are not interfaced with e-PS:** The banks are not interfaced with the e-PS to enable the electronic acceptance of the bid securities and bonds.
Bid Securing Declarations are not commonly used in Mauritius.
► This Gap is assigned a Red flag because it requires engagement and cooperation with non-governmental third parties (including commercial Banks and Banker's Association).

8(b)(g)   **No product acceptance tool:** There is no function and there are no tools enabled in the e-PS ecosystem to handle the acceptance of products and record them for effective inventory management. management.

8(b)(h)   **No tools for electronic invoicing:** The e-PS does not provide tools for electronic invoicing, which has a negative impact on the efficiency of the procurement ecosystem.

- **Recommendations**

8(a)(a)   **e-PS Module for electronic reverse auctions not activated:** The PPO should review the e-Reverse Auction module to ensure that the functionalities built into the module are still relevant. If the module requires updates, PPO should make the necessary changes before activating the module and making it available to system users.

8(a)(b)   **e-Catalog and dynamic purchasing systems are not available in the e-PS:** The legal framework may need to be amended to include provisions permitting use of e-catalogues and dynamic purchasing systems.

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The e-Catalog should be introduced to facilitate low value and high volume purchases, including through framework agreements, with relevant amendments made to the legal and regulatory framework. The e-Catalog should be built with commonly used items following the CPV or the UNSPSC catalog classification and codification standard, and should be integrated with the Framework agreement, and other future modules like the e-reverse auction, e-market place.

Dynamic purchasing can be introduced for flexibility and efficiency in procurement which allows for a constantly updated pool of qualified suppliers and faster turnaround times for finding the best deal on frequently bought goods and services

8(a)(c)   **PPP not conducted through e-PS:** Consider developing a module to be used for the conduct of tenders (solicited and unsolicited proposals) for PPP contracts. This may require amendment to the legal framework. The Government of Mauritius may consider amending the relevant legislation to ensure alignment regarding placement of the BOT Projects Unit.

8(b)(a)   **The use of the Common Procurement Vocabulary (CPV) in the e-PS is partial:** Establish data input requirements to ensure consistent use of the Common Procurement Vocabulary (CPV) to cover the entire procurement cycle and align with the IFMIS system.

8(b)(b)   **e-PS does not support two stage bidding procedures:** The e-PS should be developed to support two stage and multi-stage procedures to facilitate the efficient procurement of complex projects.

8(b)(c)   **The JV formation process is not in the e-PS:** Enhancements to the e-PS should include a JV formation process, along with facility to search for joint venture members, inviting to join the JV, include member profile and their experience, through the system.
 It should also facilitate incorporating specialized sub-contractors.

8(b)(e)   **e-PS is only available in English:** The e-PS should be developed to support multiple languages, including Mauritian Creole and French, to facilitate access to the e-PS for the majority of the population.

8(b)(f)   **► Banks are not interfaced with e-PS:** Automating the acceptance of the bid security and the bonds through direct interface with the financial institutions (i.e. Banks) is essential in the e-PS. An integration plan should be prepared, approved, and implemented by the Procurement Policy Office to integrate the e-Procurement System with all commercial banks to enable an authorized bank officer to upload digitally signed bank guarantees/Securities following a bidder's request. The e-Guarantee module should be developed and financial institutions should be brought into the e-PS as soon as possible, subject to necessary discussion, consents or authorisations from, for example, the Bank of Mauritius and Banker's Association (see also wider recommendation on integration at 7(a)(a)). Bid securing declaration (BDS) could be used for low risk/low value procurement processes, making it easier for SMEs to participate in public tenders.

8(b)(g)   **No product acceptance tool:** The e-Contract Monitoring module should be enabled and functions for product acceptance and managing the inventory should be incorporated in e-PS.

8(b)(h)   **No tools for electronic invoicing:** The electronic invoicing tools should be developed and used along with the e-Contracting module.

Summary of substantive gaps and recommendations of e-Procurement Indicator 8

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-Indicator 8(a)(a) e-PS Module for electronic reverse auctions not activated	Low Risk	The PPO should review the e-Reverse Auction module to ensure that the functionalities built into the module are still relevant. If the module requires updates, PPO should make the necessary changes before activating the module and making it available to system users.
Sub-Indicator 8(a)(b) e-Catalog and dynamic purchasing systems are not available in the e-PS	Low Risk	The legal framework may need to be amended to include provisions permitting use of e-catalogues and dynamic purchasing systems. The e-Catalog should be introduced to facilitate low value and high volume purchases, including through framework agreements. Dynamic purchasing can be introduced for flexibility and efficiency in procurement which allows for a constantly updated pool of qualified suppliers and faster turnaround times for finding the best deal on frequently bought goods and services.
Sub-Indicator 8(a)(c) PPP not conducted through e-PS	Low Risk	Consider developing a module to be used for the conduct of tenders (solicited and unsolicited proposals) for PPP contracts. This may require amendment to the legal framework. The Government of Mauritius may consider amending the relevant legislation to ensure alignment regarding placement of the BOT Projects Unit.
Sub-Indicator 8(b)(b) The e-PS does not support the two-stage bidding procedures	Medium Risk	The e-PS should be developed to support two stage and multi-stage procedures to facilitate the efficient procurement of complex projects.
Sub-Indicator 8(b)(c) The JV formation process is not in the e-PS	Medium Risk	Enhancements to the e-PS should include a JV formation process, along with facilities to search for joint venture members, invitation to join the JV, include member profile and their experience, through the system. It should also facilitate incorporating specialized sub-contractors.
Sub-Indicator 8(b)(e) e-PS is only available in English	Low Risk	The e-PS should be developed to support multiple languages, including Mauritian Creole and French, to facilitate access to the e-PS for the majority of the population.

Sub-Indicator 8(b)(f) Banks are not interfaced with e-PS	High risk **Red Flag**	The e-PS should be enhanced to automate the acceptance of the bid security and the bonds through direct interface with the financial institutions (i.e. Banks). The e-Guarantee module should be developed and financial institutions should be brought into the e-PS as soon as possible. Bid securing declaration (BDS) could be used for low risk/low value procurement processes, making it easier for SMEs to participate in public tenders. (see also wider recommendation on integration at 7(a)(a)).
Sub-Indicator 8(b)(g) No product acceptance tool	Low Risk	The e-Contract Monitoring module should be enabled and functions for product acceptance and managing the inventory should be incorporated in e-PS.
Sub-Indicator 8(b)(g) No tools for electronic invoicing	Medium Risk	The electronic invoicing tool should be developed and used along with the e-Contracting module.

Suggestions for improvement

8(b)(d)   Check field validation in forms
Review all e-PS forms to ensure that there is field-level validation to control the data consistency in all cases.

E-Proc-Indicator 9. Data from the e-Procurement ecosystem facilitates decision-making.

A key advantage of e-Procurement is the potential of the e-Procurement ecosystem to make data about public procurement available in a structured and accessible manner that would be close to impossible, in an analogue system. Naturally, if this potential is to generate value, it needs to be both realized, meaning that data is actually made available, and actualized, meaning that the available data is used for decision-making.

- **Synthesis of the indicator**

Data stored in the e-PS is not disclosed as machine-readable open data on a website for anyone to download and the e-Ps does not currently support the Open Contracting Data Standard (OCDS). Procurement data covering the whole procurement system is not available. There is no program to build capacity for procurement data use and analysis. The e-PS provides search functionality from the homepage, and also an advanced search with a few filters. Only very limited documentation about procurement data is available and the MIS reporting feature has not been updated. There is no data visualization feature provided in the e-PS System. Overall, the e-PS system makes it difficult to access, use, and analyze procurement data. This limits the transparency of the public procurement process and makes it difficult for users to make informed decisions.

- **Findings**

In 2017, the government of Mauritius adopted an Open Data Policy and established the National Open Data Portal where datasets about various sectors of the economy are published. The e-PS system

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does not, however, currently support the Open Contracting Data Standard (OCDS), which is a machine-readable format for storing and publishing procurement data. This lack of support for OCDS makes it difficult to access, use and analyze meaningful procurement data, and it also limits the transparency of the public procurement process.

Procurement data covering the whole procurement system is not available and available data is not published in a timely manner. According to results of the survey conducted for the purposes of this MAPS Assessment, satisfaction levels in terms of timeliness, accuracy and coverage of data published from the e-PS is low.

The e-PS provides search functionality from the homepage, and also an advanced search, but the-PS search functionality is limited. It does not allow users to create complex queries, and it does not allow users to download the data.

There is no documentation available on procurement data except those data prepared and published in the PPO's Annual Report.[24] Use of the Management Information System report function is easy, albeit time-consuming during working hours. For example, downloading bulk data (such as number of bids received from 2015 to 2023) may take 8-10 hours. The MIS reporting feature has not changed over the life-time of the e-PS implementation. There is no data visualization feature provided in the e-PS System.

The e-PS homepage displays just the following statistics without any visualization. If you click more, it displays in a tabular format with limited data and description. (see Figure 14)

Portal Statistics
Number of IFBs   29471
Number of Suppliers   5210

More...

Figure14: Portal statistics

The e-PS ecosystem does not have any program prepared or planned for building capacity among the users of the e-PS on use of procurement data and carrying out data analytics.

- **Gaps**

9(a)(a) **The e-PS does not store and disclose data in a machine-readable open data format:** The e-PS does not store and disclose data in a machine-readable open data format on the website for anyone to download, use and share, with the appropriate license for use.
The lack of publicly available data limits transparency and opportunities for data to be collected, analysed and used for a range of purposes to improve the public procurement system as a whole, including improvements to: inform policy making; identify patterns of poor procurement, performance or prohibited behaviours leading to measures for improvement; improve quality in public spend datasets to support decision making; and increase transparency and accountability.

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[24] https://ppo.govmu.org/Documents/Annual%20Reports/AR2020-21.pdf

Increased data transparency can also help development of ideas about new businesses, jobs, and supply chains, identify business priority areas and facilitate stakeholder engagement to improve the system.

9(a)(b)   **Data is not published promptly and does not provide an accurate picture:** Data from the e-PS is not published in a timely manner and does not provide accurate information and enough coverage of the whole procurement system, reducing the overall transparency of the system.

9(a)(c)   **Open data is not published in the e-PS and data is not available to stakeholders for analysis**.

