e-Procurement Education Program in Asia and Pacific Region

ACTION PLAN

>>> **Implementation of red-flag index system to identify corrupted signal in tendering documents**

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Table Of Contents

1

Background and Purpose

Background

We aim to learn from international best practice to refine red-flag concerns indicators in e-procurements, some common red flags in our countries include:

- **Limit competitive bidding**: competitive bids have limited number of suppliers participating in;
- **Recurring winners**: the same company winning multiple contracts of the same buyer;
- **Lack time for bidding preparation**: tendering documents have been changed significantly in short time;
- **Collusion between bidders**: establishing a pattern to whom contract are awarded;
- **Unusual pricing patterns**: significant price deviations from common price;
- **No saving**: winning bids is too close to the approved budget of contract;
- **Mode of procurement is suspect:** negotiated procurements due to two failed biddings are likely indicators of rigged bids.

Purpose

- Complete the efficient red-flag concerns indicators to reduce corruption risks;
- Establish automatic tools to identify rigged bids from the indicators;
- Flag suspicious transactions for further investigation.

2 Current Status and Issues

- No indicators for red-flags are recognized systematically;
- No integrated tools for identifying rigged bids;
- Many bids have no competition and no saving.

STT	Tổng số gói thầu	Số gói thầu chỉ có duy nhất 1 NT tham dự	Tỷ lệ
1	1304	543	41,64%
2	1761	526	29,87%
3	742	502	67,65%
4	619	432	69,79%
5	1076	417	38,75%
6	925	411	44,43%
7	441	398	90,25%
8	1052	367	34,89%
9	522	363	69,54%
10	492	351	71,34%
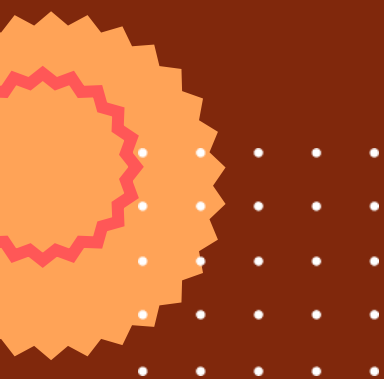
SWOT Analysis

Strength

- The legal frame for e-procurement already established;
- Sufficient data for analysis;
- E-procurement system already implemented;
- The funds are already available for execution (from the income of public services on e-GP system).
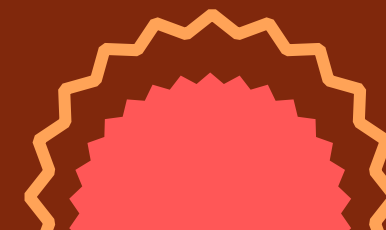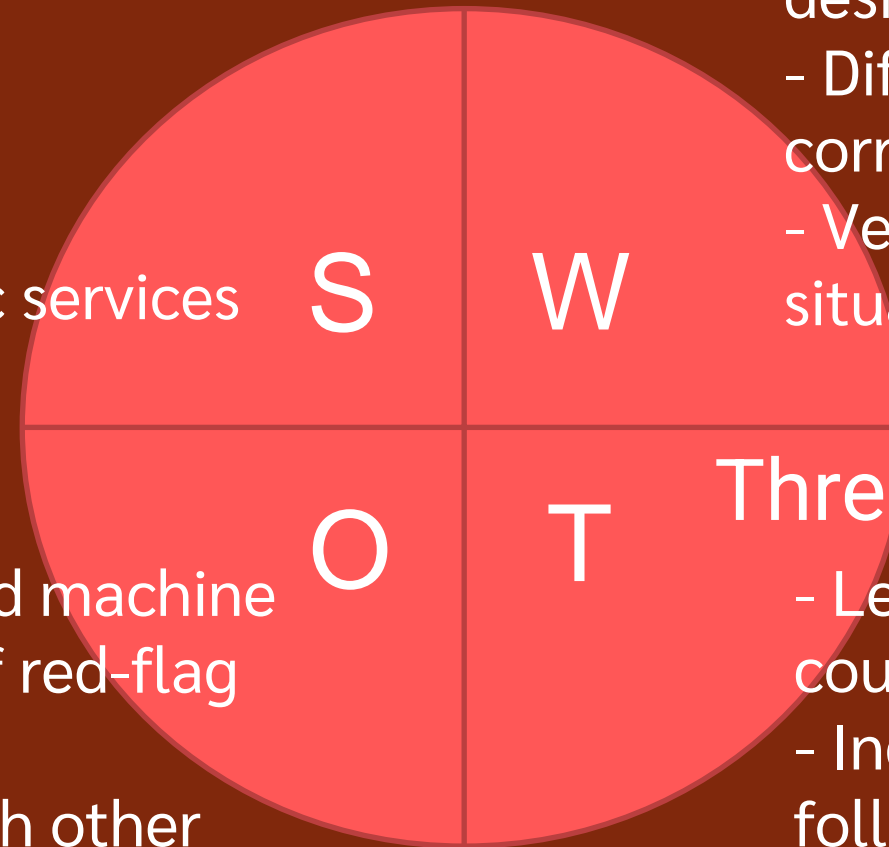
Weakness

- Lack of IT experts;
- Complexity: require policy and technical expertise to design and manage;
- Difficult to identify; Procuring agencies and corrupted suppliers do not want to implement
- Very sensitive to identify (depending on the situation and context).