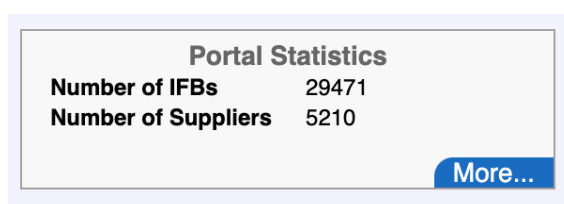**9(a)(d)**   **No programme for capacity building for users on use of e-PS data and analytics**: The e-PS ecosystem does not have any program prepared or planned for building capacity among the users of the e-PS on use of procurement data and carrying out data analytics.

9(b)(b)   **Limited documentation about procurement data and Management Information System (MIS) reporting is not updated:** Very limited documentation about procurement data is available and the MIS reporting feature has not been updated, potentially providing a misleading picture.

9(b)(c)   **No data vizualisation feature:** There is no data visualization feature provided in the e-PS.

- **Recommendations**

9(a)(a)   **The e-PS does not** store and disclose data in a machine-readable open data format
        See combined recommendations below.

        Combined Recommendations for 9(a)(a), 9(a)(b), 9(a)(c) and 9(a)(d).
        The Open Contracting Data Standard (OCDS) is a commonly adopted standard for data transparency, storing and publishing procurement and contract data in a machine-readable format.
        It is recommended that the e-PS incorporate the Open Contracting Data Standard (OCDS) as the backbone for the storage and timely publishing of accurate data for the complete life-cycle of the procurement process, from planning to contract execution. Comprehensive data should be available to all stakeholders to permit analysis, and particularly for measuring, monitoring, and evaluating procurement performance. The roll out of publication of OCDS data from the e-PS must be supported by a program to build capacities for procurement data use and analysis with suitable quality and content adjusted for the differing needs of all the users, including suppliers, public bodies and civil society.

9(a)(b)   **Data is not published promptly and does not provide and accurate picture**
        See combined Recommendations at 9(a)(a).

9(a)(c)   **Open data is not published in the e-PS and data is not available to stakeholders for analysis**.
        See combined Recommendations at 9(a)(a).

9(a)(d)   **No programme for capacity building for users on use of e-PS data and analytics**

See combined Recommendations at 9(a)(a).

9(b)(b) **Limited documentation about procurement data and Management Information System (MIS) reporting is not updated:** The documentation about procurement data should be prepared and the MIS reporting feature should be updated on a regular basis.

9(b)(c) **No data vizualisation feature:** Update the e-PS to facilitate data visualization of procurement and contract data from different perspectives.

Summary of substantive gaps and recommendations of e-Procurement Indicator 9

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-Indicator 9(a)(a) The e-PS does not store and disclose data in a machine-readable open data format	Medium Risk	**Combined Recommendations for 9(a)(a), 9(a)(b), 9(a)(c) and 9(a)(d).** The Open Contracting Data Standard (OCDS) is a commonly adopted standard for data transparency, storing and publishing procurement and contract data in a machine-readable format. It is recommended that the e-PS incorporate the Open Contracting Data Standard (OCDS) as the backbone for the storage and timely publishing of accurate data for the complete life-cycle of the procurement process, from planning to contract execution. Comprehensive data should be available to all stakeholders to permit analysis, and particularly for measuring, monitoring, and evaluating procurement performance. The roll out of publication of OCDS data from the e-PS must be supported by a program to build capacities for procurement data use and analysis with suitable quality and content adjusted for the differing needs of all the users, including suppliers, public bodies and civil society.
Sub-Indicator 9(a)(b) Data is not published promptly and does not provide and accurate picture	High Risk	
Sub-Indicator 9(a)(c) Open data is not published in the e-PS and data is not available **to stakeholders for analysis**	Medium Risk	
Sub-Indicator 9(a)(d) No programme for capacity building for users on use of e-PS data and analytics	Medium Risk	
Sub-Indicator 9(b)(b) Limited documentation about procurement data and Management Information System (MIS) reporting is not updated	Medium Risk	The documentation about procurement data should be prepared and the MIS reporting feature should be updated on a regular basis.
Sub-Indicator 9(b)(c) No data vizualisation feature	Low Risk	Update the e-PS to facilitate data visualization of procurement and contract data from different perspectives.

Suggestions for improvement

9(b)(a) The e-PS should be structured to provide a comprehensive search tool with compound filter facility.

E-Proc-Indicator 10. The private sector is fully engaged with the e-Procurement ecosystem.

This indicator is linked with Indicator 10 of the MAPS core methodology and provides a deeper understanding on how the private sector, including small and medium enterprises engage with the e-Procurement ecosystem.

- **Synthesis of the indicator**

There is no formal forum for open dialogue with the private sector on the e-PS and private sector participation in procurement initiatives is generally low. The e-PS maintains a Supplier register in its database and all suppliers must be registered to participate in any procurement opportunities. There are currently 5860 suppliers registered in total. The database captures SMEs as a bidder type. The number of SMEs registering has decreased in the period 2020 to 2022. The e-PS does not list debarred suppliers. The list of suspended/debarred/disqualified suppliers is available only on the PPO website.[25] The e-PS does not provide a direct link to the list of debarred suppliers on the PPO website. Key sectors and related strategies are not identified by the government, and risks associated with sectors are not assessed.

- **Findings**

There is no formal forum for open dialogue with the private sector on e-PS. A joint Public Private Sector Steering Committee was established in 2015 for the e-PS implementation support. Following the launch of the e-PS, there is no evidence that the Committee is active. The PPO occasionally holds meetings with the Building and Civil Engineering Contractors Association (BASECA) and Mauritius Chamber of Commerce and Industry. However, the level of response to the survey conducted for the MAPS Assessment was very low, which characterizes the private sector's perception and participation in procurement initiatives. This is consistent with the MAPS Core Assessment which concluded that there is a lack of trust, transparency, communication, and there are limited opportunities for capacity building among private companies and with SMEs.

The e-PS maintains a Supplier register in its database and all suppliers must be registered to participate in any procurement opportunities. The register is available to public bodies as well as from their user dashboard. The database captures SMEs as a bidder type. The total number of suppliers registered by financial year 2022/2023 is 5860. (See Table 6).

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[25] https://ppo.govmu.org/Pages/Suspended-Debarred-Disqualified-Suppliers.aspx According to the PPO list, there are in total four (4) debarred firms listed.

Table 6: Supplier registration Financial Year 2022-2023

SUPPLIERS REGISTRATION STATISTICS			
	DOMESTIC	FOREIGN	TOTAL
Goods	2500	300	2800
Works	1090	110	1100
Non-consulting services	750	110	860
Consultancy Services	300	200	500
TOTAL	**4740**	**1120**	**5860**

Source: PPO

Information on the suppliers registered in the last three years shows that the supplier adoption of the e-PS is slow, as it was 389 In 2019/2020, 1572 in 2020/2021, and it dropped to 811 in 2021/2022 (see Table 7). The number of foreign suppliers using the e-PS was 291 in 2019/2020, 328 in 2020/2021, and 202 in 2021/2022.

The PPO needs a comprehensive reach-out campaign to register local and foreign bidders in the e-PS by mobilizing public bodies and social media.

Table 7: Number of suppliers registered in the last three years

Sub indicator	Quantitative Indicators (Minimum)	Recommended Quantitative Indicators	Year		
			2019/2020	2020/2021	2021/2022
10(b)Private sector's use of the e-Procurement ecosystem	10(b) Assessment criterion (a)	Number of suppliers registered in the last three years	389	1572	811

Source: PPO

In total, 476 SMES registered in 2019/2020, 452 in 2019/2021, and 231 SMEs in 2021/2022 (see Table 8). The total number of registration of SMEs each year is decreasing.

Table 8: Number of SMEs registered in the last three years

Sub indicator	Quantitative Indicators (Minimum)	Recommended Quantitative Indicators	Year		
			2020	2021	2022
10(b) Private sector's use of the e-Procurement ecosystem	10(b) Assessment criterion (c)	Number of SMEs registered in the last three years	476	452	231

Source: PPO

Section 53 of the PPA makes provision for the suspension and debarment of suppliers. The e-PS does not list the debarred suppliers. The list of suspended/debarred/disqualified suppliers is available only on the PPO website.[26] The list published by the PPO of suspended/debarred/disqualified suppliers includes details of the period for which suppliers will be ineligible and the reasons for their suspension, debarment or disqualification. Public bodies manually verify whether firms are debarred at the time of contract award. The e-PS does not provide a direct link to the list of debarred suppliers on the PPO website and the e-PS does not automatically verify against the list. According to the PPO list, there are in total four (4) debarred firms listed.

The quantitative analysis shows that the participation of the bidders in a tender is on average 2.74 in manual process, and 4.53 in the case of the e-PS in 2021/2022. The data shows a declining trend of bidder participation in e-PS in the last three years (see Figure 15).

Bids received per Competitive Tender

Year	Number of bids per tender for competitive processes	Number of bids per tender for competitive processes on e-PS
2019/2020	2.59	5.35
2020/2021	3.1	4.86
2021/2022	2.74	4.53
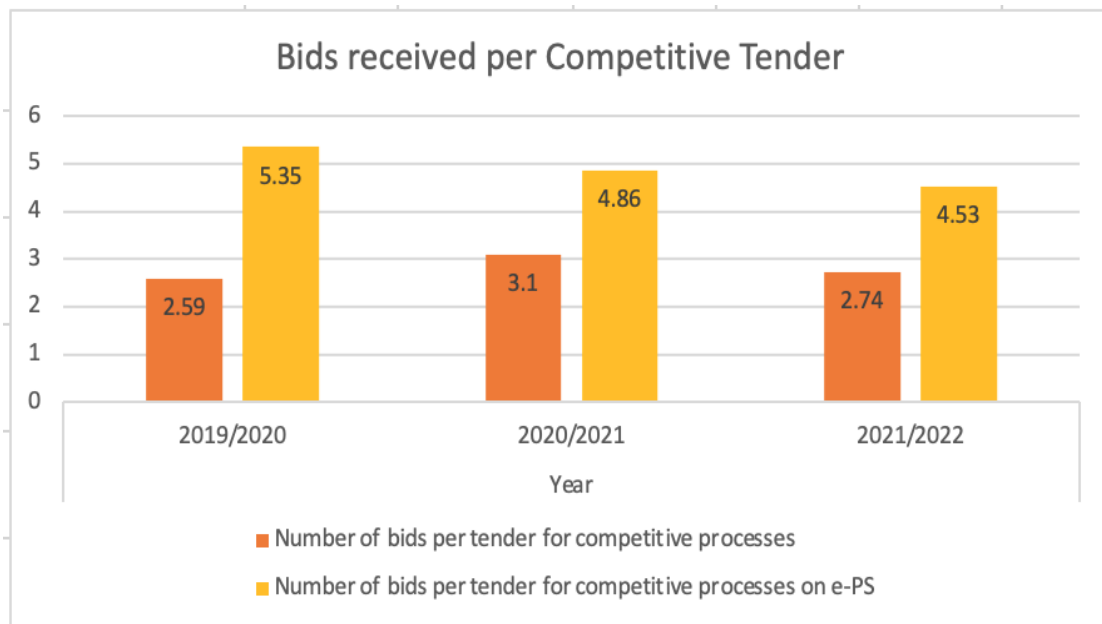
Figure15: Bids received per competitive tender

Contract awards are growing, with 1184 in 2019/2020, 2484 in 2020/2021, and 2932 in 2021/2022 (see Table 9).

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[26] https://ppo.govmu.org/Pages/Suspended-Debarred-Disqualified-Suppliers.aspx   According to the PPO list, there are in total four (4) debarred firms listed.

Table 9: Number of suppliers that were awarded contracts in the last three years

Sub indicator	Quantitative Indicators (Minimum)	Recommended Quantitative Indicators	Year		
			2019/2020	2020/2021	2022
10(b) Private sector's use of the e-Procurement ecosystem	10(b) Assessment criterion (c)	Number of suppliers that were awarded contracts in the last three years	1184	2484	2932

The results of the survey conducted during this MAPS Assessment identifies a number of systemic constraints inhibiting private sector access to e-Procurement.

Of particular note are issues with e-PS browser dependency and lack of data literacy,[27] the latter being linked to lack of capacity building programmes to educate on data and its use. 27.8% of the private sector users who responded to the survey expressed the view that there are system constraints inhibiting access to the e-PS. The key constraint to accessing the e-PS seems to be the compatibility issue of Windows and browsers (see Figure 16), which is essentially being able to read, work with, and understand data to make informed decisions, among the e-PS users as there is no capacity building program to educate on data and its use.
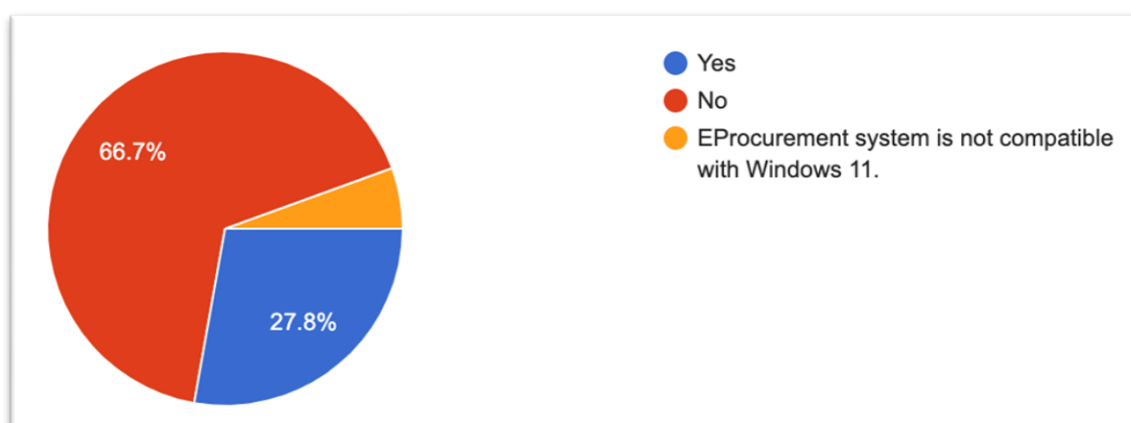
Figure 16: Private sector users who express constraints to access to the e-PS ecosystem
Source: Survey

Other systemic constraints covered elsewhere in this Report include that the e-PS is slow to load, slow in encrypting and decrypting bid documents, sometimes the e-PS is down, the processes in the e-PS are too lengthy, use of templates is too cumbersome, bids submission is challenging as the bidder has to complete two steps to submit the bid. Problems with supplier access to training are also noted as well as general issues relating to lack of available data.

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[27] Mauritius' literacy rate for 2021 was 92.15, which is very high[27]. However, there is a lack of Data literacy, which is essentially being able to read, work with, and understand data to make informed decisions, among the e-PS users.

The Government does not have classification of key sectors and strategies for them thus reducing the opportunity to promote and improve markets in the government's priority areas. Based on government's priority spending areas, key sectors associated with the procurement of goods, works and services should be identified and risk assessed and the information gathered should be used to conduct targeted engagement with relevant sector markets with participation of the private sector.

- **Gaps**

10(a)(a) **There is no formal forum for open dialogue with the private sector on e-PS:** There is no formal forum for open dialogue with the private sector on e-PS, thus hindering opportunities to engage with users in a wider forum and learn from their expressed views and feedback on the operation of the e-PS.

10(b)(b) **No record of debarred suppliers on the e-PS:** The e-PS does not contain a record of debarred suppliers, thus reducing efficiency of the process for verifying eligibility.

10(b)(c) **Systemic constraints inhibit private sector access:** User feedback suggests that a significant factor inhibiting access to the e-PS is its browser dependency. Computer systems today use modern browsers with responsive design and more interactive features. Users keep updating their computers and laptops with new browser versions, and the newer versions of the browsers do not support the e-PS which results in the e-PS not working correctly.
Some complaints about the technical issues of the e-PS are that it is slow to load, slow in encrypting and decrypting bid documents, sometimes the e-PS is down/not working, the processes in the e-PS are too lengthy, templates are cumbersome, bid submission is challenging as the bidder has to complete two steps to submit the bid, and other issues. There is a need for integration of the e-PS with the business registrar, banks, tax (see Recommendation at 7(a)(a)) as well as Review Panel module, in order to facilitate efficiency, integrity and transparency.

10(c)(a) **Key sectors not identified:** The government does not have a classification for key sectors and does not have strategies for them thus reducing the opportunity to promote and improve markets in the government's priority areas.

- **Recommendations**

10(a)(a) **There is no formal forum for open dialogue with the private sector on e-PS:** A formal forum for regular open dialogue with the private sector should be established, supported by an outreach campaign to ensure wide engagement. This will be with the aim of instilling long term collaborative working and full, transparent engagement, to support the continued adoption and improvement of the e-PS in the country, for the benefit of all stakeholders.

10(b)(b) **No record of debarred suppliers on the e-PS:** The e-PS should be improved to include the functionality to record debarred suppliers, and the list should be automatically verified by the e-PS at the time of bidder registration, bid submission and award time to eliminate participation until the debarment lapses.

10(b)(c) **Systemic constraints inhibit private sector access:** The technical and functional process challenges should be resolved to boost user confidence in the e-PS.

Some of the challenges that should be addressed immediately are: (i)resolving browser compatibility; (ii) removal of the requirement for a second-time decryption and encryption (iii) integration with the external systems (i.e IFMIS, tax, business registrar, banks, etc.), (iv) developing and making available the IRP module, (v) simplification of the e-SBDs and templates, (vi) simplification of process workflow, and (vii) server resource management for resource consuming processes of the e-PS.

10(c)(a) **Key sectors not identified:** Based on Government's priority spending areas, key sectors associated with the procurement of goods, works and services should be identified and risk assessed and the information gathered used to conduct targeted engagement with relevant sector markets with participation of the private sector.

Summary of substantive gaps and recommendations of e-Procurement Indicator 10

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-Indicator 10(a)(a) There is no formal forum for open dialogue with the private sector on e-PS	High Risk	A formal forum for regular open dialogue with the private sector should be established, supported by an outreach campaign to ensure wide engagement. This will be with the aim of instilling long term collaborative working and full, transparent engagement, to support the continued adoption and improvement of the e-PS in the country, for the benefit of all stakeholders.
Sub-Indicator 10(b)(b) No record of debarred suppliers on the e-PS	Medium Risk	The e-PS should be improved to include the functionality to record debarred suppliers, and the list should be automatically verified by the e-PS at the time of bidder registration, bid submission and award time to eliminate participation until the debarment lapses.
Sub-Indicator 10(b)(c) Systemic constraints inhibit private sector access	High Risk	The technical and functional process challenges should be resolved to boost user confidence in the e-PS. Some of the challenges that should be addressed immediately are: (i) resolving browser compatibility; (ii) removal of the requirement for a second-time decryption and encryption (iii) integration with the external systems (i.e IFMIS, tax, business registrar, banks, etc.), (iv) developing and making available the IRP module, (v) simplification of the e-SBDs and templates, (vi) simplification of process workflow, and (vii) server

		resource management for resource consuming processes of the e-PS.
Sub-Indicator 10(c)(a) Key Sectors not identified	Low Risk	Based on Government's priority spending areas, key sectors associated with the procurement of goods, works and services should be identified and risk assessed and the information gathered used to conduct targeted engagement with relevant sector markets with participation of the private sector.

Suggestions for improvement

10(b)(a)   **Register of suppliers**

Enhance the register of suppliers with information about the SME status, classification from CIDB, geotags, and other credentials.

The PPO should develop a comprehensive outreach campaign to register local and foreign bidders in the e-PS, including by mobilizing public bodies and use of social media.

3.4. Pillar IV - Accountability, Integrity and Transparency of the Public Procurement System

Pillar IV in the MAPS core methodology focuses on the way the procurement system incorporates the necessary measures to guarantee integrity, adequate controls and an anti-corruption framework. It also analyses the role of external stakeholders, and especially civil society to improve procurement at all stages of the process.

In particular for the e-Procurement ecosystem, many aspects that relate to these topics have been assessed in other indicators in this module, particularly key elements necessary for transparency. The indicators in this pillar complete the evaluation of these matters, including how civil society and audit and control institutions engage with the e-Procurement ecosystem, as well as the handling of e-complaints.

E-Proc-Indicator 11. The e-Procurement ecosystem ensures civil society engagement.

Building on Indicator 11 of the core MAPS methodology, this indicator analyses the role of civil society to improve procurement, focusing exclusively on the e-Procurement ecosystem.

- **Synthesis of the indicator**

The assessment revealed that there is no formal channel of dialogue between civil society organizations (CSOs) and the government on the e-PS. The e-PS allows users to search all IFBs for goods, works, services, and non-consulting services using the open competitive bidding procedures from the search functions on the homepage of the system. However, it does not allow users to select a filter based on the stages of the procurement process and procurement methods. The e-PS does not provide any facility or tools to collect comments and feedback at the stages of the procurement process. There is no public forum or citizen portal for such kind of engagements. There is no data

about the citizens using the opportunities available to access information and provide comments and feedback to specific procurements by means of the e-PS.