Opportunity

- Technological advancements: AI and machine learning can enhance the accuracy of red-flag indicators and bidding pattern;
- Have opportunity to collaborate with other countries and organizations;
- Can hire international IT consultants;
- The common problems in all countries implementing e-procurement systems.

Threat

- Legal challenges: misuse or errors in the system could lead to legal disputes;
- Indicators change quite often, legal for that can not follow as quickly;
- Cybersecurity - data is susceptible to cyber-attacks.

-

S W O T

Gap analysis

Proposed Overall Goals

To be

- Hiring of international IT consultants.

- Technological advancements: AI and machine learning can enhance the accuracy of red-flag indicators and bidding pattern.

- Have opportunity to collaborate with other countries and organizations to establish standard indicator.

- Legal changes to adapt indicators.

As is

- Lack of IT experts

- Sufficient data for analysis;
- E-procurement system already implemented.

- Very sensitive to identify (depending on the situation and context).

- Difficult to identify; Procuring agencies and corrupted suppliers do not want to implement.

Proposed Purpose

- Establish automatic tools to identify rigged bids from the indicators.

- Collect and standard bidding data to prepare input for machine learning.

- Collect the efficient red-flag concerns indicators.

- Flag suspicious transactions for further investigation.

Improvement Strategy

**3**

Some strategies that can enhance red-flag indicators:

1. Strengthening good cooperation with ADB, WB, International agency (i.e. KONEPS…) to help organizing program, or recommend recognized international IT consultants for developing indicators and tools.

2. Applied new technology for AI and big data to implement the tools and identify indicators
   - Cross-referencing data by comparing procurement transactions with historical trends in current e-procurement system and resolved situation documents.
   - Integrating real-time monitoring, using automated alerts for further investigation.
   - Machine learning can enhance red-flag indicators by making them faster and more adaptive.
   - Integrated with the existing e-procurement system

3. Organize seminars and collaboration working group meetings with stakeholders and suppliers to share insights on the implementation of the indicators and tools for detecting rigged bids.

4

Specific action plan
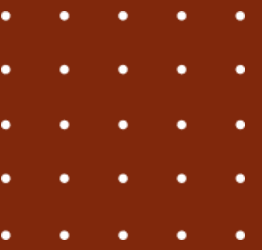
1. Creation of legal framework: involved of Ministry of Finance, Ministry of Justice (parliament), State Audit Office of Country, international representative from other countries and funding institutes.

2. System Development (Feasibility study and prepare for project initiation, develop system and purchase equipment, devices, communication resources, supplement the legal frameworks, deploy system).

3. Pilot Implementation using actual system data, refine the system and go-live.
   - Phase 1: Capacity Building training stakeholders and progressive implementation strategy starting with ten (10) institutes.
   - Phase 2: Refinement of Legal Framework base on the outcome.
   - Phase 3: Integration with e-Procurement System

Outline of Action plan

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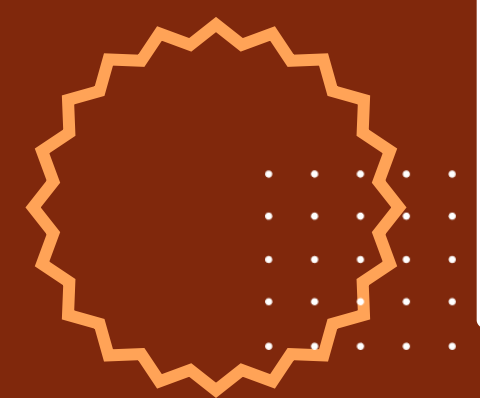
Implementing Organization:

- Name: Public Procurement Agency, Ministry of Finance

- Nature or type of organization: Vietnam-PPA Established in 1994, Philippines, PS-DBM, Bhutan-DPP,MoF.

- Major functions: developing procurement policies, build and enhance the National Procurement System to identify rigged bids from the indicators, ensuring compliance with international procurement commitments.
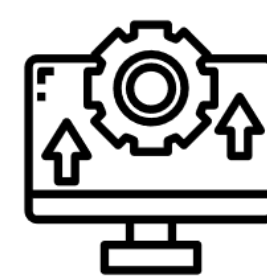
Duration of the project: 2.5 years

Date commencement:
Quarter 3rd/2025
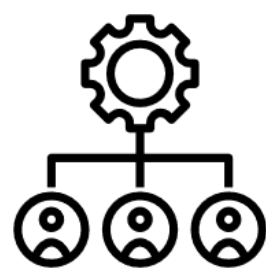
Policy Compliance:
Quarter 3rd/2026

System Constructs completion
Quarter 4rd/2026

Date of completion
Quarter 2nd/2027
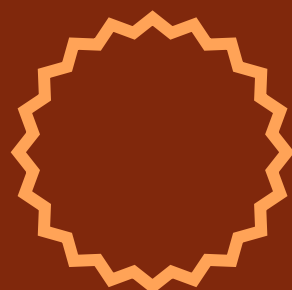
Action plan-Timetable