- **Findings**

Civil society is not actively engaged by government to facilitate the monitoring and improvement of the public procurement system in general or the e-PS in particular.

There are no civil society groups in Mauritius that have a procurement focus within their agendas and/or actively provide oversight and exercise social control that would improve integrity in public procurement. The legal/regulatory and policy framework does not provide for citizens participation in procurement processes. There is not much evidence of participation of citizens in procurement through consultation, observation or monitoring. Based on discussions with CSOs during the core MAPS Assessment, CSOs do not consider that their views are taken into account while formulating changes to the public procurement system. CSOs consulted during the MAPS Assessment, expressed a need for training and capacity building of CSOs.

The e-PS allows citizens to access and search information at invitation to bid stage but it does not allow users to select a filter based on the stages of the procurement process and procurement methods. In practice, comprehensive data is not available through e-PS due to limited online use of e-PS.

- **Gaps**

11(a)(a) **Civil society is not actively engaged by government to facilitate the monitoring and improvement of public procurement:**
► This Gap is assigned a Red flag because it significantly impedes the objectives of improving accountability and improving effectiveness and efficiency of the procurement system through meaningful civil society engagement. In order to be fully effective it requires inter-institutional cooperation and allocation of resources and policy decisions which go beyond the sole remit of the PPO**.**

11(b)(a) **No comprehensive search tool to facilitate engagement by citizens/civil society:** The e-Ps does not provide a comprehensive search tool with filters and features which allow citizens/civil society to access and search information on all stages of the procurement process and all procurement methods.
► This Gap is assigned a Red flag because lack of provision for access to information on procurement by the public significantly hinders and impedes the objectives of improving transparency, accountability, effectiveness and efficiency of the procurement system.

11(b)(c) **No data on citizen involvement in accessing data:** There is no data showing that citizens are using the opportunities available to access information of, and provide comments and feedback to specific procurements by means of the e-PS.

- **Recommendations**

11(a)(a) **Civil society is not actively engaged by government to facilitate the monitoring and improvement of public procurement:**

Combined Recommendations for 11(a)(a), 11(b)(a) and 11(b)(c)

► The e-PS should be structured to provide a comprehensive search tool with compound filter facility so that data can be easily accessed and analysed. Government must provide resources and expertise to ensure that relevant authorities are able to prepare and deliver a comprehensive and ongoing training programme and capacity building for CSOs. This should start as soon as possible, to build the capacity of civil society to understand the public procurement regime, both the legal framework and operation, to facilitate the role of civil society in monitoring public procurement activity. This must include provision of information and practical understanding of the e-PS and guidance on what information is available on-line, how it is accessed and how it can be analysed.

A formal forum should be established for dialogue between the government and the CSOs to improve the e-Procurement ecosystem. This increased capacity building through engagement with civil society should be supported by introduction of a simple system to ensure that input, comments and feedback is sought from civil society on a regular basis and no less than once a year, including potentially, through a feedback mechanism available through e-PS for both individual citizens and civil society organisations. To increase accountability and transparency, the Government should consider input received from citizens and civil society organisations, publish its reasoned responses promptly together with an action plan with timelines for implementation. Data should be collected on the nature and extent of citizen/CSO access to and use of e-PS data.

11(b)(a) **No comprehensive search tool to facilitate engagement by citizens/civil society:**See combined recommendations at 11(a)(a)

11(b)(c) **No data on citizen involvement in accessing data:**
See combined recommendations at 11(a)(a)

Summary of substantive gaps and recommendations of e-Procurement Indicator 11

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-Indicator 11(a)(a) Civil society is not actively engaged by government to facilitate the monitoring and improvement of public procurement	High Risk **Red Flag**	Combined Recommendations for 11(a)(a), 11(b)(a) and 11(b)(c) The e-PS should be structured to provide a comprehensive search tool with compound filter facility so that data can be easily accessed and analysed.
Sub-Indicator 11(b)(a)	High Risk	

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No comprehensive search tool to facilitate engagement by citizens/civil society	**Red Flag**	Government must provide resources and expertise to ensure that relevant authorities are able to prepare and deliver a comprehensive and ongoing training programme and capacity building for CSOs.
Sub-Indicator 11(b)(c) No data on citizen involvement in accessing data	High Risk	A formal forum should be established for the dialogue between the government and the CSOs to improve the e-Procurement ecosystem. To increase accountability and transparency, the Government should consider input received from citizens and civil society organisations, publish its reasoned responses promptly together with an action plan with timelines for implementation. Data should be collected on the nature and extent of citizen/CSO access to and use of e-PS data.

E-Proc-Indicator 12. The e-Procurement ecosystem enables effective treatment of risks, control and audit.

Technology and data can serve as efficient tools to support control and audit of the procurement system. Auditors may work more efficiently when conducting procurement audits if information is timely and has good quality. In consequence, the e-Procurement ecosystem needs to produce the required information, which should be used for this purposes. More recent trends in the use of these data include automated controls to detect cases which might deviate from what is usually expected in a procurement process, thus enabling swift action from control authorities.

- **Synthesis of the indicator**

The e-PS provides ad-hoc access to both internal auditors and the National Audit Office (NAO) on demand. The e-PS does not provide a dedicated tool for external control/audit. There are no ex-ante controls and algorithms in place in the e-PS used to detect risks and possible wrongdoings. There is no ex-post investigation and risk analysis regularly conducted using data from the e-PS.

- **Findings**

The e-PS provides ad-hoc access to both internal auditors and the NAO on demand. Internal auditors are granted read-only access to the content and processes related to the bids they are investigating. This internal control mechanism helps ensure transparency and accountability within the procurement process. A few Ministries and departments have carried out internal audit using the e-PS data. External Auditors can get access, upon request, to all the documents, content and processes of the specific bids on a read-only basis.

The e-PS does not provide a dedicated tool for external control/audit and there is no evidence of the National Audit Office using e-PS to carry out procurement audits. Incorporating ex-ante red flags on the different events and stages of the procurement process facilitates detection of risks and possible wrongdoings, but there are no ex-ante controls and algorithms in place in the e-PS. Ex-post investigations and risk analysis in e-procurement analyze past purchases to identify weaknesses and

prevent future issues - basically learning from past mistakes to improve future processes. There is no ex-post investigation and risk analysis regularly conducted using data from the e-PS.

- **Gaps**

12(a)(b) **e-PS not used for external control:** The-PS provides only ad hoc access to procurement proceedings on demand. The system does not provide a dedicated tool for External control/audit and there is no evidence of the National Audit Office using e-PS to carry out financial and procurement audits.

12(b)(a) **There are no ex-ante controls and algorithms in place and available in the e-PS for use to detect risks and possible wrongdoings.**

12(b)(b) **There is no ex-post investigation and risk analysis regularly conducted using data from the e-PS:** Ex-post investigations and risk analysis in e-procurement analyze past purchases to identify weaknesses and prevent future issues - basically learning from past mistakes to improve future processes. There is no ex-post investigation and risk analysis regularly conducted using data from the e-PS.

- **Recommendations**

12(a)(b) **e-PS not used for external control:** The e-PS should develop a dedicated tool for the external auditors, facilitating auditors to use the e-PS for financial and procurement audit.

12(b)(a) **There are no ex-ante controls and algorithms in place and available in the e-PS for use to detect risks and possible wrongdoings: T**he e-PS should incorporate ex-ante red flags at different events and stages of the procurement process, to identify non-compliance, malpractices, maverick procurements and ensure accountability and integrity of the users.

12(b)(b) **There is no ex-post investigation and risk analysis regularly conducted using data from the e-PS:** PPO to Introduce a system of regular ex-post investigation and risk analysis to facilitate data driven analytics to identify patterns of behaviour and risks, using data from the e-PS .

Summary of substantive gaps and recommendations of e-Procurement Indicator 12

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-indicator 12(a)(b) e-PS not used for external control	Medium risk	The e-PS should develop a dedicated tool for the external auditors, facilitating auditors to use the e-PS for financial and procurement audit.
Sub-Indicator 12(b)(a)	Medium Risk	The e-PS should incorporate ex-ante red flags at different events and stages of the procurement

no ex-ante controls and algorithms in place and available in the e-PS for use to detect risks and possible wrongdoings		process, to identify non-compliance, malpractices, maverick procurements and ensure accountability and integrity of the users.
Sub-Indicator 12(b)(b) no ex-post investigation and risk analysis regularly conducted using data from the e-PS	Medium Risk	PPO to Introduce a system of regular ex-post investigation and risk analysis to facilitate data driven analytics to identify patterns of behaviour and risks, using data from the e-PS .

E-Proc-Indicator 13. The e-Procurement ecosystem facilitates review of complaints and appeals.

Building on the assessment of Indicator 13 from the core MAPS methodology, this indicator assesses whether the e-Procurement ecosystem facilitates the entire procurement review process, both for the complainant as well as for the appeals institutions.

- **Synthesis of the indicator**

Challenges (complaints) and Applications for Review (appeal) cannot currently be lodged through the e-PS and are not linked to the e-PS. There is an e-PS Challenge and Appeal module but it has not yet been activated. IRP Decisions are published and available to download free of charge from the PPO website but they are not published in a structured machine readable format.

- **Findings**

Challenges (complaints) are submitted to the public body pursuant to s.43 of the PPA. Applications for Review (appeal) are submitted to the Independent Review Panel pursuant to s.45 PPA. Challenges (complaints) and Applications for Review (appeal) cannot currently be lodged through the e-PS and are not linked to the e-PS. This reduces both accessibility of the complaints and review system and the efficiency and transparency of the procurement system as a whole. The IRP does not have access to the e-PS and thus does not use information obtained directly from the e-PS for decision making. The IRP continues to rely on hard copy documents. The Challenge and Appeal module is built but not fully functional and is being tested.

Challenges by bidders and decisions by public bodies on challenges are not published as open data. Challenges are not published. IRP decisions are published and available to download free of charge from a dedicated tabbed page on the Procurement Policy Office Website.[28] Decisions by the IRP are not published in a structured machine readable format.

- **Gaps**

13(a)(a) **Challenges and appeals cannot be lodged or conducted through e-PS:** Challenges (complaints) and Applications for Review (appeal) cannot currently be lodged through the e-PS and are not linked to the e-PS. An e-PS Challenge and Appeal module was developed but it has not yet been activated. This reduces both accessibility of the

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[28] For example: 2021 Decisions: https://ppo.govmu.org/Pages/Independent%20Review%20Panel/Decisions-2021.aspx accessed 26 September 2021.

complaints and review system and the efficiency and transparency of the procurement system as a whole.

13(a)(b) **The IRP does not have access to the e-PS and thus does not use information obtained directly from the e-PS for decision making.** The IRP continues to rely on hard copy documents.

13(a)(c) **No data on workflow compliance for challenges and appeals:** The Challenge and Appeal module is not yet available for use and so workflow compliance is not assessed.

13(a)(d) **Remedies not reflected in e-PS:** The Challenge and Appeal module is not yet available for use and so remedies are not reflected in the e-PS.

13(a)(e) **Complaints and decisions are not published as open data**, reducing the overall transparency ofof the challenge and review processes.

- **Recommendations**

13(a)(a) **Complaints and appeals cannot be lodged or conducted through e-PS:**
Combined Recommendations for 13(a)(a), 13(a)(b), 13(a)(c) and 13(a)(d).
The e-PS Challenge and Appeal module should be activated and its use should be mandatory.
The Challenge and Appeal module should be tested as soon as possible to ensure that the workflow is consistent with the process used to handle appeals.
The IRP should be provided access to the e-PS so that the review process can be conducted using the e-PS, relevant information can be accessed direct by the IRP, decisions of the IRP are published on the e-PS and information on remedies and tracking compliance are reflected in the e-PS.

13(a)(b) **The IRP does not have access to the e-PS and thus does not use information obtained directly from the e-PS for decision making**
See combined Recommendations at 13(a)(a).

13(a)(c) **No data on workflow compliance for challenge and appeal:**
See combined Recommendations at 13(a)(a).

13(a)(d) **Remedies not reflected in e-PS:**
See combined Recommendations at 13(a)(a).

13(a)(e)	**Complaints and decisions are not published as open data:** Challenges by bidders and decisions by public bodies on challenges should be published as open data, applying OCDS. The Challenge and Appeal module should be used, and all decisions should be linked to the supplier and procurements or contracts in the e-PS system. See also combined Recommendations at 13(a)(a).

Summary of substantive gaps and recommendations of e-Procurement Indicator 13

For full wording of Gaps and Recommendations, see above.

Substantive gap	Risk classification and red flags	Recommendations
Sub-Indicator 13(a)(a) Complaints and appeals cannot be lodged or conducted through e-PS	High Risk	Combined Recommendations for 13(a)(a), 13(a)(b), 13(a)(c) and 13(a)(d) The e-PS Challenge and Appeal module should be activated and its use should be mandatory.
Sub-indicator 13(a)(b) The IRP does not have access to the e-PS and thus does not use information obtained directly from the e-PS for decision making	Medium Risk	The Challenge and Appeal module should be tested as soon as possible to ensure that the workflow is consistent with the process used to handle appeals. The IRP should be provided access to the e-PS so that the review process can be conducted using the e-PS, relevant information can be accessed direct by the IRP, decisions of the IRP are published on the e-PS and information on remedies and tracking compliance are reflected in the e-PS.
Sub-indicator 13(a)(c) No data on workflow compliance for challenges and appeals	Low Risk	
Sub-indicator 13(a)(d) Remedies not reflected in e-PS	Low Risk	
Sub-Indicator 13(a)(e) Complaints and decisions are not published as open data	Medium Risk	Challenges by bidders and decisions by public bodies on challenges should be published as open data. The Challenge and Appeal module should be used, and all decisions should be linked to the supplier and procurements or contracts in the e-PS system. See also combined Recommendations at 13(a)(a)

4. Consolidated Recommendations

Pillar I Indicator 1: The legal and regulatory framework enables e-Procurement	
1(a)(a)	**Poor alignment between legal and regulatory framework and e-PS:** Undertake a critical review of the PPA, PPR, Public Procurement (Electronic Bidding System) Regulations 2015 and other procurement legal framework documents to include appropriate definitions and clarity of coverage of e-procurement and ensure that the legal framework documents are fully aligned with use of e-procurement and the e-PS in practice.
1(a)(b)	**Non-application of the PPA to procurement subject to exempt organisation provisions:** In order to ensure accurate assessment and analysis of national public procurement expenditure, amend legal provisions to require prompt submission of specified data to e-PS relating to procurement by public bodies which falls outside the application of the PPA pursuant to the "exempt organisation" provisions in the PPA s.3(1) & PPR.

It is also recommended, with the benefit of this more comprehensive data, that PPO review and assess the impact of the exempt organisation provisions on the market and, if relevant, to consider measures to improve efficiency and effectiveness. This could include, for example, mandating publication of all procurement opportunities, including procurement falling within the "exempt organisation" provisions, on e-PS to ensure that suppliers only need to look at one source to identify all procurement opportunities. |
1(a)(c)	**No requirement for information to be published in accessible browser or open data format:** Amend the legal/regulatory framework to mandate the disclosure of listed comprehensive procurement information in an easily accessible commonly used browser/interface ideally in open data format. It may be advisable to prepare a single consolidated list of what information must be published and when. Add requirements for disclosure of comprehensive procurement related information, in particular, publication of contract award notices, contracts and contract amendments on e-PS. Consider also measures to enforce compliance with these publication and disclosure provisions.
1(a)(d)	**e-SBDs not fully aligned with e-PS workflows and there are too many templates:** The e-SBDs and the e-PS should be fully harmonized in terms of processes, flows, and the nomenclatures used across the whole procurement cycle. The process of the selection and preparation of the bidding document needs simplification to achieve efficiency.
1(b)(a)	**Lack of provisions on e-PS and contract formation/signature:** Amend provisions in the procurement legal framework to align with the Electronic Transaction Act 2000 and fully support the validity and authenticity of electronic means and documents, including use of digital signatures, so as to enable use of the e-PS to leverage the benefits of already available technologies.
1(b)(b)	**No on-line instruction for foreign bidders on Digital Signature Certificate and lack of interface between e-PS and CIDB digital system (Minor gap):** Guidance on enrolment and registration process for use of e-PS should be amended to include clear instruction to the foreign bidders on obtaining and using the Digital Signature Certificates (DSC). The CIDB digital platform and the e-PS should be interfaced to facilitate the exchange

	of registration information on works contractors between the systems, to enhance efficiency and data consistency in both systems.
Pillar I Indicator 2: E-Procurement follows a strategy that is aligned with broader government policies	
2(a)(a)	**No e-Procurement strategy or roadmap:** The Government should prepare a comprehensive e-Procurement Strategy and roadmap incorporating the rollout plan, training and capacity building plan, sustainability plan, communication plan, and system enhancement plans with required resource commitment clearly allocated. The e-Procurement strategy should be consistent with the Sustainable Public Procurement Strategy and other relevant strategies aligned with broader Government policies.
2(b)(a)	**Data on climate change not captured:** Climate change mitigation and adaptation and environmental protection information should be incorporated in the new enhanced e-PS to capture and report data on these issues. This will need to be aligned with the preparation of a Sustainable Public Procurement Strategy and supporting implementation plan, as recommended in the Core MAPS Assessment. In order to be meaningful and useful the data to be collected will need to link into identified SPP targets so that measurement against targets can be undertaken based on quality data collected through the e-PS. Data collection on climate change and environmental protection could, for example, cover use of climate/environmental criteria and measurement against performance targets in contract delivery.[29]
2(b)(b)	**Data on innovation not captured:** Innovation related information should be incorporated in the new enhanced e-PS to capture and report data on these issues. The e-Procurement ecosystem can be used to capture innovation-related data and facilitate data-driven decision-making by providing buyers and suppliers with access to data on procurement activities and performance by publishing data following Open Contracting Data Standard (OCDS). This data can be used to identify opportunities for innovation and to evaluate the effectiveness of innovative solutions.
2(b)(b)	Suggestions for improvement **Data on innovation not captured:** In addition to capturing and reporting of data on procurement which can support data-driven decision making and foster innovation and innovative solutions, the e-Procurement ecosystem can foster innovation in a number of other ways, including: 5. Encouraging participation from innovative suppliers: The e-Procurement ecosystem can be designed to encourage participation from innovative suppliers by providing them with a platform to showcase their innovative products and services. This can be achieved by allowing suppliers to submit proposals for innovative solutions and evaluating them based on their potential to meet the needs of the organization. 6. Promoting collaboration between buyers and suppliers: The e-Procurement ecosystem can be used to promote collaboration between buyers and suppliers by creating opportunities for joint problem-solving and innovation. For example,

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[29] Extensive guidance is available. See for, example, Green Flags: How open data can throw light of sustainable procurement, Step-by-step guidance, Open Contracting Partnership, November 2021
https://www.open-contracting.org/wp-content/uploads/2021/11/OCP2021-Green-Flags_-How-open-data-can-throw-light-on-sustainable-procurement-.pdf

	buyers can work with suppliers to identify areas where innovation is needed and develop innovative solutions together. 7. Providing access to innovation funding: The e-Procurement ecosystem can be used to provide access to innovation funding by creating mechanisms for buyers to fund innovative solutions developed by suppliers. This can be achieved by creating innovation funds or providing access to existing funding sources. 8. Supporting the adoption of innovative procurement methods: The e-Procurement ecosystem can be used to support the adoption of innovative procurement methods, such as e-reverse auctions, competitive dialogue, innovation competitions, design thinking and other agile procurement. These methods can help buyers and suppliers to collaborate more effectively and develop innovative solutions that meet their needs.
2(b)(c)	**Data on job creation not captured:** Job creation information should be incorporated in the new enhanced e-PS to capture and report data on these issues. Recommendations on how the e-Procurement ecosystem can enable capturing and reporting data related to job creation includes: **(a) Data Collection:** 5. Include fields in tender documents and contracts that require suppliers to specify the number of jobs created (permanent vs. temporary), job types, and location; 6. Consider industry-specific details like skill sets required; 7. Develop functionalities within the e-PS for suppliers to electronically report job creation data during contract fulfilment stages; and 8. Explore integrating the e-PS with existing government employment databases for potential verification and cross-referencing. **(b) Data Reporting:** 4. Develop dashboards or reports within the e-PS that aggregate and analyze captured job creation data; 5. Allow filtering by sector, location, project type, etc., to understand the impact of procurement on job creation; and 6. Publish anonymized job creation data reports in an open format for public access and further analysis. This can be through adherence to Open Contracting Data Standards (OCDS) for wider accessibility.