Duration: 2.5 Year(s), First Year Work Plan: 2025

No	Item	2025							
		May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	State the issue and propose solution	■							
2	Gather guidelines, lessons learned from successful project impelementations worldwide. Build a preliminary design		■	■	■				
3	Establish project and prepare an investment implementation report				■				
4	Initiate project (approved investment decision)					■			
5	Develop initial red-flag concerns indicators based on gathered documents					■	■	■	
6	Create a detail design						■	■	
7	Compile a dataset for AI training								■
8	Develop the bidding violations dectection system								■
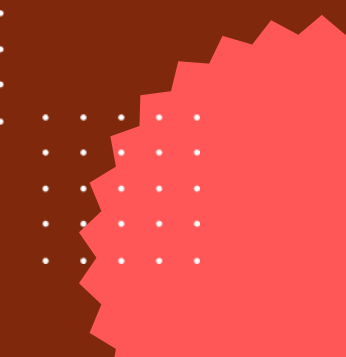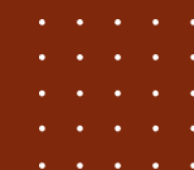
Action plan-Timetable

Duration: 2.5 Year(s), Second Year Work Plan: 2026

No	Item	2026											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	Compile a dataset for AI training	■	■										
8	Develop the bidding violations dectection system	■	■	■	■	■	■	■					
9	Get advice from policy experts, bidding stakeholders and supplement the legal framework					■	■	■					
10	Train AI using historical data of bidding and standard scenarios			■	■								
11	Purchase equipments, devices				■	■							
12	Test the system and make necssary improvement based on feedback from stakeholders								■	■	■		
13	Install system infrastructure at the data center and deploy software and applications										■		
14	Intergarte with e-GP system, conduct a pilot using actual system data, generate reports, and review and compare them with evluation of expert team											■	■
15	Assess safety and security levels in accordance with regulations of country										■	■	
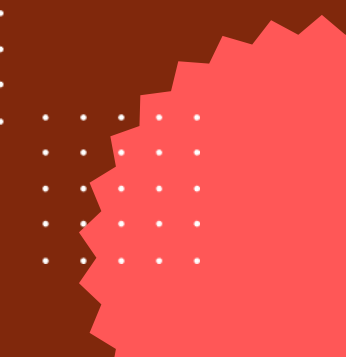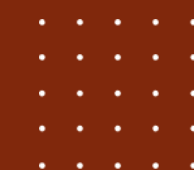
Action plan-Timetable
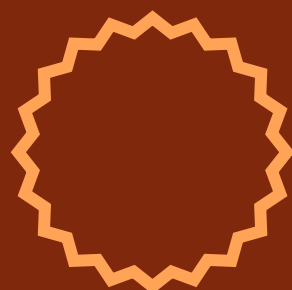
Duration: 2.5 Year(s), Third Year Work Plan: 2027

| No	Item	2027			
		Jan	Feb	Mar	Apr
14	Intergarte with e-GP system, conduct a pilot using actual system data, generate reports, and review and compare them with evluation of expert team	■			
15	Assess safety and security levels in accordance with regulations of country				
16	Compile reports and outcomes of the pilot conducted over 3 months, and request approval for practical using		■	■	
17	Develop training materials, user guides and communication resources	■	■	■	
18	Golive				■
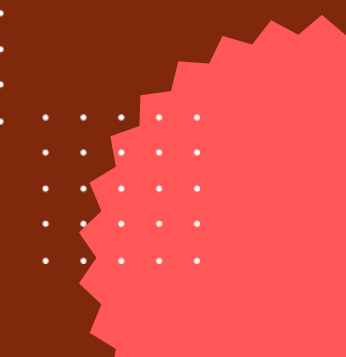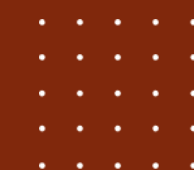
Outline of Action plan-Budget

1. Feasibility study and prepare for project initiation: 20.000 USD

2. Purchase equipment and device: 150.000 USD

2. Develop system and AI training : 190.000 USD

3. Install infrastructure, deploy system, assess safety and security: 38.000 USD

4. Communication resources: 35.000 USD

5. Project management costs and other expenses, buffer: 90.000 USD

Total: 523.000 USD

Expected result-Challenges/Solutions

Challenges and Risk

- False Positive or errors in the automatic evaluation system causing complaints, petitions ultimately affecting government and merchant relationship;
- Resistance to change as it may affect job tenure security and work disruption. Further, bureaucracy and merchants with influence may intervene and cause significant delays with the implementation.

Solutions

- Formulate monitoring plan and feedback mechanism to ensure continuous refinement of code and algorithms. Additionally, conduct periodic assessment to determine efficiency and effectiveness from an international organization;
- Creation of an inter-agency committee to formulate and implement a training program which focuses the discussion on the legal framework, and technical aspects of the system to build trust and confidence to the various stakeholders.

ACTION PLAN

Implementation of red-flag index system to identify corrupted signal in tendering documents

Thank you