2(b)(d)	**Data on SME participation is not differentiated (Minor gap):** More social inclusion related information should be incorporated in the new enhanced e-PS to capture and report data on these issues. Recommendations on how the e-Procurement ecosystem can enable capturing and reporting data related to Social Inclusion (diversity, gender equality, worker and minority protection) include:
	 (a) Data Collection:
	 4. Integrate fields into the e-PS for bidders to self-declare their diversity status (e.g., minority-owned, women-owned, employing people with disabilities);
	 5. Include standard clauses in procurement contracts that require suppliers to adhere to social inclusion practices. These clauses can encourage aspects such as:
	     o Fair hiring practices promoting diversity and equal opportunity.
	     o Subcontracting opportunities for diverse businesses.
	     o Meeting specific local hiring targets, or employing a certain percentage of minorities or women.
	     o Compliance with labor laws and worker protection standards.
	 6. Provide flexible data submission options for suppliers. This could include:

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	- o Pre-populated drop-down menus for easy selection of diversity categories. - o Upload functionality for supporting documents showcasing social inclusion efforts (e.g., diversity reports, certifications). **(b) Data Reporting:** 3. Develop dashboards within the e-PS to track and analyze social inclusion data. These dashboards could display metrics such as: - o Number of contracts awarded to diverse suppliers. - o Percentage of workforce employed by contractors from underrepresented groups. - o Compliance rates with social inclusion clauses in contracts. 4. Generate anonymized reports highlighting the overall impact of e-Procurement on social inclusion goals.

Pillar II	Indicator 3: The procurement ecosystem has a well-established and operational governance and management structure
3(a)(a)	Suggestions for improvement **Assignment of responsibility to PPO:** The legal and regulatory framework could be amended to *explicitly assign* to the PPO, the responsibility for regulating and setting standards for the operation, implementation, and continuous improvement of the e-Procurement ecosystem.
3(b)(b)	► **There is no evidence of robust coordination mechanisms between the PPO and public bodies, including the CPB:** The PPO should establish formal, robust coordination mechanisms and communication channels with public bodies and the CPB to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem.
3(b)(c)	► **There is no evidence of robust coordination mechanisms between the PPO and budgetary and treasury authorities:** The PPO should establish formal, robust coordination mechanisms and communication channels with budgetary and treasury authorities to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem. In particular, PPO and budgetary/treasury authorities will need to fully coordinate future developments, particularly in information systems to ensure that the updated e-PS is structured to ensure effective interface for data exchange with the budgetary and treasury system (IFMIS), Public Investment Management (PIM) System, and with the Public Sector Investment Program (PSIP). To further enhance coordination, measures should be introduced to ensure that all Annual Procurement Plans (APP) and Contract Award information are published in the e-PS. Additionally, the downstream procurement proceedings must have a link with the approved APP. All procurements should be initiated only after the APP is endorsed, which establishes fiscal discipline and encourages planned and informed procurements. The e-Contract Management and Monitoring module should be implemented to ensure the contract quality, time, and cost based on the contractual terms and conditions.
3(b)(d)	► **There is no evidence of robust coordination mechanisms between PPO and audit institutions:** The PPO should establish formal, robust coordination mechanisms and

	communication channels with audit and monitoring authorities to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem. In particular, a comprehensive and interactive Monitoring and Audit functionality should be built in the e-PS to facilitate the effective monitoring and audit of the procurement and contract execution in the e-PS. The government should encourage the use of the contract management and performance monitoring system by all public bodies for procurement and also for contract execution.
3(b)(e)	► **There is no evidence of robust coordination mechanisms between the PPO and Independent Review Panel:** The PPO should establish formal, robust coordination mechanisms and communication channels with the Independent Review Panel to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem. The Appeals module should be enabled in the e-PS and the established coordination mechanism should include provision for continuous feedback and suggestions for improvement on the operation of that Module
3(c)(b)	► **The PPO e-PS unit is under-resourced and risk of vendor lock in is high:** It is highly recommended that that the vacant positions in the e-PS unit be filled and a dedicated business continuity technical team under the PPO be formed with all technical, administrative, and supporting expertise to ensure the smooth operation of the e-PS in collaboration with the CIB, ensure knowledge transfer and avoid a vendor-lock situation. The recruitment and mobilization of the business continuity team is urgent. The Business Continuity team may consist of experts with skills in software architecture, business analysis, database administration, web programming and designing, quality assurance, change management and capacity building, training, communication skills, and other supporting skills. The Business continuity technical team could be in-house or outsourced, State-owned Enterprise, Public Private Partnership (PPP)-based model, or another sustainable arrangement. (see also Recommendations at 4(a)(b)).
3(c)(c)	**No formal requirement for ongoing regular training for e-PS staff:** There should be a clearly documented requirement to undergo knowledge and skills updating training programs for all people responsible for the e-PS ecosystem.
Pillar II Indicator 4: The e-Procurement ecosystem relies on an adequate business model	
4(a)(a)	**No clearly documented business model for e-PS:** The e-PS should have a clearly documented business model and implementation strategies with clear mandate and authority for the designated agency, unit or entity to operate the e-PS platform, scope to collect, manage, use, own, and control the e-PS data.
4(a)(b)	**No business continuity team and strategy for development and to minimize vendor lock in:** It is recommended to start the process for transfer of knowledge from e-PS vendor to PPO as soon as possible and continue in future on a regular basis.. The knowledge transfer process is essential and urgent. The PPO should establish a business continuity team with all required technical and management skills to operate the e-PS independently. To minimize the vendor lock situation, the business continuity team must work alongside the vendor's technical team in parallel in addressing the technical issues and fixing and enhancing the e-PS. The PPO should develop a well-

	written strategy document to ensure future development and minimize vendor lock-in. See also, Recommendations at 3(c)(b).

Pillar II Indicator 5: The e-Procurement ecosystem has strong capacity to develop and improve	
5(a)(a)	**Unfilled vacancy for training post within the e-PS Unit of the PPO:** Substantial efforts should be made to fill the e-PS training post.
5(a)(b)	**No routine evaluation and adjustment of e-PS training programmes:** There should be a process in place to evaluate and adjust the training programs for their quality, time and content. FAQs, user manuals, and training material should be updated in a routine manner to reflect the feedback and needs of the users.
5(b)(a)	**Helpdesk operational hours and modes of contact could be improved:** Helpdesk operation should operate 24/7 and be a component of consideration in the business model decision for the future implementation of e-PS. The PPO should also consider providing phone-based hotline/helpline support.
5(b)(c)	**No regular training and scripts for Helpdesk staff:** To improve e-PS user support, the PPO should establish a regular training program on e-PS for helpdesk staff anda lso for SPOCs (Single Points of Contact). The PPO should develop documented scripts and a knowledge base for common issues. In preparing and delivering training, scripts and knowledge base the PPO should collaborate with the vendor for training materials and leverage their support resources. User inquiries should be monitored regularly, and training and resources should be refined based on information gathered from those inquiries and user feedback.
5(b)(d)	**Resources not updated:** The FAQ, manuals and other resources should be reviewed and updated in a regular basis to ensure their reliability and authenticity for all users and stakeholders. Review and updating should include analysis of data from the issue tracking software database to enhance the support material to be provided to the users. Additionally, manuals for the Challenge and Appeal, Auditors, and other stakeholders should be developed and made available on the e-PS.
5(c)(a)	**No regular performance measurement of e-PS:** Introduce performance measurement of e-PS on an ongoing and regular basis. A comprehensive tool with Key Performance Indicators (KPIs) for measuring performance of e-PS should be developed which can be used to gather data with the aim of improving system performance on a continuous basis.
5(c)(b)	Suggestions for improvement **Enhanced user feedback:** PPO to consider an online public procurement discussion forum and suggestion boxes to further assist in effectively gather feedback from e-PS users and potentially capture a a wider range of user experiences and suggestions, leading to a more comprehensive set of feedback for improving the e-PS.
5(c)(c)	► **No regular performance measurement of e-PS:** A high level, comprehensive policy review and intervention is urgently required to: understand reasons for non-compliance and the highly selective use of e-PS; and identify legal and practical measures to resolve the problem. This is likely to require change management and incentive programs to ensure full and consistent implementation of the Government's policy and legal requirement for all public bodies to use the e-PS on a mandatory basis.

Pillar III Indicator 6: The e-Procurement ecosystem enables the achievement of the country's procurement objectives	
6(a)(a)	► **Annual Procurement Plans not prepared and published through e-PS**: Annual Procurement Plans (APP)/multi-year procurement plans should be created in the e-PS and public bodies should be mandated to do so, with publication monitored and

	enforced. APPs should be integrated with downstream activities and budget information.
6(a)(b)	► **e-PS does not support the planning of individual procurements:** e-PS should be used to plan individual procurements to tie in both with Annual Procurement Plans and corresponding budget information.
6(b)(a)	**e-PS does not cover all listed procurement methods (Minor Gap):** All the procurement methods and types of contracts that the legal/regulatory framework establishes should be available for use through the e-PS, with any necessary amendments made to the legal/regulatory framework. The use of the E-Reverse Auction method should be implemented as soon as possible as that module is ready.
6(b)(b)	**e-SBDs are not well aligned with e-PS workflow and preparation of bidding documents is cumbersome:** The standard model documents and templates and their creation process are in the system, but their presentation should be re-engineered to facilitate effective use (see also, recommendation at 1(a)(d)).
6(b)(c)	**e-PS does not provide linkage between planned procurements and procurement processes:** The e-PS should be updated to permit preparation of Annual Procurement Plans in the e-PS and the downstream process for individual procurement processes should be linked to the disclosed plans.
6(b)(d)	**e-PS is not used to prepare bidding documents based on online date an information input:** The e-PS should be structured so as to generate the bidding documents based on the data and information entered online by public bodies in the relevant data-capturing templates and the bidding documents should be madeavailable for users to download. The nomenclature used in the e-PS should align with the PPA and PPR.
6(b)(e)	Suggestions for improvement **Messaging users of e-PS:** Consider including a message on the e-PS system for users to check the spam folder if emails are not received in their inbox. It may also be appropriate to consider enabling SMS alerts and provide for users to opt into SMS alerts.
6(b)(f)	**The names assigned to the evaluation methods in the e-PS are not well aligned with the PPA and PPR:** The names used for different processes, functions, methods and items in the e-PS, should be fully aligned with the PPA and PPR.
6(b)(g)	**There are redundant encryption requirements, two stage bidding is not supported by e-PS and efficiency of bid security submission is sub-optimal:** The Bid submission module should be re-engineered to make it more efficient and hassle-free for the bidders. This includes removing the additional process of decrypting and encrypting before bid opening, aligning with the spirit of the PPA and PPR. The e-PS should have a facility to use Two-stage/multi-stage bidding for complex projects. The bid security submission should be automated through the e-Guarantee module facilitating integration with the banks. (see Analysis, Gap and Recommendations at 7(a)(a)).
6(b)(h)	► **Evaluation is generally carried out off line:** To improve efficiency and consistency, evaluation should be carried out using the e-PS, with evaluation results properly entered into the e-PS. To enhance transparency and ensure the end-to-end usage of the e-PS, the public bodies should prepare and publish the Summary of the Evaluation Report and the Contract Award Notices using the e-PS.
6(c)(a)	**e-PS does not support the generation of electronic contracts.**

	For data consistency and ease of use, contract templates in the e-PS should be automatically populated with data already captured, and all documents comprising the contract should be bundled when generating the electronic contract. The PPO should ensure that the public bodies use the Electronic Contract Module.
6(c)(b)	**e-PS Contract Monitoring Module is not activated:** The e-Ps Contract Monitoring Module should be activated for use for the management of amendments, extensions, and contract follow-up and oversight, as well as information including overruns and reasons for delays and terminations.

Pillar III Indicator 7: The e-Procurement ecosystem's technical characteristics render it effective and secure	
7(a)(a)	► **The system is not interfaced with any external e-services:** The use of the government's interoperability framework, the InfoHighway (https://ih.govmu.org/), should be leveraged to facilitate data sharing among public bodies. All interoperability with the e-PS should go through the InfoHighway. An integration plan should be prepared, approved, and implemented by the Procurement Policy Office to integrate the e-procurement System with, as a minimum: the information system of the Corporate and Business Registration Department (Registrar of Companies) for supplier information and Beneficial Ownership information; the Mauritius Revenue Authority (Tax Authority) for verification of tax clearance status of bidders; Budgeting and disbursement system from the Ministry of Finance (IFMIS)(see analysis and recommendations at 3(b)(c); and all commercial banks, to enable an authorized bank officer to upload digitally signed bank guarantees/Securities following a bidder's request. The cooperation of the Bank of Mauritius and the Banker's Association should be sought before engagement with the commercial banks.
7(a)(b)	**The e-Ps does not capture data in an automated way that enables business intelligence analytics:** The data-capturing forms must be critically reviewed to reduce the number of available forms and have proper validation at the field level and also at the form level. Measures should be implemented to ensure that public bodies use e-Ps for all stages of the procurement process, including planning and contract delivery, and to limit opportunities to prepare documents outside the e-PS, so that comprehensive and reliable data can be collected for data analytics purposes. The data and information in the e-PS should be published in machine-readable data format following OCDS. The e-PS should include a comprehensive Business Intelligence tool to process data and generate procurement insights for informed decision-making.
7(b)(a)	**e-PS does not have a data warehouse (Minor gap):** Reliability and data security of the e-PS infrastructure should be ensured by establishing a data warehouse, Disaster Recovery Site (DRS) and business continuity plan.
7(b)(b)	**Single source of internet (Minor gap)t:** To ensure the availability of the Internet in the data center, the connectivity should come from two different sources. Last-mile connectivity should also be easily accessible and affordable.
7(b)(c)	**e-PS ecosystem does not have a documented contingency plan:** The PPO should develop an actionable contingency plan, virus management policy, and other policies for data backup, archiving, and access. The Data backup must be tested from time to time to ensure the data backed up can be retrieved when the system is in trouble.
7(b)(d)	**The PPO and the data center do not have a written policy on virus detection (Minor gap):** There should be a written and approved virus management policy to manage situations of any virus infection in the documents uploaded to the e-PS. The Policy

	should also inform users about the consequences of virus-affected bids and documents.
7(b)(e)	**A comprehensive tool for measuring e-PS performance is not available (Minor gap):** A comprehensive tool with KPIs for measuring performance (System and functional) and IT system security should be developed to be used for measuring and security audits whenever any significant changes in the system are made. The functional audit should be carried out to ensure compliance of all the functions and processes with the PPA and PPR, and the system and security should adhere to best practices. A third party should periodically audit the e-PS to guarantee that the ecosystem complies with relevant security best practices. The audit should include performance, security, and functional audits.
7(c)(a)	**e-PS processes require re-engineering to make them efficient and simple (Minor gap):** The e-PS digital workflow should be configurable and efficient and should not be hard-coded in the application.
7(c)(b)	**The Terms of Use have not been reviewed and updated since the e-PS was launched (Minor gap):** In order to ensure that the Terms of Use remain fit for purpose they should be reviewed to ensure that they are up to date, reflecting all relevant developments in the operation and use of e-PS.
7(c)(c)	**e-PS is not browser-independent and cannot process transactions through mobile devices:** The system should be browser-independent and provide easy access to users from any browser on desktops, laptops, and mobile devices without the installation of additional software.
7(c)(d)	Suggestions for improvement **Monitoring single sign on:** Regular monitoring, updates, and security assessments should be performed to maintain the integrity and effectiveness of the Single Sign-on (SSO) infrastructure.
7(c)(e)	**e-PS does not use responsive web design:** The e-PS should be designed using responsive web design.
7(d)(b)	Suggestions for improvement **Bid submission processes require improvement:** To provide necessary certainty, amend the operation of the system to ensure that bid submission is closed automatically at the stipulated bid closing time. To streamline bid submission, remove the additional process requiring bidders to decrypt their bid, re-encrypt it and re-submit it to the e-PS after the bid closing.
7(d)(c)	**Bid submission processes require improvement(Minor gap):** The device information should be captured by the e-PS to record user activity for security.
7(d)(d)	Suggestions for improvement **Audit log:** The audit log should be isolated from the same production database to avoid unauthorized access and damage.
7(e)(a)	**There is no option for the bidders to mark parts of their bid as confidential: The** e-PS should allow bidders to mark portions of their bids as confidential to protect proprietary information, innovations, business secrets, and bidder privacy.
Pillar III Indicator 8: The e-Procurement ecosystem takes advantage of additional technical and functional features available for a variety of methods	
8(a)(a)	**e-PS Module for electronic reverse auctions not activated:** The PPO should review the e-Reverse Auction module to ensure that the functionalities built into the module are still relevant. If the module requires updates, PPO should make the necessary changes before activating the module and making it available to system users.

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8(a)(b)	**e-Catalog and dynamic purchasing systems are not available in the e-PS:** The legal framework may need to be amended to include provisions permitting use of e-catalogues and dynamic purchasing systems. The e-Catalog should be introduced to facilitate low value and high volume purchases, including through framework agreements, with relevant amendments made to the legal and regulatory framework. The e-Catalog should be built with commonly used items following the CPV or the UNSPSC catalog classification and codification standard, and should be integrated with the Framework agreement, and other future modules like the e-reverse auction, e-market place. Dynamic purchasing can be introduced for flexibility and efficiency in procurement which allows for a constantly updated pool of qualified suppliers and faster turnaround times for finding the best deal on frequently bought goods and services
8(a)(c)	**PPP not conducted through e-PS:** Consider developing a module to be used for the conduct of tenders (solicited and unsolicited proposals) for PPP contracts. This may require amendment to the legal framework. The Government of Mauritius may consider amending the relevant legislation to ensure alignment regarding placement of the BOT Projects Unit.
8(b)(a)	**The use of the Common Procurement Vocabulary (CPV) in the e-PS is partial:** Establish data input requirements to ensure consistent use of the Common Procurement Vocabulary (CPV) to cover the entire procurement cycle and align with the IFMIS system.
8(b)(b)	**e-PS does not support two stage bidding procedures:** The e-PS should be developed to support two stage and multi-stage procedures to facilitate the efficient procurement of complex projects.
8(b)(c)	**The JV formation process is not in the e-PS:** Enhancements to the e-PS should include a JV formation process, along with facility to search for joint venture members, inviting to join the JV, include member profile and their experience, through the system. It should also facilitate incorporating specialized sub-contractors.
8(b)(d)	Suggestions for improvement **Check field validation in forms:** Review all e-PS forms to ensure that there is field-level validation to control the data consistency in all cases.
8(b)(e)	**e-PS is only available in English:** The e-PS should be developed to support multiple languages, including Mauritian Creole and French, to facilitate access to the e-PS for the majority of the population.
8(b)(f)	► **Banks are not interfaced with e-PS:** Automating the acceptance of the bid security and the bonds through the financial institutions (i.e. Banks) are essential in the e-PS. An integration plan should be prepared, approved, and implemented by the Procurement Policy Office to integrate the e-Procurement System with all commercial banks to enable an authorized bank officer to upload digitally signed bank guarantees/Securities following a bidder's request. The e-Guarantee module should be developed and financial institutions should be brought into the e-PS as soon as possible, subject to necessary discussion, consents or authorisations from, for example, the Bank of Mauritius and Banker's Association. (see also wider recommendation on integration at 7(a)(a)). Bid securing declaration (BDS) could be used for low risk/low value procurement processes, making it easier for SMEs to participate in public tenders.

8(b)(g)	**No product acceptance tool:** The e-Contract Monitoring module should be enabled and functions for product acceptance and managing the inventory should be incorporated in e-PS.
8(b)(h)	**No tools for electronic invoicing:** The electronic invoicing tools should be developed and used along with the e-Contracting module.

9(a)(a)	Combined Recommendations for 9(a)(a), 9(a)(b), 9(a)(c) and 9(a)(d). **The e-PS does not store and disclose data in a machine-readable open data format:** The Open Contracting Data Standard (OCDS) is a commonly adopted standard for data transparency, storing and publishing procurement and contract data in a machine-readable format. It is recommended that the e-PS incorporate the Open Contracting Data Standard (OCDS) as the backbone for the storage and timely publishing of accurate data for the complete life-cycle of the procurement process, from planning to contract execution. Comprehensive data should be available to all stakeholders to permit analysis, and particularly for measuring, monitoring, and evaluating procurement performance. The roll out of publication of OCDS data from e-PS must be supported by a program to build capacities for procurement data use and analysis with suitable quality and content adjusted for the differing needs of all the users, including suppliers, public bodies and civil society.
9(a)(b)	**Data is not published promptly and does not provide and accurate picture** See combined Recommendations at 9(a)(a).
9(a)(c)	**Open data is not published in the e-PS and data is not available for the stakeholder for analysis**. See combined Recommendations at 9(a)(a).
9(a)(d)	**No programme for capacity building for users on use of e-PS data and analytics** See combined Recommendations at 9(a)(a).
9(b)(a)	Suggestions for improvement The e-PS should be structured to provide a comprehensive search tool with compound filter facility.
9(b)(b)	**Limited documentation about procurement data and Management Information System (MIS) reporting is not updated:** The documentation about procurement data should be prepared and MIS reporting feature should be updated on a regular basis.
9(b)(c)	**No data vizualisation feature:** Update the e-PS to facilitate data visualization of procurement and contract data from different perspectives.

10(a)(a)	**There is no formal forum for open dialogue with the private sector on e-PS:** A formal forum for regular open dialogue with the private sector should be established, with the aim of instilling collaborative working to support the continued adoption and improvement of the e-PS in the country, for the benefit of all stakeholders.
10(b)(b)	**No record of debarred suppliers on the e-PS:** The e-PS should be improved to include the functionality to record debarred suppliers, and the list should be automatically verified by the e-PS at the time of bidder registration, bid submission and award time to eliminate participation until the debarment lapses.

10(b)(c)	**Systemic constraints inhibit private sector access:** The technical and functional process challenges should be resolved to boost user confidence in the e-PS. Some of the challenges that should be addressed immediately are:(i) browser compatibility; (ii) removal of the requirement for a second-time decryption and encryption requirement; (iii) integration with the external systems (i.e IFMIS, tax, business registrar, banks, etc.), (iv) developing and making available the IRP module, (v) simplification of the e-SBDs and templates, (vi) simplification of process workflow, and (vii) server resource management for resource consuming processes of the e-PS.
10(c)(a)	**Key sectors not identified:** Based on Government's priority spending areas, key sectors associated with the procurement of goods, works and services should be identified and risk assessed and the information gathered used to conduct targeted engagement with relevant sector markets with participation of the private sector.
Pillar IV Indicator 11: The e-Procurement ecosystem ensures civil society engagement	
11(a)(a)	Combined Recommendations for 11(a)(a), 11(b)(a) and 11(b)(c) **Civil society is not actively engaged by government to facilitate the monitoring and improvement of public procurement:** ► The e-PS should be structured to provide a comprehensive search tool with compound filter facility so that data can be easily accessed and analysed. Government must provide resources and expertise to ensure that relevant authorities are able to prepare and deliver a comprehensive and ongoing training programme and capacity building for CSOs. This should start as soon as possible, to build the capacity of civil society to understand the public procurement regime, both the legal framework and operation in, to facilitate the role of civil society in monitoring public procurement activity. This must include provision of information and practical understanding of the e-PS and guidance on what information is available on-line, how it is accessed and how it can be analysed. A formal forum should be established for the dialogue between the government and the CSOs to improve the e-Procurement ecosystem This increased capacity building through engagement with civil society should be supported by introduction of a simple system to ensure that input, comments and feedback is sought from civil society on a regular basis and no less than once a year, including potentially, through a feedback mechanism available through e-PS for both individual citizens and civil society organisations. To increase accountability and transparency, the Government should consider input received from citizens and civil society organisations, publish its reasoned responses promptly together with an action plan with timelines for implementation. Data should be collected on the nature and extent of citizen/CSO access to and use of e-PS data.
11(b)(a)	**No data on citizen involvement in accessing data** ► See combined recommendations at 11(a)(a)
11(b)(c)	**No data on citizen involvement in accessing data:** See combined recommendations at 11(a)(a)
Pillar III Indicator 12: The e-Procurement ecosystem enables effective treatment of risks, control and audit	

12(a)(b)	**e-PS not used for external control:** The e-PS should develop a dedicated tool for the external auditors, facilitating auditors to use the e-PS for financial and procurement audit.
12(b)(a)	**There are no ex-ante controls and algorithms in place and available in the e-PS for use to detect risks and possible wrongdoings:** he e-PS should incorporate ex-ante red flags at different events and stages of the procurement process, to identify non-compliance, malpractices, maverick procurements and ensure accountability and integrity of the users.
12(b)(b)	**There is no ex-post investigation and risk analysis regularly conducted using data from the e-PS:** PPO to Introduce a system of regular ex-post investigation and risk analysis to facilitate data driven analytics to identify patterns of behaviour and risks, using data from the e-PS .
Pillar IV	**Indicator 13: The e-Procurement ecosystem facilitates the review of complaints and appeals**
13(a)(a)	**Complaints and appeals cannot be lodged or conducted through e-PS** **Combined Recommendations for 13(a)(a), 13(a)(b), 13(a)(c) and 13(a)(d).** The e-PS Challenge and Appeal module should be activated and its use should be mandatory. The Challenge and Appeal module should be tested as soon as possible to ensure that the workflow is consistent with the process used to handle appeals. The IRP should be provided access to the e-PS so that the review process can be conducted using the e-PS, relevant information can be accessed direct by the IRP, decisions of the IRP are published on the e-PS and information on remedies and tracking compliance are reflected in the e-PS.
13(a)(b)	**The IRP does not have access to the e-PS and thus does not use information obtained directly from the e-PS for decision making** See Combined Recommendations at 13(a)(a)
13(a)(c)	**No data on workflow compliance for challenges and appeal:** See Combined Recommendations at 13(a)(a)
13(a)(d)	**Remedies not reflected in e-PS:** See Combined Recommendations at 13(a)(a)
13(a)(e)	**Complaints and decisions are not published as open data** Challenges by bidders and decisions by public bodies on challenges should be published as open data, applying OCDS. The Challenge and Appeal module should be used, and all decisions should be linked to the supplier and procurements or contracts in the e-PS system. See also, Combined Recommendations at 13(a)(a)

5. Strategic Planning

The Assessment Team has summarized, in the table below, a suggested timeline and priority with implementation strategy and action plan to be decided by the government. This list prioritizes actions that address legal and regulatory alignment, strategic planning, governance and coordination, system functionality and usability, and data collection and reporting. These are considered crucial for the overall effectiveness and success of the e-procurement ecosystem.

The strategy and action plan need to be realistic and aligned with other reform initiatives, ensuring a balance of perspectives and including a good mix of 'quick wins' as well as medium- and long-term initiatives. Accordingly, in the following table, (a) timeline is indicated as Short Term (ST); Medium Term (MT); and Long Term (LT); (b) priorities are categorized as 1 or 2; and (c) responsibility is assigned. The timelines are approximate and may vary depending on the specific circumstances and resources available. The responsible institutions are those identified in the recommendations, but collaboration and coordination among various government agencies and stakeholders will be essential for successful implementation.

Action #	Proposed action	Timeline	Priorities	Responsible institutions
1	**Undertake a critical review of the PPA, PPR, Public Procurement (Electronic Bidding System) Regulations 2015, and other procurement legal framework documents:** The aim is to include appropriate definitions and clarify the coverage of e-procurement, ensuring that the legal framework is fully aligned with the use of e-procurement and the e-PS in practice.	MT	1	PPO/ Government
2	**Prepare a comprehensive e-Procurement Strategy and roadmap:** This should include a rollout plan, training and capacity building plan, sustainability plan, communication plan, and system enhancement plans with a clear allocation of resources. The strategy should align with broader government policies, including the Sustainable Public Procurement Strategy.	ST/MT	1	Government/ PPO
3	**Fill the vacant positions in the e-PS unit and form a dedicated business continuity technical team under the PPO:** This team should possess the technical, administrative, and supporting expertise required to ensure the smooth operation of the e-PS in collaboration with the CIB. The goal is to ensure knowledge transfer and avoid vendor lock-in. The recruitment and mobilization of this team are urgent.	ST	1	PPO/ Government
4	**Amend provisions in the procurement legal framework to align with the Electronic Transaction Act 2000:** This will fully support the validity and authenticity of electronic means and	MT	2	PPO

Action #	Proposed action	Timeline	Priorities	Responsible institutions
	documents, including digital signatures, enabling the e-PS to leverage available technologies.			
5	**Amend the legal/regulatory framework to mandate the disclosure of comprehensive procurement information:** This information should be in an easily accessible, commonly used browser/interface, ideally in open data format. It may be advisable to prepare a single consolidated list of what information must be published and when.	MT	2	PPO
6	**The e-SBDs and the e-PS should be fully harmonized in terms of processes, flows, and nomenclatures used across the whole procurement cycle:** To achieve efficiency, the process of selecting and preparing the bidding document needs to be simplified.	ST	1	PPO
7	**Establish formal, robust coordination mechanisms and communication channels between the PPO and various stakeholders:** These stakeholders include public bodies, the CPB, budgetary and treasury authorities, audit institutions, and the Independent Review Panel. The goal is to facilitate regular interaction and joint working to continuously improve the e-Procurement ecosystem.	MT	2	Government
8	**Introduce ongoing and regular performance measurement of the e-PS:** Develop a comprehensive tool with Key Performance Indicators (KPIs) to gather data and continuously improve system performance.	ST/MT	2	PPO
9	**The e-PS should have a clearly documented business model and implementation strategies: This should include a clear mandate and authority for the designated agency, unit, or entity to operate the e-PS platform and the scope to collect, manage, use, own, and control the e-PS data.**	ST	1	PPO
10	**Incorporate climate change mitigation and adaptation, environmental protection, innovation, job creation, and social inclusion information into the new enhanced e-PS:** This will enable the capture and reporting of data on these issues, aligning with broader government policies and sustainable procurement practices.	MT/LT	2	PPO/ Government

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6. Validation

A Validation Workshop was organized in Port Louis, Mauritius on 2 December 2022. Stakeholders comprising Government Departments, Public Bodies, State Owned Enterprises, Statutory Bodies, Private Sector Entities and development partners participated in the workshop both physically and virtually. The purpose of the Validation Workshop was to present to the Stakeholders, the status of the E-Procurement System of Mauritius, findings of the **strengths and gaps identified from the assessment applying the MAPS e-procurement module and initial recommendations to address the gaps. The workshop also provided a forum for comments and feedback from Stakeholders. The event concluded with a presentation from the PPO on the 2022 amendments to the Public Procurement Act and recently issued Directives.** The validation workshop has broadly validated the assessment findings.

Before the stakeholder validation workshop, several consultations were held with the PPO, Central Procurement Board (CPB), Independent Review Panel (IRP), MOFEPD, representatives from BACECA, e-PS Vendor, and other stakeholders. Follow-up consultations were carried out with the GOC and other stakeholders.

After the preparation of the draft Assessment Report, peer review was done by the peer reviews peer-reviewers from the African Development Bank (Mr. Emmanuel Chisesa); and from the World Bank (Ms. Swayamsiddha Mohanty and Mr. Mustafizur Rahman). Further review and guidance were provided by AfDB Management. All observations are already incorporated in the present revised Assessment Report.

Annexes/Appendices

Volume II - MAPS e-Procurement module Indicator Matrix